Research Article

Laying Bare: Determinants of Informal Water Vendors for Domestic Water Supply in Himalayan Mountain Towns

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Abstract

Darjeeling lies in the Eastern Himalayan Region, one of the highest rainfall receiving regions in India. But, the communities have been facing water scarcity for decades perpetuating extreme inequalities in the form of water injustice; realities of these everyday sources of harassment and crisis are obscured within 'larger political questions.' The Darjeeling Himalaya has historically been a site of multiple political disruptions over the demands of creating Gorkhaland, a separate State from the State of West Bengal, within India. In this paper, I examine the informal nature of water supply as an outcome of insufficient developmental processes and malgovernance furthered by the marginal condition of the region. The extensive presence of informal systems and their intertwining with the formal, the pseudo-municipality systems, and the over-dependence on community organizations spell out the inability or unwillingness of the state towards alleviating the water scarcity. This also highlights the ingenuity of the local suppliers and communities as the chance taken by for profit or as forms of survival. Among households, everyday marginalization is visible through activities of water acquisition from a plethora of water suppliers and disconnections from the state supplies due to legality of residence and being, and social and spatial differentiation - both underpinned by their social and political status. With the Darjeeling Municipality being my 'site' of study, I lay bare its waterscapes to highlight the determinants of informal water vendors. Adding to existing rich literature on the region, this paper explores marginalization foregrounding issues of everyday practices of malgovernance, corruption, and red-tapism that defines the political spaces of the Hills. In doing so, it is my purpose to argue that economic, underdevelopment, and governance are not separate from but are an integral part of the 'identity crisis' that defines the socio-political and historical realities of the Darjeeling Hills.

Introduction[1]

Darjeeling lies in the Eastern Himalayan Region of India (EHR), one of the highest rainfall receiving regions in India. However, communities residing here experience water scarcity throughout the year. Only 10-15% of the households in Darjeeling town receive water from municipality supplies (Samanta and Koner 2016; Bhutia 2017). The other 85% are dependent on a variety of informal suppliers. Even the 10-15% dependent on formal supplies draw water from informal supplies to create sufficient water. Informal suppliers include community and private springs along with the variety of private water suppliers. Private water suppliers include water tankers, water porters, hand-pulled carts (Gorkhey jeeps), and private spring owners (Chakraborty 2018). All municipality sources as the name suggests are state suppliers (Rasaily 2014). Community springs are usually on public land (land donated by owner in some cases) used by many households at no cost with some rules of access. Private springs are those which are on one's land usually used by that household only. Water from private springs are also sold and shared. Households in Darjeeling get their water from private suppliers, municipality public tap, community springs, municipality private individual connection, municipality private shared connection, and private springs in decreasing order of dependence (Boer et al. 2011; A. Chhetri and Tamang 2019; B. Chhetri and Tamang 2013; Drew and Rai 2016; Darlong 2017). The dependence on multiple informal sources indicates the lack of formal supplies, their insufficiency, and their non-dependability. This is compounded by the issues of legality and high costs for uncertain supplies. Springs are preferred since they are available at zero costs throughout the year despite the time that goes into collecting from them. In spite of the high water fee in comparison to the municipality supplies, households prefer the private water suppliers because of their reliability, frequency, and volume. The prevalence and spread of informal supplies and their operation reinforce the lack of state[2] supplies.

Studies on water scarcity in Darjeeling begin on the premise of water scarcity as a preexisting condition and explore the status through studies on water setups (Chakraborty 2018), decentralization (Drew and Rai 2016), urban sustainable development (Mell and Sturzaker 2014), and private water suppliers (A. Chhetri and Tamang 2019). While these works contribute to an understanding of the 'water problem' in Darjeeling, there remains a significant gap in literature on exploring factors that led to the manifestation of water scarcity. While these studies focus on the state supplies and list the informal water supplies, there still remains a gap in exploring the informal nature of institutions in the face of domestic water scarcity.

I have divided my paper into the following sections. First, I begin by exploring the literature and presenting a brief history of the 'field site' followed by a description of my research methodology for the paper. I argue that the informal water supply is a manifestation of inadequate developmental processes and governance of a marginalized space through the informal waterscapes of Darjeeling and their functioning, the water mafia, and pseudo-municipality systems. Further, I study the marginalization that occurs at the household level which revisits informality from the perspectives of the households and the process of disconnection from basic water services.

Literature Review

Informal institutions emerge due to circumstantial constraints like the absence and/or unwillingness of the state (Hillmann 2013; Lebel, Garden, and Imamura 2005; Cleaver 2000). They are driven by the force of necessity to take up ventures individually or use kinships for the redistribution of social goods and opportunities, and cultural and political autonomy (Bayat 2000). The majority of the population in the developing world depends on informal water providers (Burt and Ray 2014; Joy et al. 2011; Meehan 2013; Samsom 2006). The limited formal water supply focuses on the middle and high income households or areas (Samsom 2006) because the state lacks political will and funding for supplies to distant areas or 'informal settlements' where the urban poor live (Wutich 2006; Anand 2012). In areas with formal water supplies, their availability depends on the household's legal residence (Hellberg 2014). In spite of a functioning and reliable formal water supply, it only partially replaces the pre-existing informal water setups (Burt and Ray 2014). The informal is embedded within the formal so that the functioning of one requires the support of the other; for example, the state relies on the informal water suppliers to provide water for the population as they are unable to do so themselves (Meehan 2013). Creation of scarcity in the developing world is enmeshed in the preconditions

