

ARTICLE

## Concretizing the Right to Water: Engaging Infrastructurally Powerful Actors in Nairobi

Maja Jeppesen 

University of Copenhagen

Email: [maja.jeppesen@sund.ku.dk](mailto:maja.jeppesen@sund.ku.dk)

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### Abstract

In Nairobi, water rights emerge not through legal recognition alone but through relationships with infrastructurally powerful actors. Residents must engage with specific individuals across institutional levels who control urban water distribution. This explains neighborhood disparities in water access and why some residents secure better supplies than others. The fragmentation of water control challenges traditional legal and normative frameworks of water rights. Understanding how rights are embedded in everyday socio-material relationships is crucial for comprehending how people establish water access and thereby concretize their right to water in practice.

### Résumé

À Nairobi, les droits sur l'eau ne proviennent pas uniquement de la reconnaissance juridique, mais des relations avec des acteurs puissants en matière d'infrastructures. Les résidents doivent collaborer avec des personnes spécialisées à tous les niveaux institutionnels qui contrôlent la distribution de l'eau urbaine. Cela explique les disparités entre les quartiers en termes d'accès à l'eau et pourquoi certains résidents sont mieux approvisionnés que d'autres. La fragmentation du contrôle de l'eau met en doute les principes juridiques et normatifs traditionnels des droits à l'eau. Il est important de comprendre comment les droits sont ancrés dans les relations sociomatérielles quotidiennes pour comprendre comment les personnes établissent l'accès à l'eau et concrétisent ainsi leur droit à l'eau dans la pratique.

### Resumo

Em Nairobi, os direitos sobre a água emergem não apenas através do reconhecimento legal, mas também através das relações estabelecidas com agentes poderosos no domínio

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das infraestruturas. Os moradores têm de criar relações com indivíduos específicos que, em todos os níveis institucionais, controlam a distribuição da água. É isto que explica o facto de haver disparidades no acesso à água entre os vários bairros e de alguns moradores usufruírem de um melhor abastecimento de água do que outros. A fragmentação do controlo da água coloca vários desafios às tradicionais estruturas legais e normativas que regem os direitos sobre a água. Para compreender a forma como as pessoas definem o direito sobre a água e, desse modo, põem em prática o seu direito sobre a água, é essencial entender de que forma esses direitos se integram nas relações sociomateriais quotidianas.

**Keywords:** infrastructures; urban water; claim-making; Nairobi; access; the right to water

## Introduction

High-rise gets plenty water. Every day. And if you go to Ngumo they get water like every day. They only miss two days. And they are our neighbors. What is wrong with us? Is it because of poverty? We will ask ourselves.

This is Nancy, a resident of the Canaan estate, a slum-upgrading project in the periphery of Nairobi's largest slum, Kibera. Her question will guide this article as it explores: Why do some people in Nairobi get water in their taps when others, even neighbors, do not? An unreliable and sparse water supply in Nairobi's piped grid means that a formal water connection does not always equal access to water. When the Canaan residents moved from their houses made of corrugated iron or mud in the slum, where there was no access to formal utilities, to the new estate which is part of the Kenya Slum Upgrading Program (KENSUP), they were perhaps not quite prepared for this reality. Their new homes in Canaan's five-storey buildings with toilets and domestic electricity and water connections promised a life where they would now get the same services as the other middle-class estates in the city. However, with taps that primarily run dry and toilets that cannot always flush, a feeling of neglect persists.

While water is already acknowledged as a human right in the Kenyan constitution, the residents in Nairobi's informalized settlements have limited recognition from the state backing this right. When the Canaan residents moved to homes connected to the utility grid and a borehole at their estate they expected that this would improve their claims to water. However, the formal recognition of state services has seemingly given the former slum-dwellers only limited leverage in securing a consistent and pressurized water supply. The categorial and legal right to water is not naturally translated into a concretized right, which secures people's access in real terms (Benda-Beckmann and Benda-Beckmann 2000). This shows that despite the continued focus on water connections, particularly in the policy world (WASREB 2022; WHO and UNICEF 2021), formal rights through material connectivity do not equal access. This article unpacks the socio-material process of turning claims into access and examines how access and rights are established in practice. The paper explores what it takes to actualize the right to water through the state-regulated utility grid.

It does so by examining the strategies of residents living in estates in the neighborhood of Langata, which borders Kibera and Canaan and where people engage in various strategies to make the water flow. I draw on Truelove's (2021) concept of infrastructural power to trace the different actors that residents can engage to claim their right to water and the different levels on which people can manipulate the water flow, from political power to the material network. Through this examination of successful strategies in the Langata estates, I unfold the challenges that the Canaan residents meet to establish their right to water and try to answer Nancy's question: Why do the people of Canaan not have water in their pipes and taps? I show that while money does enable access to water, poverty—which Nancy identifies as a potential cause of their water challenges—is not the only thing restricting their right to water. It becomes clear that access is about more than people's socioeconomic status when going into the struggles of the upper-middle-class estates in Langata. I show how residents in Nairobi claim access to water through a socio-material network defined by personalized relationships and nodes of actors with control over the material network. The social embeddedness of water rights is supported by studies like that of Narain, Vij, and Karpouzoglou (2023), in which the authors argue that piped water is not the panacea to water insecurity and is, like other modes of water provision, often based on social negotiation. The paper also shows how urban water rights are not just assembled through different legal frameworks (Reyes Escate, Hoogesteger, and Boelens 2022; Roth, Boelens, and Zwarteveen 2005;) but are a fragile socio-material assemblage rooted in social relations of access. This urges us to divert our attention to the claim-making processes of residents rather than institutions when understanding water rights in practice in cities with fragmented water control like Nairobi.

