Neoliberal Water Infrastructure, Informality, and the State in Cairo 1952-2017

A Case Study of Ezbet El-Haggana

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Declaration

I, Deena Mahmoud Sobhy Khalil, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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Abstract

This thesis explores the relationship between neoliberalism, politics, and water infrastructure in informal areas in Egypt. It explores the extent to which reforms within Egypt’s potable water sector have impacted access to water in informal areas, and uses this to understand the political role played by infrastructure in Egypt, and particularly how it mediates between citizens and the state. I find that although neoliberal reforms implemented in Egypt’s water sector from the 1980s to the present have increased access to public water infrastructure in Haggana, this has taken place through a process of unbundling of rights such that access to water is being disconnected from broader questions of adequate housing as a bundle of rights. Furthermore, I argue that infrastructure has been one of the main channels through which the state has governed informal areas. I find that examining the governance of water infrastructure in informal areas exposes the “flexibility” in how the Egyptian state governs infrastructure. I argue that this flexibility is a result of the ad hoc nature of power in governance and the uneven quality of the state’s authority and reach. This flexibility creates a waterscape constituted by overlapping infrastructures, practices, and actors, making traditional binaries such as public-private and formal-informal meaningless. Finally, I argue that public infrastructure in general is deployed by the state – both materially and discursively – as a vehicle to ensure its presence in people’s daily lives, and to generate public sentiments of progress and modernity. While more “spectacular” forms of infrastructure such as roads and bridges have been effective at doing this, more subtle forms such as water infrastructure have tended to expose the limitations of state power in regards to creating actual change and improvements in people’s lives.
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Chapter 1 – Introduction

1.1 Introduction

“The water company doesn’t care about who we are or how legal we are as long as it is getting paid” (Interview 4, Haggana male resident, 2014).

This thesis is concerned with the infrastructure of drinking water in Cairo, Egypt, and particularly the impact that neoliberal reforms have had on accessing this infrastructure within informal areas. As a framework for analysis, I combine a political economic analysis of Egypt’s potable water sector with a case-study of water infrastructure in the informal area of Ezbet El-Haggana in eastern Cairo. I look into how the governance of water infrastructure takes on complex political dimensions within contexts of informality, and how this has served to simultaneously exhibit state power while also exposing its limitations. I take both a historical and contemporary perspective, looking into the history of Egypt’s potable water infrastructure since the birth of the Egyptian republic in 1952, as well as the governance of water infrastructure in Egypt today, particularly in light of ongoing neoliberal reforms and renewed state interest in infrastructure and informality after 2013.

Informal areas and infrastructure have been intertwined since the 1960s, when then-president Gamal Abdul Nasser took notice of the rapidly growing informal neighbourhoods in and around Cairo. Since then, government interventions have addressed these areas through physical upgrading of local infrastructure, such as street paving and street lighting, and improving the water, sanitation, and electricity networks. The lack of water infrastructure in informal areas (today labelled by state institutions as “unplanned areas“) has been used by the state as a pretext for intervention in these areas, whether this has taken the form of eviction or upgrading. The state’s discourse regarding infrastructure since the birth of the Egyptian republic in 1952 until today has associated infrastructure with concepts such as power, modernity, and development. Thus, what such
Discourses have entailed for informal areas and their access to infrastructure is a question examined within this research. State intervention in these areas has often been justified by their lack of access to a safe (i.e. state-provided) source of water, which was framed as an unhealthy and uncivilized living condition. Access to water eventually became one of the main channels through which informal clientelistic politics were carried out between local politicians and residents of informal areas. Thus, even when the official discourse propagated by the state has shunned informal areas, the day-to-day micro-politics around water infrastructure suggest a more accommodating, albeit exploitative, state in the form of lower-level politicians and state executive institutions.

As reforms have been implemented in the water sector, they have changed the way executive water institutions have operated in informal areas, thereby fundamentally changing the nature of state-society relations in these areas. These reforms have been described by some observers as neoliberal due to their orientation towards corporatizing utilities and increasing cost recovery.

Together, the above issues constitute the main foci of this thesis. I discuss the political role played by infrastructure in the context of Egypt’s urban planning policies and its informal areas, and then move into an examination of access to potable water in Egypt. Following this, I examine the neoliberal reforms being implemented in Egypt’s potable water sector since roughly the 1980s. I then turn to the question of how these reforms have shaped the water infrastructural landscape in areas designated as “ashwa’eyat”, and how this can help illuminate the hidden politics of governing informal areas and infrastructure in Egypt.