required to even apply for a formal connection (Anand 2011b). One of the direct consequences is the reliance of socio-economically weaker sections of the society staying out of the formal systems because of rigid bureaucratization and difficulties of access to the formal systems in comparison to the ease of access and reliability of the informal systems, which comes at a huge financial cost. The socio-economically weaker households have the least access to drinking water due to uneven distribution of physical water infrastructure (Schmidt 2020). Uneven experiences of scarcity manifest due to differentiated historical and contemporary water infrastructure, and capabilities of the households (Millington 2018; Bjorkman 2014). An example of this is the unequal distribution of water within urban areas in South Africa - a legacy of the Apartheid (Bakker 2003; Gandy 2006). Access to water highlights distressing social inequality at one end and the difficulties faced by the governments to improve urban conditions at another; questions of governance therefore must not be understood as separate from but as an integral part of the larger discourses on equality and justice. Elite access to piped water supply and the socio-economically weaker sections relying on informal water sources is a pattern across the world (Bakker 2003). In addition to these developmental and governance factors, access to resources is also affected by marginalization. Marginality is "an involuntary position and condition of an individual or group at the margins of social, political, economic, ecological or biophysical systems, preventing them from access to resources, assets, services, restraining freedom of choice, preventing the development of capabilities, and eventually causing extreme poverty" (quoted in Braun and Gatzweiler 2014: 70). It can be categorized as spatial or societal. Social factors denote the human dimensions such as demography, religion, social structure, economics, and politics; spatial factors indicate environmental and geographical settings such as the physical distance from the development centers (ibid: 70).

The process of acquiring urban citizenship under the rules, laws, and policies of the cities and states make differentiated, informal, and abject populations (Anand 2012). Places with colonial histories of rules and regulations get imprinted and reproduced in the postcolonial forms of citizenships (Björkman and Harris 2018). Additionally, the belongingness of a city based on ownership of property and tenancy drives the policies which makes the 'unrecognized'

residents disconnected citizens (Anand 2011b). Gorkhaland movement, the separate state movement for Darjeeling Himalaya, involves the physical marking of a separate territory as well as a symbol of development, self-governance, national recognition, participation, and respect. Having a separate state is seen as a necessity for provisioning of basic rights (Wenner 2013; Middleton 2020).

Water scarcity is unique in the mountain towns due to biophysical and social characteristics. The topography of the mountains poses a difficulty to harness and retain water for use with energy being a limiting factor (Bandyopadhyay and Gyawali 1994). Another significant characteristic of mountainous regions are the springs which everyone depends upon. Mountainous regions have the altitudinal aspect to pattern of urbanization and strong seasonal water demand, too. The structural backwardness of the mountainous regions, unavailability of infrastructure to harness their resources, and the skewness in development in the favor of other regions pushes them into underdevelopment. It can also be attributed to their inaccessibility, fragility, marginality, and heterogeneity (Jodha 1990). The mountainous urban areas of India are dependent on funding from the provincial and central governments (Munsi et al. 2006). Low coverage of formal supplies, proximity to the forests and springs, and vast prevalence of informal supplies especially in the urban areas makes the case all the more unique. Issues of water scarcity are faced by the mountainous regions within West Bengal and adjacent State of Sikkim, both of which fall in the Eastern Himalayan Region (Barua et al. 2012; Joshi 2014; Lepcha 2013; Thapa 2017; Tambe et al. 2012) along with the Western and Central Himalayan Region (Madan and Rawat 2000; Kelkar et al. 2008; Domenech, March, and Sauri 2013; Shrestha and Shrestha 2014).

Locating the 'Field Site'

Darjeeling is a mountain district in the majorly flatland State of West Bengal (Figure 1). Located in the Eastern Himalayan Region - a high rainfall region - it has been facing water scarcity for decades (Moquetan 2003; Samanta and Koner 2016; Joshi 2014). The Darjeeling Himalaya has been embroiled in a state of political violence and conflict for decades; over demands for the creation of an autonomous state of Gorkhaland from the State of West Bengal in India. Darjeeling municipal town was established as a sanatorium
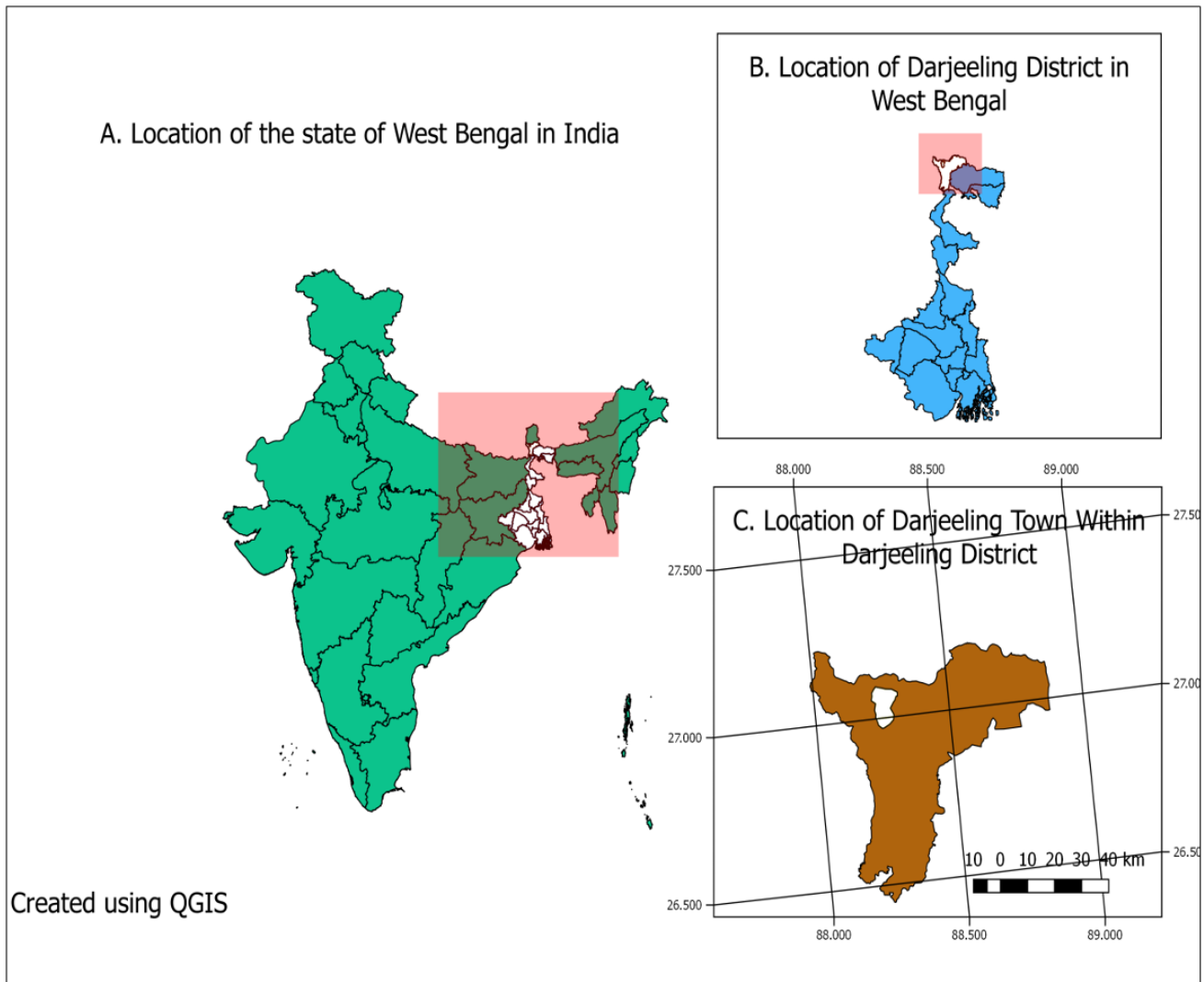
Figure 1: Location of Darjeeling Municipal Town (Shah and Badiger 2018)