The study is based on twelve months of ethnographic fieldwork conducted in Nairobi between November 2021 and March 2024. I have employed ethnographic methods such as semi-structured interviews, focus groups, and participant observation. Because I have studied the flow of water, I have conducted multi-sited ethnography (Marcus 1995) and followed a range of different actors practically steering, controlling, and accessing the city's water. Here I have particularly focused on Nairobi Water employees in the southern region of the city as well as employees from the "Informal Region" office working in Kibera. Through this, I have come to understand how water provision is organized and how the local politics and norms drive it. Another part of my research has been to understand how different residents in Nairobi access water or make claims to water services with a particular focus on the informal settlement of Kibera and the middle-class area of Langata. I have done this through interviews and focus groups concerned with how people access water. This includes people in the management of four different estates in Langata. I also drew on messages in a group chat that I was allowed to join between residents of the Langata estate Ngei 2 in the messaging app WhatsApp. The upper-middle-class residents could, at times, be challenging to access within their gated and guarded communities, and the WhatsApp group, which is the residents' primary platform for discussing issues within the estate, added rich insights to those interviews and focus groups I did manage to have with the residents.

The paper is structured as follows: In the next section, I trace the relationship between rights and infrastructures. I then briefly describe the state of water governance in Nairobi, which is followed by an introduction to the study sites and my methodological approach. Subsequently, I analyze how middle-class residents in Langata engage with infrastructurally powerful actors on different levels, with each level informing an examination of the conditions that shape Canaan residents' ability to pursue similar strategies. This is followed by a discussion on the consequences of water rights becoming a responsibility for the individual rather than the state to secure and, finally, a conclusion.

### Carving out rights to the water through water infrastructure

For “the right to water” not to become an empty signifier and rather refer to genuinely political activity, we need to consider the concept in terms of realized claims and access (Sultana and Loftus 2015). Rights are sustained and accountable claims which are not “dependent on arbitrary and fickle practices of the state” (Roy 2009, 81), or on nonstate institutions of authority. Benda-Beckmann and Benda-Beckmann’s distinction between categorical and concretized rights provides useful nuance to our understanding of rights. While categorical rights describe the legal status of persons and property objects, concretized rights describe when an actor has granted such a claim, and it has become embedded in social relationships with respect to actual persons and resources (Benda-Beckmann and Benda-Beckmann 2000). We can then understand claims as actions taken to achieve sustained access and concretize a right—claims which are usually made to an institution or actor with control over the given resource. Highlighting rights as socially embedded also reveals how they are dynamic, ongoing, and sometimes fragile processes that necessitate active engagement and are, moreover, shaped by everyday acts and material objects (Anand 2017; Das 2011; Sultana 2020).

State institutions are not the only actors with the capacity to acknowledge and concretize a right, by granting basic services (Büscher 2012; Stacey and Lund 2016). Water governance in the Global South is often characterized by legal pluralism, where people claim their right to water through different co-existing and parallel normative state and nonstate frameworks (Jaffe 2013, Roth, Boelens, and Zwartveen 2005). Water rights are, therefore, often assembled through claims made to different institutions and normative orders, and people mobilize their claims to urban services around the state. This also highlights how people are not passive recipients of state services granting them recognition but actively define the practical realization of rights to resources and services. Through this, they shape their own terms of belonging in the city as Holston (2008) showed with slum dwellers of São Paulo defining a new “insurgent citizenship.”

Through official and non-legal channels, people engage in everyday political practices to mobilize water pressure and their right to water (Anand 2011, 2017; Schramm and Ibrahim 2021). For many urban residents, to mobilize the hydraulic and political pressure for water access, they need to enable both social and

physical relations (Anand 2011). This highlights how claims to services and recognition of rights are tied to infrastructures (Kooy and Bakker 2008; Körling 2020; Lemanski 2019). Anand (2017) highlights in his ethnography on water in Mumbai how city authorities recognize people as deserving of services or not through infrastructures. Water connections become part of establishing the right to water and state recognition, captured by the concept of “hydraulic citizenship” (Anand 2017). Infrastructures are, in such ways, central to shaping processes of access, recognition, and claim-making throughout the urban landscape. An example of how infrastructures condition the way people make claims is described by Schramm and Ibrahim (2021), who show that although middle-class residents in Nairobi can subvert the top-down water flows, their strategies are framed by the distribution capacities of the grid. This paper similarly describes how the centralized grid and the actors with infrastructural control over it, providing water for residents in Langata and the newly formalized Canaan estate, afford specific strategies to claim water, necessitating interactions with employees from the utility grid.

When access to water can be claimed through various nonstate and state actors and infrastructures, and an official water connection is not always adequate, how do we look for and understand the relevant actors in the process of constituting people’s right to water and the city by enabling water access? Truelove’s (2021) concept of “infrastructural powers,” is useful to identify the actors people claim water from, regardless of their official position to grant those claims. Truelove posits that nonplanned and smaller infrastructures are central in shaping how city dwellers and political actors exert and understand everyday governing power. Because of this, state and nonstate water governance actors do not derive their influence from any official authority but are rather given “infrastructural powers” through their influence and control over infrastructures (Truelove 2021). Infrastructural powers direct our gaze towards the actors in the water sector with the ability to control the water flow, regardless of their official position of power. This allows us to explore the social relationships in which access to resources needs to be embedded in before rights become concretized (Benda-Beckmann and Benda-Beckmann 2000), revealing the social relationships which need to be secured for the right to water (Sultana and Loftus 2015).