Thus, the main contribution of this thesis is in exposing the complex impacts that neoliberal reforms have had within contexts of informality, as well as reconceptualising the role of infrastructure vis-à-vis politics and the

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2 For a list of the reforms implemented in the water sector, see Annex A
3 The Egyptian colloquial term for slums
state. By studying the way in which water infrastructure access in informal areas is shaped by neoliberalism and how it in turn shapes their relationship with the state, we can better understand how infrastructure and politics are mutually constitutive.

Scholarly interest in the complex impacts that neoliberalism has had on the welfare of city-dwellers has been increasing over the past two decades. Many of the various bodies of literature and scholarly perspectives on neoliberalism frame neoliberalism as an ideological project that reduces the role of the state and erodes its role in providing welfare to residents. My interest in this thesis is in examining whether/how this process plays out in practice in informal areas, which are already arguably excluded from the state’s welfare mechanisms. Using water infrastructure as a lens through which to understand this is a logical choice because of the central role that water infrastructure plays within informal areas. In fact, the relationship between residents and the state in Cairo’s informal areas has functioned largely around how residents access water and electricity infrastructure. Therefore, at stake in the neoliberalization of infrastructure, especially in light of the phenomenon of “state-rollback” that has been highlighted in much of the literature on neoliberalism (e.g. Pick and Tickell, 2002; Lockie and Higgins, 2007, Castree, 2008), is a shift in the relationship between residents and the state in informal areas.

The body of literature on “actually existing neoliberalism” explains how neoliberal ideas interact with existing legacies and contexts within the various locales they are implemented in. This lays the groundwork for analyzing the unique impacts neoliberal policies have within contexts of informality, something that has not received enough attention in the literature. There exists within the literature some analyses of the impact of the neoliberalization of infrastructure within informal areas (for example, McFarlane, 2008a; Miraftab, 2004; Desai and Loftus, 2013; Gopakumar, 2014), but central to this discussion is not only the impact such policies have on residents but also how the interaction with existing institutional
and governance legacies takes place, and what the resultant waterscape looks like. Furthermore, there are very few attempts within the literature to understand not only how neoliberal policies interact with governance legacies, but also with an existing politics of infrastructure that shapes the way the state governs infrastructure in the city in general.

Within Egypt, there has long been public concern with issues of water access in Egypt. Egyptians have complained about water shortages for decades, often, as Farmer (2014) critically discusses, highlighting the irony of water shortages occurring in the land of the Nile. This thesis’ focus on water feeds into a substantial body of literature examining how access to water in Egypt is governed and contested. However, and perhaps more critically, this thesis’ concern with neoliberal governance reforms mirrors a broader concern with neoliberalism within Egypt’s academic and activist circles (for example, Ismail, 2007; Abdelrahman, 2017). Many of the existing studies on neoliberalism in Egypt have looked at issues such as property markets (for example, Mitchell, 1999; Denis, 20016), with very few examining neoliberalism through less obvious sectors that are perhaps more critical to city-dwellers’ everyday lives such as water infrastructure. More recently, there has been an increased interest in water pricing, and a general public and state focus on informal areas and infrastructure mega projects. As Egyptian President El-Sisi continues to make pronouncements such as “Egypt without ashwa’eyat within two years” (Sada El-Balad, 2016), and with the slew of infrastructural mega-projects announced by the Egyptian government since 2014, the issues addressed in this thesis have become particularly salient.

Informality is another area that this thesis contributes to that is central to the lives of many Egyptians. Much of the discussion around informality within mainstream circles in Egypt revolves around the burden that urban informality places on the rest of the city, and how to ease this burden. More specifically, mainstream discussions around water and electricity in informal areas have tended to centre on how to recover money lost to
informal connections. Conversations among activists and development practitioners regarding this issue have tended to focus on issues of access and affordability. The battles that informal area residents have to go through on a regular basis in order to manoeuvre the complexities of the Egyptian urban governance system and access basic services have not garnered enough attention within the public debate. This is something I believe this thesis can contribute to. Thus, one empirical contribution of this thesis involves the production of new knowledge about informal areas in Cairo specifically related to how the particular micro-politics of informal settlements interact with the broader political context to exacerbate complex and hidden forms of water scarcity.

Broader empirical contributions include exposing some of the subtle ways in which Egypt’s utility and basic infrastructure sectors are being neoliberalized by the state, while also highlighting that the state itself can be an important arena for resisting these shifts.