for the British in the 1800s which marked the beginning of urbanization in the region.

The Darjeeling Himalaya experiences environmental, financial, and political marginalization (Joshi 2014), manifested in socio-cultural, economic, and political underdevelopment of the region over a period of time. Within these multiple forms of marginalization, "water supply injustice" (Joshi 2018: 99) has been obscured in Darjeeling, with water scarcity being treated as a normal reality of the Hills. On the contrary, I argue that water scarcity has been exacerbated in the region due to an intricate interconnection of marginalization, malgovernance, and dysfunctional, corrupt development processes. Darjeeling is located in the uplands which are environmentally marginal locations (Mell and Sturzaker 2014). It lies in the Himalayan Water Towers, the source to some of the biggest rivers in Asia, but the communities are more dependent on the springs than rivers. While magnanimous visuals of decreasing water sources such as

glaciers melting are given importance the daily sources of water such as springs are not (Joshi 2018), which requires urgent attention in the changing Himalayan environmental system.

Added to the rapidly deteriorating environmental situation are the government policies to address these concerns with direct outcomes for communities on an everyday basis. There have been changes in financial allocation from the state post the 19th century (Ganguly-Scrase and Scrase 2015) with the current status aptly defined as 'development has led to underdevelopment' since the profits from the region, such as the revenue generated from the tea plantations, are never invested back (Chettri 2013; Ganguly 2005). With some state investment in the water sector, alleviation has not occurred because the projects have low success rates and add more into a deficient system (Shah and Badiger 2022). The statehood agitation in the 1980s and afterward has further led to the collapse of civil bodies and governance structures with the last elections

to the Municipalities being held only recently in 2022 after a long hiatus of over five or more years. Elections to these bodies were stalled as a state response to address the ethnic uprising in the region, resulting in an absence of democratic, functional bodies of governance in the Hills. Over a period of time, such shrinking of democratic spaces has resulted in the void being filled by informal networks, political parties and their factions, different 'socio-cultural' boards each competing for political stakes and shares over limited funds making its way into the Hills.

Neither the Central nor the State government have shown the political commitment or the will to design specific planning policies for the Hill regions (Mell and Sturzaker 2014). With the political tension over Gorkhaland dominating the socio-cultural and political landscape of the region, the state and the Centre has focused their primary attention on finding a 'Permanent Political Solution' (PPS) to 'resolve' the problem of the Hills - without concern or an idea of what the PPS truly looks like. The large geographical distance of Darjeeling from its provincial capital exacerbates the political, economic, environmental, and cultural disparity. While the ethnic tension stems from constantly being confused as "backward hill tribes, outsiders and foreigners " (Middleton 2020: 7), fueling tensions and political conflict in the Hills, responses of the Centre and the State to address such ethnic grievances perpetuates this feeling of alienation and deprivation from the mainstream.

This paper problematizes the normalization of water scarcity as the norm bringing to the fore the prevalence of informal water suppliers, failures in water governance, and development as an outcome of complex interconnections of marginalization and dysfunctional development - an outcome of the ethnic and spatial marginalization of the Hills. I look at this relationship through the informal waterscapes of Darjeeling town and their engagements with the formal, discussions around the water mafia, and the pseudo-municipal systems. The term 'pseudo-municipal systems' has been used to describe private or community-based suppliers which replicate the municipality functions and infrastructure for water supply and distribution. All of this iterates the unwillingness of the state and the emergence of the informal structures in multiple ways producing new power structures, hierarchies, and corrupt practices working in sync with the state, contributing to glaring inequalities and social injustice in the region. I

also focus on households to elucidate how water scarcity pushes them to create water bundles by navigating these waterscapes - exploring informalities of space and being which create disconnected citizens.

Studies regarding water scarcity are around formal supplies restricting them to a small percentage of the privileged minority obscuring the realities of the larger section of the society (Koner and Samanta 2021; Bhutia 2017). This study tries to shift the focus and understanding to the latter to understand: where is the rest of the 'public' getting their water from? What prevents them from being connected to the formal supplies? The dialogue around formal and informal, hence, does not get restricted merely to address the infrastructural problem in isolation, but to locate it within the larger debates around social identities as markers of inequalities.

This study contributes to existing literature on the mountain specificities through the lens of domestic water scarcity and the pervasiveness of informality as a way of life. It is my purpose to highlight the different manner in which communities negotiate within these everyday spaces of existing power structures, rigid bureaucracy, and formal/informal structures to survive. My paper brings in a rich perspective through experiences of mountain cities and towns in developing countries, adding to our understanding of urbanization and informal/formal development as an integral part of the larger political questions of belonging and marginalization that is integral to the Darjeeling Himalaya.