This paper builds on Truelove’s concept of infrastructural powers in highlighting how the low-level infrastructural powers possessed by plumbers and people repairing the infrastructural network, can be more central in establishing concretized rights to water than actors with a more official mandate to grant claims to water. The paper explores three levels on which people engage and try to mobilize actors with infrastructural powers: *Political and Official Fora*, *Social Relationships and Networks* and *Economic Incentives and the Material Network*. Through this, the paper unfolds the social-political relationships in Nairobi in which the right to water is embedded and dependent. The paper moreover shows how the fragmented nature of the state and infrastructural control in Nairobi and the social embeddedness of water rights urges us to look not only beyond statutory institutions in securing the right to water but to understand rights as dependent on interpersonal relationships.

## The flow of water in Nairobi

Water distribution in Nairobi is provided by Nairobi Water and Sewerage Company (Nairobi Water). This county-owned parastatal took over the distribution of the city's water from the city council in 2003. Water management in Kenya, since the implementation of the Water Act 2002, has been steered towards cost-recovery and commercialization (Advani 2016; Crow and Odaba 2010). This has mainly happened through the creation of county-owned commercial companies working as water service providers (K'akumu 2004) based on the idea that a market-driven water sector would lead to a more efficient water distribution system. This relatively new private water sector is an ambiguous construction, not fully private nor state, and both actors in the field and literature struggle to define it (Kombo, Kipkorir, and Ekisa 2014; Obosi 2018). In Nairobi, however, Nairobi Water is often referred to as "the city council," therefore, the separation between the company and the state does not exist for many residents. While water is recognized in the constitution as a human right (Government of Kenya 2010), the decentralization of the water supply gives the water utility the mandate to fulfill people's right to water as they are in charge of water service provision. Like the other water service providers in the country, Nairobi Water is regulated by the Water Services Regulatory Board (WASREB), the state regulator which sets, monitors, and reviews rules and regulations to ensure affordable, efficient, and equitable water services provision (WASREB 2022). Among the key performance indicators on which the utility companies are evaluated, are water quality, coverage, metering ratio, and non-revenue water. The state regulator has made some efforts to improve water security for the country's less resourceful citizens by requiring each water utility to have a "pro-poor" strategy. Few details, however, are provided for how such a strategy should look (WASREB 2024).

Nairobi is experiencing increasing population growth due to rural-urban migration (Gachanja et al. 2023) alongside a frantic construction of high-rises and other water-intensive buildings. The city is facing a water crisis due to a lack of sufficient water supply, as it has been at the same capacity since the Thika Dam was built in the 1990s (Akallah 2022), and a significant amount of water is lost due to leakages and diversion. The situation has worsened as the city awaits the completion of the "Northern Collector Tunnel," aimed at increasing the water supply (Blomkvist & Nilson 2017). Nairobi Water is left with the task of distributing the scarce water around the city, closing and opening valves according to a schedule, and granting water to each neighborhood a few days a week. The scarce water combined with a deteriorating infrastructural system subject to unregulated water diversion means that the water service provider is far from meeting the demands of all residents. The erratic water supply means that water security becomes dependent on people's capacity to store the water in tanks and smaller containers (Kasper and Schramm 2023). Boreholes have become a commonplace element of the construction of housing buildings in middle- or upper-class areas (Kimari 2021). The population of Nairobi, therefore, relies on a patchwork of state and private water solutions of varying quality, including water trucks, boreholes, communal taps, delivery in 20-litre jerry cans, and household connections to the grid. The uneven and unpredictable flow of water in the city builds on and

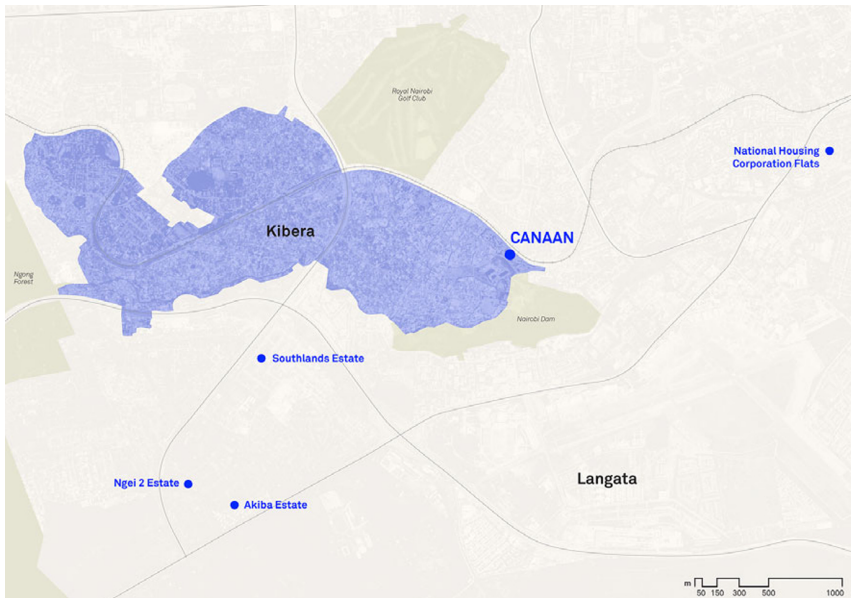
perpetuates long-standing inequalities dating back to the colonial past and reproduces a highly fragmented cityscape (Akallah and Hård 2020).