With an eye towards exposing, over time, the relationship between access to water by residents in Ezbet El-Haggana, state policies towards infrastructure and informal areas, and water governance policies, I pursue a mixed-method approach that combines historical and contemporary analysis based on qualitative primary data and qualitative and quantitative secondary data. Studying governance in such an indirect way allows the research to uncover some of the more insidious factors shaping infrastructural development within Cairo’s informal areas that often become obscured in the shadow of presidential statements and official state policies. In sum, the research offers a detailed historical and contemporary analysis of the political processes shaping access to water and its infrastructure in Cairo and its informal areas, and consequently sheds light on the complex politics of infrastructure in Egypt.

I situate this research within the body of literature focused on critical analyses of infrastructures and their concomitant politics, which can
broadly be labelled as “critical infrastructure” literature. Such studies have offered ground-breaking insights into how infrastructures operate as manifestations of political rationality that shape (and are shaped by) domains seemingly far removed from their physical form (Larkin, 2013). In essence, infrastructures hold the heavy responsibility of mediating between the citizen and the physical form of the city. In the words of Graham (2000), “cities and urban regions become, in a sense, staging posts in the perpetual flux of infrastructurally mediated flow, movement and exchange” (p.8). Infrastructures also make cities possible, as illustrated by Swyngedouw (1997, 1999) when he showed that a history of urbanization is, in essence, a history of the domestication of water through its infrastructure. Although Swyngedouw does not engage with the concept of infrastructure per se but rather focuses on water as the object of analysis, his research shows that the resident’s interaction with the city is based on how resources such as water are accessed and how this access is facilitated. Infrastructure is what makes this access possible. However, drawing on particular infrastructural tools employed by governmental forces, such as the racial segregation of public space, von Schnitzler (2013) demonstrates that infrastructures do not necessarily always enable movement and circulation but can actually sometimes impede it.

Thus, examining how infrastructure is governed by the state also examines how the state governs residents’ interaction with the city. It can shed light on questions such as who the state is building infrastructure for, and whom it is excluding. Academic literature shows that many of those excluded from access to infrastructure happen to be living in conditions of poverty and/or informality. There is also a sub-set of literature focusing specifically on how states have manipulated this mediatory role to serve specific political interests. In this way, infrastructure is conceptualized as “a mixture of political rationality, administrative techniques, and material systems” (Larkin, 2013, p.331). In the words of von Schnitzler (2008), “infrastructures, and the technologies deployed within them, are invested
with and productive of social and political relations” (p.900).

To conduct this research, I conceptualize infrastructure as something equally constituted by its physical, social, and discursive aspects (Swyngedouw, 1999). I employ a case study of Haggana’s waterscape, using oral history methods, to construct a grounded “ethno-history” of water infrastructure in Haggana. I also employ historical research through evaluation of historical data and media reports. I combine this with a political economic analysis of Egypt’s water and infrastructure sectors, which took me far from Haggana’s geographical boundaries towards water governance institutions, urban governance institutions, and state urban upgrading projects. I thus explore the terrain of Haggana’s infrastructural water landscape conceptually, ethnographically, and historically (von Schnitzler, 2016).

1.2 Research questions and arguments

The objective of this research is to understand how neoliberalism has shaped access to water infrastructure in Ezbet El-Haggana, how this case functions to illustrate water provision in Cairo’s informal areas, and how together these analyses can illuminate a hidden politics of infrastructure in Egypt. The thesis examines various factors shaping Haggana’s water landscape, especially the influence of neoliberal water sector reforms, the ability of residents to obtain services through self-help or clientelistic politics, and the changing state policies towards – and discourses about – informal areas and infrastructure. The research engages with the need to understand the multi-dimensional process whereby water infrastructure access is produced.

Haggana’s water history can only be understood with reference to the broader role that infrastructure plays in mediating state-society relations in informal areas. Thus, the aim of this research is both to expose the historical evolution of Haggana’s access to water infrastructure vis a vis neoliberalism, and to reveal what this history can tell us about state
political rationalities and governance practices. This issue is even more salient in regards to informal areas like Haggana, which are often depicted as zones that are outside the state and external to its realm of power, thus raising interesting questions about the implication of Haggana’s access to infrastructure for its relationship with the state.

My interests, as outlined above, give rise to the following research question explored in the remaining chapters of this thesis: To what extent is water infrastructure in Cairo being neoliberalized? What impact has this had on informal areas’ access to water infrastructure and their relationship with the state?

Through the analysis provided towards answering the above questions, I make three central arguments.