Methods

I carried out pilot visits and fieldwork in 2014-2015 and 2016, followed by a prolonged period of fieldwork from April 2018 to April 2019. I undertook topic-guided interviews with key stakeholders. I did transect walks to understand the layout of the town and constantly reviewed available public records and secondary literature. After building up my knowledge base, I created a questionnaire by adapting existing ones for Darjeeling town specifically. These questionnaires were tested in different parts of the town, updated, and implemented. I used stratified sampling to select the wards using two spatial variables: (1) average altitude of the ward (smallest administrative unit of the municipality) and (2) distance from the main supply tanks within the town for stratification. I did snowballing within the wards to identify

the households. The questionnaire included household details, socioeconomic and housing conditions, *samaj* (Nep. community-based organizations), water sources used, water storage and quality, water usage, satisfaction and sufficiency levels, and grievances handling. While carrying out the questionnaires, I also recorded them with the respondents' consent which acted as a reference for cross-checking. I covered 149 households from twenty-nine wards.

Waterscapes of Darjeeling Town

Ethnic disparities amongst the Indian Nepali community of the Darjeeling Hills and the rest of West Bengal have been a major bone of contention for the former - largely deprived from socio-economic benefits and development plans of the state. Largely promoted as a 'tourist, tea destination,' the exploitative structure of development has contributed in rendering the Hills as merely sites of colonial and 'post-colonial' extraction (Chettri 2013; Xaxa 1985). Prolonged periods of ethnic tensions and political violence gripping the region have resulted in the State and the Centre treating the region as 'politically disturbed areas.' The absence of stable, democratic structures and governing bodies has exacerbated poverty, underdevelopment, and malgovernance.

The political uprising of 1980s saw the most violent statehood agitation movement in the Hills with political violence becoming the norm (Lacina 2009). The agitation was brought to an abrupt end with the formation of the Darjeeling Gorkha Hill Council (DGHC), an autonomous territorial council. DGHC was formed as an executive body with no legislative or taxation powers - one of the major causes cited for the failure of development of the Darjeeling Hills post its formation - triggering the latter uprisings in the Hills. Even with an autonomous council installed after every statehood agitation in the 1980s (armed conflict, too), 2000s, and 2010s, there hardly is any improvement in development and governance in the region (Kaushik 2009; Islary 2021). Elections for the DGHC were held in 1988, 1993, and 1999 with GNLF winning each time (Kaushik 2009) hinting at the municipality moving on from being an independent body to one governed by the political party in power (Ganguly-Scrase and Scrase 2015). The elderly interviewees expressed that "The kind of people who were elected to the municipality has changed" on inquiring about changes in the municipality reinforcing the changing

composition of the municipality[3] and peoples' beliefs in them. According to the respondents, those elected earlier were persons of repute and most social workers. Now, the elected councilors are affiliated to political parties and are not so involved with public affairs.

The differences in political affiliations between the State and local government led to the dissolution of the Darjeeling municipality in 2019. Directives from the State for gaining a political majority affect the existence and functioning of the local urban bodies. This also emphasizes the reservations of the public discussed above regarding the elected members of the municipality and the effects of changing politics on the effective functioning of the municipality.

For fourteen years, from 1969 to 1983, there was no commissioner or ward councilor in the Darjeeling municipality. In 1982, a project to analyze the condition of the Senchal forests and catchment for the water reservoirs was supposed to take off, but the 1986 statehood agitation broke out. The Senchal Wildlife Sanctuary houses the source of the Darjeeling municipality water supply ("A Report on Water Supply System of Darjeeling Municipal Area" n.d.). This is one of the instances where the demand for statehood led to political disruptions with implications for the operationalization of projects. During the statehood agitation from 2007 to 2012, there were no elected developmental institutions at the local or district levels. Such disruptions led to the ruling party cornering the governmental fund for their local party workers and distributing it using their patronage networks. The re-routing of funds for sectarian interests such as image propaganda as 'selfless social workers' over the rival parties, social media campaigns, etc. have contributed to further deterioration of public amenities in the Hills. All this feeds into the political culture of patronage, corruption, and management outside the formal electoral processes (Wenner 2015). The presence and perception of political instability attributed to the weak and corrupt formal political institutions (Lacina 2009) is one of the reasons behind the failure of long terms projects.

In 2018 to 2019, a 205-crore-worth tender was advertised for five to six times before sufficient applications could be gathered (Personal Communication, Municipality Engineer 2019). The 2017 statehood agitation had just ended and the tender applicants were skeptical of the political situation. Another reason was the scale of capital involved, an insurmountable amount for

local contractors. The existing marginalization is reflected through the technical and financial incapability of the locals which inevitably pushes the work to people outside the region. Locals are not at a competitive advantage compared to the agencies which have a much larger regional, national, and international presence (Bakker 2003). Having said that, the difficulties of carrying out projects in a politically volatile region with corruption at multiple levels is also a hindrance for sustained long-term initiatives.

Darjeeling, like many other towns and cities in the developing world, has a low coverage of formal water supplies which has been a legacy of the colonial history, its growth post-independence, and the tussle between the regional government and the State government (Gandy 2006). The state has not been able to keep up with the demands of the changing demographics, creating a persistent water crisis (B. Chhetri and Tamang 2013; Darjeeling Municipality n.d.). Water crisis here is a conundrum due to the interlinked problems across political unwillingness, insufficient investments, failure of cooperation between the State and regional institutions, and inadequacies in local governance including institutional capacity (Shah and Badiger 2018). State investments have mostly been in large scale infrastructures with low success rates failing to create sufficient water supply (Shah and Badiger 2022).

Informally Formal/Formally Informal

Informal institutions which do not fall under the ambit of the state have emerged due to the absence, inability, or unwillingness of the state to provide formal institutions as public goods. These include a variety of private suppliers - water porters, hand-drawn carts, 6000-litre tankers, households which share/sell their spring water or surplus water, 2000-litre pick-up trucks, direct self-drawn supplies from springs and streams in forested areas at some or zero cost, indirect self-drawn supplies via private suppliers who draw from springs and streams or tankers, military cantonment, landlords who give water to the tenants, and all other water which is bought. Though Cantonment is a state body, provisioning of water is not their primary function, but they do provide water to the communities around them. These water setups sometimes act like appendages and sometimes are in direct competition with the formal water supplies. The emergence and prevalence of the informal structures can be attributed to: (1) the

inability of the municipality to scale up; (2) inefficient project implementation; and (3) informal being considered more dependable. Rigid bureaucratic processes that prevent the households to apply for municipality connections such as documentation, high costs, corruption, and red-tapism further contributes to the growing presence of these informal structures.