### Study sites

The paper draws on examples from middle-class estates in Langata, located in the south-west of Nairobi city, as well as the estate known as Canaan, not far from the other sites. From the perspective of Nairobi Water, the city is divided into two overall parts—the formal and informal—which are characterized by different infrastructural systems and logics. In the formalized areas, all plots have a water connection, which is either one per household or for several tenants on a compound to share. Here, Nairobi Water aims for full cost recovery, and residents pay for water at a progressive rate. Canaan and the other four estates are part of this formal system, and from a formal rights perspective, they should, therefore, be equally positioned in terms of their right to water. However, while the middle-class estates also struggle to establish their claims to water, they seem to be in a better position to actualize their right to water than the slum-upgrading project at Canaan. This paper attempts to explain what it is that they do to be successful, after an introduction to the Langata and Canaan estates.

### Langata

An upper-middle-class neighborhood with gated houses within gated compounds, the Langata estates included in this study generally have a calm atmosphere amid



**Figure 1.** Map outlining Canaan in relation to Kibera and the other estates included in the paper.



its lush greenery. The gates and trees give a sense of ease and privilege as an area where people would want for nothing. However, basic public services like water, electricity, and roadwork are almost just as unreliable and limited as any other formalized part of Nairobi. Water has been a particular issue in Langata for many years now, and the provision of the 1990s, where water would be flowing freely from the taps, is only a nostalgic memory for the older residents, bringing comments along the lines of “those were the days.” Most households rely on complementary water sources to their grid connection, and according to a study of Langata sub-county, the residents pay, on average, more than two and a half times their utility bill for supplementary tanker deliveries and bottled water for drinking (Ochungo et al. 2019).

According to residents within these Langata estates, water is their biggest challenge. The pressure is not high enough to fill up storage tanks within the allocated hours of supply—an issue which is complicated further by the use of booster pumps, which undermines the ability of people without water pumps to get water. Another issue has sprung up in the past few years as some houses within the estates are not getting water at all. These residents must call the expensive water trucks to fill up their tanks. Water supply failures, in some cases, are caused by blocked pipes, which residents usually take care of on their own instead of waiting in vain for Nairobi Water to come and fix the blockage. According to Langata residents, the water supply is also often without any real pattern, where some houses are left without water one week, and other houses the next. The Langata estates have estate committees deeply committed to the struggle for water, and despite their challenges, the water supply to the estate can, for the most part, fill a substantive part of the residents’ water demands. The paper focuses on the struggles and efforts of the residents and these estate committees.

### **Canaan**

The Canaan estate is a gated complex of apartment buildings on the border of the Kibera slum, hosting a mix of former slum-dwellers who were allocated an apartment, which they are now paying a mortgage on, and of people renting apartments from the former slum-dwellers. Coming from Kibera, many residents have limited resources and work casual jobs. Canaan was initiated in 2005, with the slum-dwellers being temporarily relocated and having their homes demolished. The estate has a water connection with the state-owned water service provider, Nairobi Water and Sewerage Company (Nairobi Water), and when the first residents moved in 2016–2018, water was coming in four days a week in abundance. However, since another housing project was built behind them, their water supply has diminished. Although the estate has its own borehole, the water table seems to have sunk, and the borehole produces little water. The residents explained that when the water comes, there is only enough to cover their needs for two days, meaning they will need to buy water from the water kiosks in Kibera, similarly to what they did before moving—only now they have to carry the water longer distances and up the stairs to their apartments. Along with their increasing water needs, especially with regard to the flush toilets in their



apartments, water has now become a bigger issue than it was when they lived in the slum. In a focus group with female residents, all the participants stressed that although their living situation had improved on most parameters, their situation in relation to water had only deteriorated: “In another sense, this is also a slum to me. We suffer more even than those who are in the slum. If you cannot get water as a citizen of Kenya, you are in a bad position.” While the estate has an estate committee, just like the estates in Langata, the committee is struggling to get the water flowing in the residents’ taps.

Paradoxically, it was in some ways easier for the residents to claim their right to the water when they lived in the slum, where they were not restricted by the piped infrastructure and the people controlling them. While Kibera stands out in a policy context as the prime example of insufficient and precarious service provision, the former slum-dwellers believe it was easier to navigate than the formalized system. Residents have given up trying to get more water in their taps, and they now have new restraints like higher prices and water that must be carried up the stairs to their more water-intensive apartments. In this regard, for some people, formal water connections seem to be more of a restraint than a benefit. This aligns with Schramm and Ibrahim’s (2021) research in Canaan’s neighboring estate Nyayo Highrise (one of the estates that Nancy mentions in the introductory quote as getting more water than Canaan now), where they find that some of the grid-dependent middle-income neighborhoods are more marginalized by water flows than some of the poorest neighborhoods in the city.

In order to identify what gets in the way of Canaan’s water flow, I will, throughout this paper, examine how successful access to water is mobilized in a water-challenged city like Nairobi. I highlight the importance of being able to engage infrastructurally powerful actors and identify three key levels on which the Langata residents do this: the political sphere and official fora, social networks and relationships, and the material network. This analysis highlights the social embeddedness of concretized water rights, which requires a certain know-how and know-who. Tracing the central infrastructural powers, moreover, reveals the centrality of ground-level water actors such as plumbers and other field employees from the water utility in granting people’s right to water.