The private-public dualism breaks down in urban water supply of Southern cities (Bakker 2003). Where formal water systems exist, they cannot work without the informal. Informal networks actively work within the formal institutions to enable the provisioning of formal water connections. The bureaucratic process is lengthy where once a household has filed in an application for a private connection with the municipality, its movement within the office requires connections and networks. Informal institutions like *samaj* actively interact with the state for acquiring connections. The municipality is responsible for assessing needs for public taps and setting them up. In many cases, *samaj* (where they exist) write applications for a public tap. Materials for sanctioned connections need to be provided by the municipality but are provided by the *samaj* in many cases due to the dire and immediate needs of the communities.

Respondents across town said, "Public taps come and go with municipality commissioners." Some specifically mentioned, "There used to be one in the front of a household (pointing in the direction) and in the last five years it has appeared twice and disappeared both times." Public officials with power take over the ownership of the public taps diverting for their use. Municipality public taps are put in charge of individuals to curb theft, thereby emphasizing the need for the state to resort to the informal to keep their systems functioning effectively.

The informal institutions such as *samaj* or smaller groups interact with the formal by creating rules of access over formal resources such as municipality shared taps and public taps. Rules are in place for public taps in parts of the town, namely Jawahar Busty-2, Bose Printing Press Area, and Ganesh Gram. Access to public taps isn't always inclusive. Public taps guarded by the *samaj* are vested with power to (dis)allow access only to members based on their residential location. In some areas, only house owners have access with tenants being denied.

Such practices, while maintaining some form of water availability balance, also exacerbate

socially embedded discriminatory practices, reproducing class/caste/ethnic and other hierarchies. Some households, for instance, shared their experiences of facing discrimination from the residents based on their origins or the change in residence as a consequence of getting married to someone from outside demarcated households. This shows how free-for-use public taps installed by the municipality get overridden by the rules of an informal norms and socio-cultural practices of the *samaj*. The rules of access are justified by the *samaj* members by invoking their active participation in acquiring the public tap. The justification implies that members who had taken the initiative for applying for their public taps and have acquired it have 'more' rights on the taps. The setting and enforcement of rules makes them controllers of source. Apart from setting of rules of inclusions/exclusions for accessing water sources, the access is also physically restricted by locking the public taps and springs during the dry season.

This reveals that resources which are designed for the public or thought to be a common property resource do not function as such but are now parts of new hierarchies and power systems overridden with socio-cultural and customary patronage.

Who is the Water Mafia?

Tankers have been used by the Darjeeling municipality during the 1990s (Interview with the author, 08.03.2018) due to the disturbances in their supply. Tankers are also said to have mafia-like behavior. This terminology was used by respondents across the town with agreements and disagreements with it. Mafia ascribes to those who control the resource and its supply. The tankers do not have ownership and rights over the water sources. When the tankers first came into business in the 1990s, the tanker drivers used to set up ponds for water collection in the forests and collect water for free. But, now they have to make payments to middlemen in
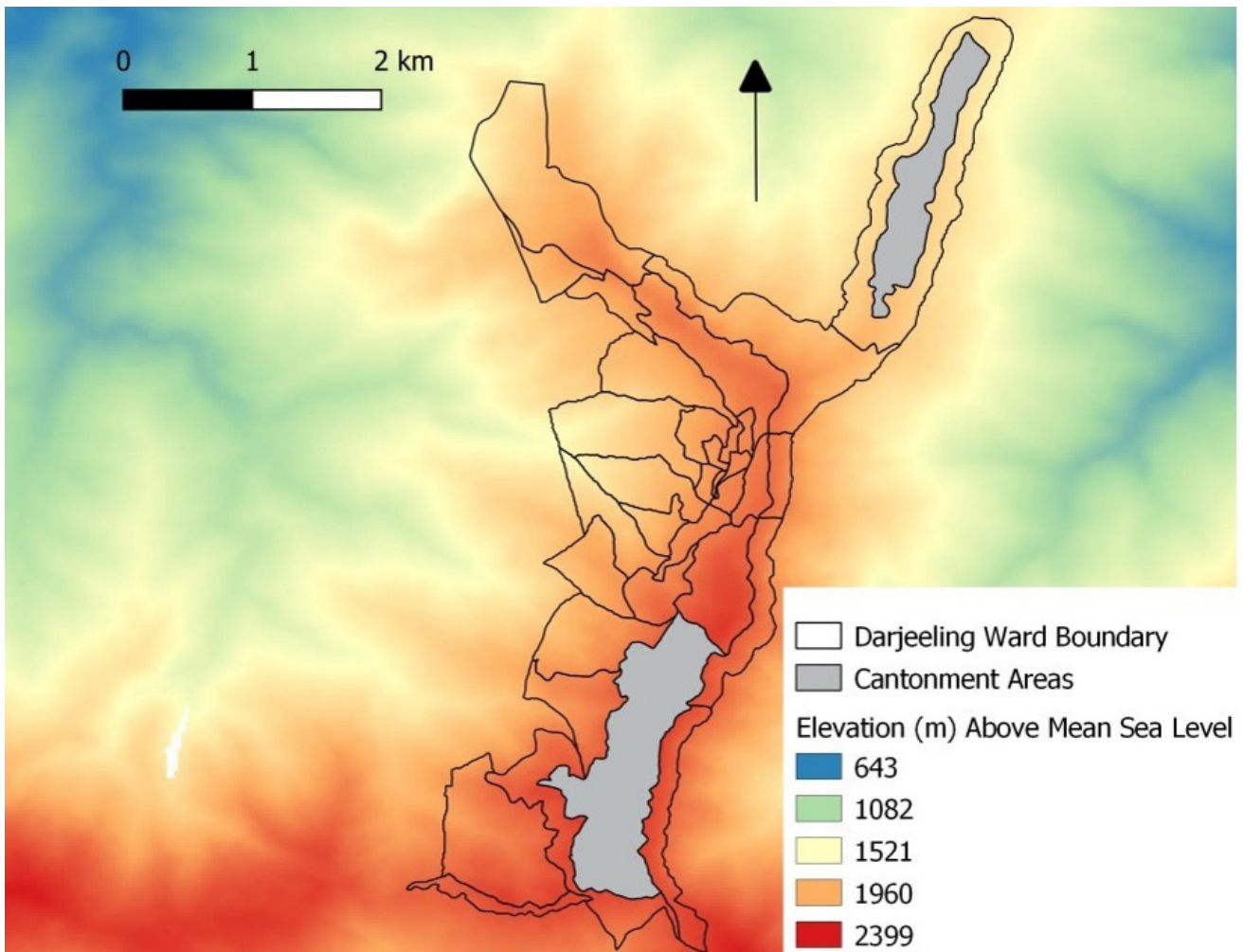

Figure 2: Ward Level Map of Darjeeling Town. The two areas in grey are the cantonment areas. One is located in the southern part of the town and the other on the north eastern ridge (Author 2019).

the forest areas who provide access to the water sources along with No Objection Certificates (NOCs) from the forest officials after paying a certain fee. The tankers association highlighted that payment for water sources in the forests is a recent phenomenon, suggesting the entrance of new actors into private tanker water supply system with the costs of accessing water in the forests. The fee began at Rs. 10 and currently stands at Rs. 200. The payment systems can be done per access, per month, or per year (Interview with the author, 28.02.2018). The tankers are in active and passive confrontation with the formal bodies (Shah and Badiger 2018), facing financial costs for water access in recent times where none existed before. They believe that the municipality has the power to control all this. But, the municipality are said to neither work towards alleviating these issues nor in providing water to the communities. The municipality might have the power to stop what is termed the mafia and are acquainted with the politics of resource control for tankers, but are also cognizant of their shortfalls, which draw them back from taking any action.

Pseudo-Municipality Systems

'*Uhiley ra ahiley*' (the past and the present) are not so different for water issues in Darjeeling town. In the 1930s, a town resident, on seeing people fill water from pipes leaking inside and around the drains near the Yuma Hospital in town, felt the need to make Lal Dhiki a reliable public water source. Lal Dhiki is one of the most popular springs in Darjeeling town which is perennial and almost open to all.

Institutions other than the municipality, such as the cantonment or *samaj*, function as pseudo-municipality systems. Across Darjeeling town, primarily in slum areas, households depend on *samaj* water systems. The Mangalpuri Water System/Police Dhara Water System, Nawin Gram Water System, Kalyan Bikas Samiti Water System (Ward 11), Jawahar Busty 1 Water System (Spring to tap system), and Phooptshering Sai Samiti Jal Pariyojana, and Holmdene Hermitage Road are spring-based systems. Frymal Village, located in the norther part of the down below the highway, is an informal settlement (Figure 2).

It has a water distribution infrastructure similar to the municipality. This area has very few municipal connections and depends on private water suppliers throughout the year. 6000-litre tankers are the most commonly used private water suppliers here followed by 2000-litre

pick-up trucks. These vehicles cannot reach the households because there are no roads into the dense settlements. The *samaj* have hence created their distribution network (Figure 3). This network has an inlet at the road and multiple outlets below inside the settlement. A household can be connected by making changes at this network junction. Vehicles come to the road and connect to this network inlet and release the water.

The Police Dhara Water System is another system. It utilizes the Police Dhara located lower than the village. The *samaj* has constructed a water storage and pumping system. Water delivery is systematized streetwise for a group of households, with a nodal person for each group. Nawin Gram Water System is another where the water is pulled from a spring into a reserve tank with multiple taps. It was set up for the comfort of the villagers and has a defined opening and closing time. These *samaj* water supply systems are in areas officially defined as slums where the absence of a dependable water supply has forced communities to create their own supply systems. Households located in slum areas do not get a permanent holding number without which they cannot get the necessary land and valuation documents to apply for a municipal connection.

Another pseudo-municipality water setup is the army cantonment. There are two large cantonments in Darjeeling town: Jalpahar in the south and Lebong in north (Figure 3). The cantonment areas are large swathes of land controlled by the army which houses multiple springs. Households surrounding the Jalpahar cantonment have been drawing water from the sources within the cantonment boundaries since the late 1980s. They have been paying an annual royalty of a few thousand rupees. The cantonment provides access to the source for the households to draw their water from. This is another example of a pseudo-municipality system coming into play because of the lack of functional, formal structures.

My fieldwork unveiled many different kinds of water setups which the communities of Darjeeling town are dependent upon. Household-based water suppliers are also common across the town. A water supplier in the central upper part of town said that tankers, which supplied water to him, could no longer come to his doorstep because the morning walkers who used that road had expressed their disappointment with the water supply vehicles. The morning walkers had installed one and a half to two feet iron

Figure 3: Water Distribution Infrastructure in Frymal Village (Author 2018)

pillars on the road to prevent tankers and other vehicles from using that road.

Understanding the waterscape gives an overall view of the water institutions in Darjeeling town. The prevalence of informal water suppliers and the inefficacies of the formal suppliers indicate marginalization and lack of development of the region. The lack of political willingness of the state to actively upgrade their system as well as curb the systems which they term 'mafia' is evident. Even where the formal supply is present, it is hard to let go of the informal processes by the state themselves as well as by the citizens. Communities are forced to come together to create water sources for themselves in the absence of strong, formal water supply sources with ease of access and accountability. The communities have to meander through this mix of formal and informal institutions and processes to get a basic amount of water. The socio-economic and physical location of the households affects the creation of water bundles highlighting differentiated experiences of scarcity throughout the town.