## **Concretizing water rights through infrastructural powers**

### ***Political sphere and official fora***

Infrastructural control of the city’s water is found on many different levels. The highest level that Langata residents identified was bureaucratic political power. Several participants referred to prolonged periods where water flowed freely, for example, during COVID-19 and election campaigns, as proof of how water flows were dependent on political will. The residents in Langata mentioned tanks overflowing and unknowingly broken return valves bursting because the normally sparse water had never pushed them to their limit. Although Nairobi Water is officially managing the water autonomously from other state institutions, residents in Langata, as well as the adjacent slum Kibera, agree that the

water supply is closely dependent on whoever has a seat in the parliament. A chair member of the Akiba estate committee in Langata reminisced about the days when Evans Kidero was the governor of Nairobi, and they would get water three times a week. After that, she said, Mike Sonko had the seat, and he had private water trucks he could send out and bill at the Nairobi Water rate. A member of committee for the Southlands estate says:

We had elections last year. We have never received water during campaign periods the way we did. It is also used as a campaign tool. Every year they tell you they will bring you water as a campaign pledge. ... As somebody is doing the campaign, you see [water] pressure. You don't need to use your pump ... Then all of a sudden you go six weeks without seeing water again. How do you explain that? (Interview, Langata, May 2023)

This shows that people perceive representatives of the state to possess infrastructural powers. These kinds of infrastructural powers are, however, difficult for ordinary citizens to manipulate or activate for their own benefit. According to the residents' narratives, it is rather politicians using the water to advance their political careers.

The frontline of the struggle for better water services are the estate committees. The committees consist of residents representing their estate (compounds ranging from a handful up to around a thousand households), elected by their neighbors for a period of four or five years. Their task is to take care of issues within the estates relating to infrastructure, basic services, and security, and, for example, contact the relevant authorities when there are issues with these. While Langata residents explained that nothing would ever come out of contacting Nairobi Water as an individual, the committees have more weight in presenting a bigger group of people. A particularly large success that two of the estate committee chairpersons talk proudly about is a petition of all the estates of Langata made in 2017, where they signed a complaint sent to the managing director (MD) of Nairobi Water. At the forefront of this struggle is William, former chairperson of one of the estate committees. He is dedicated to the struggle for better water services and took the initiative to start Langata Chairpersons Forum, a collaboration between the estate committees in Langata. William explained to me, with his eyes shining, that there was so much water after the petition that they could not believe it. However, the success was only temporary. A month later, the water reverted to a lazy trickle, reaching only the luckiest residents.

Temporary successes are characteristic of the resident committees. In general, the work for a consistent water supply is constant and requires constant pressure on Nairobi Water, similar to the dynamics unfolded in Anand's (2017) study from Mumbai and in Schramm and Ibrahim's (2021) in a Nairobi estate close to Canaan. The use of pressure is visible in the WhatsApp chat group for the residents in the Langata estate "Ngei 2," where messages like this one are a weekly and sometimes daily occurrence: "This effort never stops. One week we are successful then Nairobi Water fails us—Especially we in Extension Way [road

within the estate] We keep each other on our toes (praying hands emoji)" (WhatsApp message, June 2023). Securing their claims and concretizing their right to water is a continuous struggle requiring constant engagement from the residents.

### **Canaan**

In Canaan, the resident committee has primarily tried to claim their share of the city's water resources by going to Nairobi Water's office. However, while their main mode of fighting for water has been through official channels, they seem to be particularly disadvantaged in this forum due to their status as a newly formalized area. Nathaniel, the vice-chair of the estate, explains how he has seen the vendors tapping into their pipe and believes this to be a central cause of their lack of water. He repeatedly reported it to Nairobi Water but was sent back and forth between two Nairobi Water offices, one in charge of the "formal" areas and the other of the informal. Although Canaan is officially a formal area, Nathaniel was told by this office to go to the office for the "Informal Region" in charge of informalized areas like Kibera, from where he was sent back again. In this way, the resident committee of Canaan has been unsuccessful in mobilizing the right people to establish their water claims, and the ambiguity of their formality status makes it easier for the officials to deflect Nathaniel's complaints. In the end, Nathaniel abandoned fighting for water services to Canaan: "[Y]ou go to this office, they take you to another office ... on dealing with Nairobi Water I have given up completely" (Interview May 2023). We see that claiming water in the official fora proves difficult for Canaan. In the estates in Langata, only the resident committees take on this fight, and it tends to require mass communal mobilization with only limited results.

### **Social networks and relationships**

The power of resident committees lies not only in their ability to mobilize communally but also in nonofficial paths for claim-making, such as their capacity to foster connections with Nairobi Water employees over time. The chairperson of the infrastructure division of the Ngei 2 committee underscores this, stating that "It is much easier if you have someone who can just make a quick call to Nairobi Water and get things moving" (interview, June 2022). This highlights the pivotal role of social relationships and why the chairpersons representing the estates are well-connected, with ties to influential people like members of parliament, the governor, and the Nairobi Water management.