Everyday Marginalization within Darjeeling Town

The elite have access to piped water supply and the poor rely on an informal water sector or unimproved water resources (Bakker 2003). Water access is viewed as the democratic government's initiative for the population, but the fact that there exists 'low-cost' solutions lead to the reinforcement of unequal distribution of resources and powers (Hellberg 2014). The disadvantaged and socio-economically weaker sections of Darjeeling town have to acquire water from multiple water setups which differ across seasons and 'stealing' water. These arise from issues of legality of one's residence or being. If one's residence is unregistered, they become unserviceable and are given only public access goods instead of household-level goods. This also makes them ineligible to even submit an application for a private municipality connection. Such formalities force the majority of the people outside the eligibility pool to be a part of the formal water supplies and particularly individual household water supply system.

Applications for Darjeeling municipality private water connections have a short window of a few months annually. Once filed, the applications have long waiting times due to piled applications and clearance delays. One can also apply for a *tatkal* (immediate) connection instead of a regular one. For the *tatkal* connection, as the name suggests, the waiting time is reduced drastically, but the fee doubles highlighting the different kinds of red-tapism and corrupt practices of the system.

The working of the formal water suppliers, i.e. the municipality, here is insufficient and fraught with inconsistencies in procedure and operations. Households are unable to have municipality connections because of the unavailability of municipal lines in the area, the inability of the households to acquire a connection due to high costs, red-tapism and proof of legality, and personal preferences. The personal preferences emerge from the everyday practices of acquiring water from the municipality source which is unreliable and uncertain (Bjorkman 2014). The advantage for many households of having any kind of municipal supply in one's water bundle was its availability throughout the year with acceptable seasonal variations. If a household has access to any kind of municipal supply, it is perceived as a water-secure position.

Households have to meander through multiple water sources to create water bundles (Shah and Badiger 2018). Households located in the town center are dependent on municipality sources due to their proximity to the municipal supplies and the administrative center. Households located away from the town center in the northern and southern parts, and those on the lower reaches have much fewer municipality sources. On moving away from the administrative center spatially or along the altitude, the municipality supply lines start disappearing. The water bundles which make a household water secure depends on the cost of water, supply timings and frequency, available storage, physical location, altitude, proximity to the water sources, nature of settlement, dependability of water source, and socio-economic status. Proximity to roads is essential as they enable water-carrying vehicles such as tankers or pick-up trucks to come close to the households, if not at their immediate doorstep. Most of the households in the northern cluster (for example: Frymal village, mentioned above) farther beyond the town center have to purchase water throughout the year and particularly through

6000-litre tankers. The drying up of water sources especially for areas where there are no roads or alternate sources would lead to people abandoning the place. Lack of alternatives was a key factor for a household's dependency on the current water bundle.

The *samaj* water management systems are in informal settlements and slums such as Jawahar Busty, Mangalpuri, Nawin Gram, and others. They replicate the functioning of the municipality because they do not have access to formal water supplies since their land ownership is not recognized by the state. This disallows them from applying for basic amenities like water and electricity. They are provided with a kaccha (temporary) holding number which lets them get an electricity connection but not water. Such spaces which are unrecognized by the state are pushed out of formal water provisioning systems for the lack of support.

The lack of accountability from the state is highlighted by the absence of grievance redressal mechanisms for water-related queries. Most households with a municipal connection manage their water problems themselves. Because of the intertwining of the formal and the informal, households from socio-economically weaker sections not only have to seek out the state for getting water supplies, but also work with their informal networks. This places much more burden on them. These discussions, in a way, reframe the idea of formal water access as a luxury rather than a basic necessity in Darjeeling town (personal communication 2018).

Disconnected Citizens

Most studies on urban citizenship and the making of informal and abject populations are focused on the megacities of the developing world and within them the poor squatter settlements as their sites of inquiry (Wutich 2009; Bjorkman 2014; Anand 2012; Hellberg 2014). In the case of Darjeeling, the making of abject populations occurs for the region/town as a whole with further differentiation within the town. The creation of abjection occurs through repetitive actions of marginalizing the people through a social and political process that they are no longer considered subjects of the government (Anand 2012). It can also be interpreted as the exclusion of peoples by the state such that the state is not accountable for them (Agamben 1995). Being disconnected, unlike unconnected, involves a process through which people are gradually pushed out of a system.

The ethnic grievances of the communities stem from multiple sources of alienation and deprivation - access to decent living standards and basic public amenities being one of them. This happens through the many requirements to get a formal municipality water connection. The provisioning of a formal municipality water connection is attached to the legality of one's residence - a problem for a majority of the Hill population with no access to land rights and papers. This illegality, as defined by the state, prevents them from acquiring basic entitlements (Anand 2012; Hellberg 2014). The demand for land rights continue to remain in the heart of the statehood movement. Despite endless promises for '*parja-patta*' (land deed) all that it has been reduced to is mere political gimmicks for sectarian and electoral gains, obscuring the precarious position of the people and their everyday harassment due to lack of such documentations in the first place.

 The application requires three different documents and Rs. 17000 (Shah and Badiger 2018). Such requirements disallow residents to even begin the application process for a legal water connection. The waiting time for getting a connection depends on whether the connection is *tatkal* or regular. For a regular connection, it can take one to three years also depending on one's social and political networks within the municipality to expedite the process. With no solution in sight for the past decades the people have come to terms with the scarcity. For Darjeeling, water scarcity has been normalized and internalized along with the experiences of marginalization. Statements such as "our water issues are not as bad as the households a little ahead of the turn" were prevalent upon asking their experiences of water scarcity and which regions in the town experiences most scarcity.

Communities create varied water bundles (Shah and Badiger 2018) as coping measures outside the municipality sources due to the inefficient, irregular, and insufficient municipality supplies. The top three water bundles used in Darjeeling are single source private water supplier, two-source bundle of municipality public tap and private supplier, and two-source bundle of municipality private individual connection and private supplier. Private water suppliers are not only the highest used water source; they make up all the top three water bundles. Households with municipality connections need to be supplemented with other sources to have a sufficient amount of water. Municipality supply has not reached all households. Only when the

municipality connection reaches the vicinity of a household, do they fathom applying for a connection because the more the distance from the nearest municipality network the more the labor and materials costs. The high costs and lengthy time taken to get a municipal connection disables people from the lower socio-economic strata from applying. The proof of legality further cuts off a section of the population such as the migrant population and those living in informal settlements and slums. In most cases, these two sets of people overlap, hence creating a disproportionate disadvantage for access to formal water systems.