William's story is a testament to the importance of influential connections. He is on familiar terms with the MD and will repeatedly call him up when there are problems with the water supply in the estate. The first time William managed to reach the upper management of Nairobi Water was in 2012. There was no water in all Langata during Christmas, when everyone was home and the water demand was even higher. While the residents were desperately considering how to get water, William heard that the sitting MD was playing golf in Mombasa. He was hugely provoked by this and decided that he had to get a hold of the MD and make

him understand the dire situation. In what seems to be how everyone successfully contacts Nairobi Water, William took what he calls the “Kenyan way”—found a Nairobi Water employee on the street, and asked for referrals for someone higher up until he got to the MD. According to William, when you call the Nairobi Water people enough, you reach a point where they either have to turn off their phones or find a way to help you. As this is the only way to receive services, every person dealing with Nairobi Water—resident committee member or house owner—has a phone full of private numbers for Nairobi Water employees. Although the MD was unhappy about having his golf holiday disturbed, he agreed to send four water trucks to Langata to fill up water tanks. I heard several times about the MD being pressured into sending water trucks to an estate when the supply fails. He is a direct channel to receive water when the supply fails and a way to circumvent the piped grid.

The way that individuals are key in concretizing the right to water not only appears to be a successful way for residents to claim water. It also seems to benefit Nairobi Water as they can get away with small but insufficient acknowledgements of people’s water claims more easily. This patrimonial system, where political agency is tied to personal relations, has been shown to characterize Kenyan political culture more broadly (Rasmussen and Van Stapele, 2020). The politics of infrastructure prevalent in Kenya is, moreover, intricately interwoven with ethnic and tribal political affiliations. In the context of Kibera, for example, affiliations with politicians of Luo descent are significant, owing to the substantial presence of the Luo community in the area (De Smedt 2009).

Infrastructural powers are weaved into the social fabric of water access. We see them both in actors who more traditionally present the state and in people with very manual capacities to influence the infrastructural network. The most valuable relationships to mobilize in order to receive water seem to be with those who can manipulate the grid, such as plumbers and water service provider employees with knowledge of the valve system. This means that specific people rather than one institution grant people access to water, and the right to water becomes embedded in social relationships with these people. The importance of specific individuals also became clear when I joined the work of the leakage repair team, which primarily deals with fixing leaks or burst pipes by the side of the road. During the episodes where they went to private houses, the residents had to call several Nairobi Water employees before the plumbing team came. In the Ngei 2 estate WhatsApp group, the regional technical manager from Nairobi Water was added with his personal number, and the residents would address him personally about water issues in the chat, although he stopped replying after a while. Another group of actors central to defining the flow in the grid is the distribution team, who turn the valves on the grid to direct the piped water according to the rationing schedule. The distribution team, however, has a more enigmatic role due to their work in the early hours of the day and their ability, according to several residents, to come and go to turn the valves unseen (see Jeppesen 2025). These individuals, therefore, become central in making the water flow and access becomes tied to the ability to engage with them. Focusing on the mobilization of infrastructural powers in this way captures how seemingly low-

level employees have a central role in shaping the water flow with their manual capacity to direct it.

### *Canaan*

In Canaan, the resident committee and Nathaniel's strategy has been to go to Nairobi Water and other water authorities' offices and complain about their issues. However, this appears a long way from William's hundreds of calls to Nairobi Water employees. After having given up on improving the situation through Nairobi Water, the Canaan residents and resident committee see investing in a new borehole as the only solution. The common efforts of the residents seem to be a matter more of contribution than mobilization, something that was reflected in a focus group in February 2024 with five male Canaan residents, two of whom were in the resident committee:

The power belongs to the people not the committee. The committee will propose but it is the people to contribute. Once you propose to get another borehole you only hear from the people "yes we want one. And how can we get it? Ok, we will contribute". So the power is upon the people, not the committee. And how? By contributing. Then we get another borehole.

It is also a matter of not expecting more from Nairobi Water, that the people in Canaan Estate have ceased the struggle for water from the grid. When asked



**Figure 2.** Water for sale outside Canaan Estate, Nairobi 2022.

whether they had given up on Nairobi Water in the same way as the committee's vice-chair, Nathaniel, one of the men said: "We haven't given up, but with Nairobi Water, you don't get water every day. We need a backup." For the Canaan residents, who used to live in Kibera, such as the participants of the focus group, they have been used to being left to themselves by the government and are perhaps, for this reason, more inclined to establish their right to water outside of the state-regulated water service provider. To a higher degree, the Canaan residents are trying to secure their water services themselves and not working with the same strategies of pressure and mobilization of social relationships as the Langata estates.

### ***Economic incentives and the material network***

Another way through which people concretize their right to water is by securing through the material network. One incident during my time with the Nairobi Water leakage repair team points to how people can alter the material flow of water. I followed the team for one job involving a major burst on a main pipe in an affluent area in Nairobi. The burst was rather unusual, one of the junior employees told me, as it was caused by an old connection going directly from the main line to a private house. The connection had not been appropriately blocked, and the piece of wood which had filled the hole had fallen out. The alternative repair method was not unusual as leaks and holes in the pipes are often fixed in this manner. The leak was uncommon because private houses are not supposed to have a direct connection from a main line but should rather be connected to the distribution pipes, which the company rations. While most of the team was struggling with a pump to drain the burst water, which took two days because of difficulties with fuel and a missing drainage pipe, the two senior employees were working on something behind the burst at a house under construction. It was not until the end of the last day of the job that I realized what they were doing as I talked to one of the employees, James. He was left with the Sisyphean task of draining the hole going to the pipe as it was continuously flooded when the pump stopped, and he seemed to have reached a certain point of resentment towards his senior colleagues for leaving him for this frustrating job. Taking a break away from his superiors, James explained that while the issue the team was officially there for was an old unregulated connection directly from the main pipe, the senior workers connected the house under construction to the main line in the same unauthorized manner. Given that it was the end of two long days out in the field and that the two senior workers were still at the site, this could only mean one thing, James explained: money was involved. This points to hiring Nairobi Water plumbers for an "off the records" job, as a way for the house owners or contractors to circumvent much of the rationing done through the distribution pipes going down smaller roads. This strategy requires engaging social networks and mobilizing economic capital—but is different from social relationships because it alters water flow more consistently and secures it through the material infrastructure.

People's ability to have their claims to water granted is, moreover, dependent on their physical location in relation to the grid. An example of this is a specific



road in the estate Ngei 2 which was always struggling to receive water, allegedly because they had to rely on a service line with less pressure. On the other hand, living near a critical public facility such as a hospital or near the president will guarantee a better water supply.

### **Canaan**

Canaan's water challenges are deeply shaped by the material network, but not in ways that are to their advantage. For one thing, the higher the floor the residents live on, the less likely they are to get any water and the more energy and time it takes to carry purchased water up the stairs. Canaan's geographical location is another issue in terms of the material network. The shared water pipe serving both the railway houses and Canaan has led to reduced water pressure, as Canaan is located at the end of the line. Additionally, water is diverted from this pipe to vendors in Kibera, further exacerbating the issue. These infrastructural dynamics highlight how material networks wield power over water access, but in this case, they function to the detriment of Canaan's inhabitants rather than securing their rights to water.

An analysis of Nairobi residents' strategies to receive water through their domestic connections points to the importance of being able to engage actors with infrastructural powers (Truelove 2021) on different levels. This highlights how the concretization of rights, described by Benda-Beckmann and Benda-Beckmann (2000) as the embeddedness of rights in social relationships with respect to actual persons and resources, is dependent on mobilizing the social relationships with these infrastructurally powerful actors.

### **The individualization of rights or water security beyond the state?**

All Kenyans have a categorical right to water through the constitutional acknowledgement of the human right to water, and the ones with a connection to the grid have an extra layer of recognition of that right in the utility company and the government deeming them as deserving to receive water services. However, as we see in Langata and in the slum-upgrading project at Canaan, this categorical right can be a long way from the concretization or realization of that right. Additionally, for the residents of Nairobi, claiming water is not about demanding a constant water supply but only for the water provider to acknowledge that they are entitled to sufficient pressure on their allocated days. Exemplifying the locally situated nature of claims, people claim what they believe they have a claim to. This both shows the relativization of the human right to water and the success of the government of Kenya in evading this responsibility through the narrative of scarcity, blaming the insufficient water services on an absolute water deficit. This obscures the fact that scarcity is not a static characteristic but rather an outcome of decision processes of where the water does and does not flow (Barnes, 2014).

The consequences of the fragmentation of water control and the resulting social embeddedness of water rights are that it leaves residents with the responsibility to concretize their water rights. This form of neoliberal responsibilization,



which becomes internalized by residents in Nairobi, is also described by Ibrahim and Schramm (2021). Similarly, the members of the Langata estate committees in this study all highlighted the virtue of persistence to constantly engage with water officials and plumbers to secure water. One chairperson of one of the biggest estates in Langata explained how she managed to persuade the city council to pay for a borehole to secure water for her estate. Her influence is undoubtedly connected to her political ties, as she works under the governor of Nairobi. However, she emphasized that successes were all about being able to persuade people to do things for you and mentioned another estate where the chairperson is close friends with the governor but still struggles with water. Instead, she claimed, success depends on resilience, patience, guts, and will.

When the actualization of the right to water is up to individuals or self-organized groups to claim their rights, it always marginalizes those with fewer resources and well-connected social networks. The socioeconomic situation of people in Canaan is thus another central hindrance that makes it difficult to concretize their water rights. Members of the estate committee explain that they could build a new borehole, but they cannot get people to raise the money. Already, only half of the residents are paying the monthly 1000 KES service fee, which is supposed to cover expenses such as the water bill to Nairobi Water (which also includes a sewage charge for the borehole), waste management, security, and so on. The residents explain that they are not used to paying monthly bills and point out that, especially those who do not receive water, do not see any reason to do so. The cadence of monthly instalments has also been found to be a main challenge for slum dwellers in adapting to the logic of a formal water system (Blomkvist et al. 2020; Sarkar 2020). The challenges of collecting money from the residents make it difficult to establish any long-term projects to secure better water provision, such as raising the 3 million KES (approximately 23,000 USD) required to deepen the borehole. Therefore, the means they manage to mobilize are not enough to improve their situation in a long-term solution. It is also likely that the low income residents have fewer ties to influential people who might help them receive water, as opposed to the other estate committee members, who were all well-connected and some aspiring in local politics.

If residents do not have the capacity to activate or manipulate the network—for example, via social relations with infrastructural actors, strong estate committees putting sufficient pressure on officials, or economic incentives—turning legal rights into sustained access and actualized rights can prove difficult. This points to a limited role of the state in securing the right to water and the fact that we need to recognize the social but unequal relationships framing the right to water, and the opportunities for people to realize it. While the lack of an accountable water institution can increase water insecurity, flexible and decentralized water systems may also make people more equipped to face and adapt to water insecurities (Lawhon, Nsangi Nakyagaba, and Karpouzoglou 2023). Akallah and Hård (2020) describe in a historical analysis of water access in Nairobi 1940–1970 how residents who were not served by the centralized water network showed higher resilience than Nairobi residents who had been relying on networked household connections and were more vulnerable to shortages. This

is because residents not connected to the centralized network relied on a multitude of water sources rather than one system.