Municipalities usually provide public taps in informal settlements and slums which all the households depend upon. The residents in such areas face disconnections and interruptions because they had been included in the water services, but as an element of exclusion/marginalization (Hellberg 2014). When basic services become inaccessible in this way, people find alternate ways to acquire them. The alternate means are illegal connections provided by middlemen or private water suppliers where the citizens end up paying higher rates. Due to the hassle of acquiring legal documents and uncertainty of water availability, residents prefer the informal over the formal despite it coming at a price (Anand 2012). Communities prefer them for ease of access and are free from rigid bureaucratic centralization. They are also satisfied paying similar labor and material costs for informal water suppliers which are certain and frequent than the municipal suppliers (Anand 2012).

As informal water suppliers find legitimacy, it also disconnects people from formal structures of governance, with red-tapism, corruption becoming the norm. The decay and deterioration of formal governance structures on the other hand contribute to a growing sense of disconnect and alienation from the people. They become disconnected citizens (Anand 2011b, 2012) as they are unable to access state supplies due to their legality as citizens of the municipality. The ethnic tension of the Indian Nepali community emerges from a sense of disconnection and alienation from the mainstream and a sense of deprivation from the state of West Bengal. Malgovernance is not merely an outcome of bureaucratic red-tapism but is often an outcome of shrinking democratic spaces and collapse of formal structures of governance and civil society in conflict ridden societies. The state

has a pertinent role to strengthen these systems to establish a permanent sense of peace and stability in such spaces. In the absence of the political will to do so, the void is bound to be filled by informal structures of power defined by a political culture of violence, corruption, and instability. The outcome is glaring inequalities contributing further to a sense of alienation, deprivation, and disconnect, as is evidenced by this paper in the Darjeeling Himalaya through the growing disparity in access to water in the region.

Conclusion

Existing literature on water scarcity in Darjeeling town begins with the idea of an existing scarcity and then looks at how this scarcity affects people in the region. Through this writing, I have tried to understand how the formal and informal nature of water setups and institutions interact with each other to supply water. I have drawn upon my research on domestic water scarcity to elucidate how the informal water set-up and interaction occur in urban mountain towns. I have focused on Darjeeling town. In doing so, I highlight the manner in which informal structures of power continue to fill the void created by defunct, formal structures of governance. I argue this is an outcome of both malgovernance, and marginalization of the Darjeeling Himalaya.

 Over decades of political instability and violence, questions of development have been treated as either separate from or as a political tool to 'manage' the conflict in the region. This has contributed to the shrinking of democratic spaces and collapse of formal governance system in the Hills, producing glaring forms of social inequalities and injustices mired in practices of violence, corruption, and red-tapism, an outcome of 'rowdyism' in the political spaces of the Hills (Lacina 2009). Processes at the institutional levels push the residents gradually out of formal systems taking away their right to the city and making them disconnected citizens.

This paper at one level showcases the various waterscapes of Darjeeling and the existence and interactions of the informal and formal water institutions and sources. Formal water systems, where they exist, cannot work without the informal. This unwillingness and absence or selective presence of the state is derived from the intertwining of the formal and informal and the blurred lines between the public and the private, the tankers and the mafia narrative around them, and the numerous pseudo-municipality

systems. A prevalence of informal water suppliers hints at the lack of actions from the state to better their supply systems. The tag of the water mafia also begs critical interrogation. The visible water mafia as seen by the respondents could merely be a manifestation of the larger resource politics and collusion. I have concluded that there have been changes in the way the tankers operate with newer players entering the sector and financial transactions being upfront.

Literature has commonly described community-based institutions as an outcome of collective action. In the case of Darjeeling, it is an outcome of collective action, too, albeit one that emerges due to the constraints they face in terms of water access and not something which is a sign of community-based living. I have termed such institutions pseudo-municipality since they replicate the infrastructure and distribution of the municipality, collect revenue from the people, and are primarily present in places where the municipality services do not exist.

At the second level, I move closer to the ground to assess how everyday marginalization is propagated by the state institutions within the town. This hints at how informal institutions also become sites of exclusion powered by social and political networks. Studies on water scarcity in the mountains consider springs as public/open access sources, but the ground reality shows the creation of rules of access which tends to exclude various groups of people. Difficulty for informal settlements to get water from formal systems makes them vulnerable. The need for powerful informal networks is a necessity to meander through the intertwining systems, making those who need to navigate them more vulnerable. The creation of water bundles by almost half of the households meandering through this maze of institutions creates differentiated experiences of scarcity. The necessity of pseudo-municipality systems to come into existence is the continuous disconnection being perpetuated by the state systems and their lack of political agency.

The informal water suppliers generally invoke a picture of water tankers in the context of the developing world. This study shows that for mountain towns this group is vast and variant. It provides a picture of availability of choices of water suppliers on the one hand, but also the inability of the state to provide a dependable water supply on the other.

If we focus only the state supplies, then we miss out on how the informal supplies which are

the majority water suppliers provide for the communities and interact with them as well as the state supplies. There is a reification of the formal initiatives, but there are ample examples of the impossibility to achieve it. Hence, we need a renewed understanding of how the informal plays an important role and the state can be a regulator in providing support instead of acting against it. Despite a prevalence of informal water providers which have helped in providing water to households, the state needs to play a crucial role to address the public interest in urban development. For any interventions, households which are excluded from resources need to be targeted.

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Endnotes

1.   Some of the analysis presented in this paper finds resonance in and is built upon the forthcoming conference proceedings of the International Convention of Asia Scholars (ICAS) 12 (Shah 2022)

2.   Drawing from (Wenner 2015), I will be using "State" with a capital "S" for the State of West Bengal and "state" for the political organization.

3.   The recent Darjeeling Municipality election of 2022 was swept by a new party "Hamro Party" and none of the pre-existing majority parties.

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