The challenges to secure water within Canaan meant that water was, in many ways, easier for people to access in Kibera. In two focus groups with residents from Canaan, both groups mentioned that water was not an issue in the same way when they lived in Kibera. In fact, most of the water they consume is bought from the water kiosks in the slum, only now it is a more laborious and time-consuming endeavor. A few women also mentioned that the water was cleaner there than what they would get from the borehole at the estate. Nathaniel, the vice-chair of the Canaan estate committee, expresses the irony of how, despite Canaan having a formal water connection, Kibera receives more water: “we have meters, but we are not getting water. And then the people from the informal area who don’t have meters are getting water more days than us who have meters” (interview, Canaan Estate, May 2023). Water challenges are, without a doubt, extremely present in Kibera. Water is expensive, time-consuming, and often not safe for consumption (Tintle et al. 2023). However, people in Kibera do not follow any rationing schedule, as the water vendors siphon the water directly from as many parts of the grid as possible so one of these pipes will always have water. (For more detail on this water provision system and the relationship between water providers and residents it affords, see Jeppesen 2025).

The water provision system, which used to serve the former slum dwellers, which according to the vice-chair of the resident committee still make up a significant share of the Canaan residents, was less dependent on the whims of various infrastructurally powerful actors. While still controlled by powerful vendors the water kiosks in Kibera are less dependent on inventive strategies and consistent political and social pressure. The fact that this water provision is, to a higher degree, decoupled from state regulation gives a higher degree of resilience. The former slum-dwellers’ difficult transition from Kibera to a formalized estate, at least when it comes to water, shows how there are different, although connected, socio-material networks that people have to mobilize to access water. This means that while the Canaan residents are better off in terms of having their claims to water recognized through their connection to the utility grid, their concretized right to water is worse off as the residents are struggling to embed their claims in any social relationships controlling the resource.

### Concluding remarks

The paper takes on Sultana and Loftus’s (2015; 2020) call to engage with the political relationships that condition the right to water. It gives an ethnographic account of the different conditions for assembling the right to water in two areas. The paper shows that the state recognition of the claim to water is indeed not equal to the actualized or concretized right to water. Instead, the water actors which are most efficient to engage to secure the right to water, are those more accessible for people such as field employees of the water provision company. As such, by examining people’s ability to claim water services through their engagements with infrastructurally powerful (Truelove 2021) actors, the paper

highlights the importance of lower-level infrastructural actors and individual water officials in establishing the right to water. This shows the importance of incorporating these actors into the discussion on water right.

The literature on water access highlights the importance of a formal water connection for people to establish their right to basic services and to be recognized by the state (Anand 2017; Kooy and Bakker 2008; Ranganathan 2014). However, as we see in Nairobi, formal and state-regulated infrastructures are not the only way people can claim their right to water, nor are they necessarily secured water rights based on them. On the other hand, formalized water access can be more of a hindrance than a benefit, as is the case with the slum-upgrading project at Canaan Estate. I have shown how these challenges stem from an urban landscape in formalized neighborhoods where access to water is mobilized through a network of socio-material relations. Turning legal rights such as the right to water or a state-acknowledged claim such as a water connection into concretized rights becomes difficult to establish without the necessary resources, know-how, and connections, something the former slum-dwellers in Canaan seem to lack because they are used to navigating in a different relational network of access.

In Nairobi, we see that water rights become assembled through and granted by specific individuals on various institutional levels with the infrastructural powers to control and direct the water. The fragmentation of water control urges us to go one step further in deconstructing the rights debate and to pay more attention to how rights are established and restricted based on networks of social relations. When water control is fragmented and dispersed among many actors, the concept of rights becomes fragile. However, people still strive in various ways to establish consistent water access through infrastructurally powerful actors. The way the right to water is embedded in relations with infrastructurally powerful actors rather than institutions highlights how we should look beyond the various legal and normative frameworks through which people base their claims as underscored by the legal pluralism debate (Roth, Boelens, and Zwartveen 2005). The daily interactions through which claims to water are established, and the right to water turned into practice are essential to explore to address urban water security.

We see many examples of state water distribution producing inequalities (Alba, Kooy, and Bruns 2022; Dill and Crow 2014; Kooy and Bakker 2008). The centralized grid, a European blueprint for city planning, may also not be the most suited for the urban development we see in other parts of the world. However, the social embeddedness of the right to water in Nairobi does not mean that we should dismiss the role of the state. Rather, the paper underscores how the weak backing of the state in water provision contributes to the water insecurity experienced by the residents.

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**Author Biographies.** Maja Jeppesen is a researcher in anthropology and development studies specializing in natural resource governance. Her work explores the social and informal political dynamics of resource management, focusing on East Africa. She holds a PhD in anthropology from Aarhus University and is currently a postdoctoral researcher at the University of Copenhagen. Emails: [majakd-jeppesen@gmail.com](mailto:majakd-jeppesen@gmail.com) and [maja.jeppesen@sund.ku.dk](mailto:maja.jeppesen@sund.ku.dk)

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