First, although neoliberal reforms implemented in Egypt’s water sector have increased access to public water infrastructure, this has occurred through an unbundling of rights, with access to water being disconnected from adequate housing and other basic rights. I find that rather than resulting in state rollback, the aforementioned neoliberal reforms actually resulted in increased presence of state institutions in informal areas. This has been coupled with a subtle reorganization of the state-citizen relationship through the unbundling of rights. I argue that informality has resulted in “unbundled” infrastructure such that it has allowed the state to divorce access to basic infrastructure (in this case public water supply) from questions of adequate housing and secure tenure, which are promised as a single bundle of rights in the national constitution.

Second, I argue that infrastructure in general, and water infrastructure in particular, has been one of the main channels through which the state has governed informal areas. I find that examining the governance of water infrastructure in informal areas exposes the “flexibility” in how the Egyptian state governs infrastructure. However, I argue that this flexibility is not deliberate, nor is it a result of the unique difficulties of managing
infrastructure in informal areas, but rather a result of the ad hoc nature of power in governance and the uneven quality of the state’s authority and reach. This flexibility renders common dichotomies such as public/private and formal/informal obsolete as the resultant waterscape is one of overlapping infrastructures, practices, and actors.

Third and finally, I argue that different forms of infrastructure are utilized by states for different political purposes. Public infrastructure in general is deployed by the state through its materiality and through discourses associating it with modernity, development and progress. In this way infrastructure reifies the state by converting it from an idea into a material concrete experience, through the manipulation of space and people’s lives. More “spectacular” forms of infrastructure, such as roads, bridges, and infrastructural mega-projects in general, have been used by the state to enact and bolster its political power, which I have termed “nationalistic infrastructure”. However, I find that while more “subtle” forms of infrastructure, such as water supply, have also been deployed discursively as markers of modernity and progress, the intricacies of their everyday management have enabled them to expose the state’s limited power to effect real change in people’s lives.
1.3 On researching Cairo

Cairo is complicated metropolis that some have even described as chaotic (Kipper, 2009). Researching such a chaotic city comes with its own host of challenges that go beyond the expected challenges that any researcher faces. Cairo has been a burgeoning metropolis long before it was established as Egypt’s official capital in the year 969 AD. Cairo is Egypt’s largest city, hosting approximately 25% of Egypt’s 73 million people according to the 2006 census. But Cairo’s centrality to Egyptians is based on much more than simply its size. Economic opportunities offered in Cairo are rivalled by no other city in Egypt, and the country’s political life is also concentrated in Cairo. Roughly 2 million people flock to Cairo from Egypt’s other cities on a daily basis for work, or to conduct errands or finish paperwork (CAPMAS, 2006). All ministries and government office headquarters are located there. The centralization of jobs in Cairo mirrors a general country-wide economic bias towards the urban over the rural. Egyptian cities have been growing rapidly, and for many years rural-urban migration was blamed for the surge in urban populations. However, rates of internal migration have been steadily declining since the 1990s, and today’s urban population growth takes place mostly as a result of natural population growth (Sims, 2012.). Today, Egypt’s total population has reached 89 million (CAPMAS, 2017). According to data by Egypt’s Central Agency for Public Mobilization and Statistics (CAPMAS), in 2016/2017 approximately 42% of the total population were living in urban areas, up 5% from 2006 (ibid.).

Cairo is situated within the Greater Cairo Region (GCR). The boundaries of the GCR are not agreed upon by all entities. For example, the Ministry of Planning’s definition of Egypt’s economic regions defines the GCR as composed of Cairo, Giza, and Qalyubeya governorates (the latter two of which include urban and rural areas). The General Organization for Physical Planning (GOPP) defines the GCR metropolitan region, which consists only of Cairo governorate, and the urban parts of Giza governorate (i.e. Giza
city) and Qalyubeya governorate (i.e. the Shubra district). According to its definition, approximately 43% of Egypt’s urban population live in the GCR metropolitan region (CAPMAS). On the other hand, in 2008 the Japanese International Aid Agency published a study along with the GOPP that proposed yet a different set of boundaries for the GCR metropolitan region. The two definitions differ not only in which parts of Cairo, Giza and Qalyubeya to include, but also in which new cities are encompassed with the GCR’s borders. Greater Cairo is surrounded by eight new desert cities, namely: 6th of October, 10th of Ramadan, 15th of May, Badr, Al-UBur, Shaikh Zayid, Al-Shuruk, and New Cairo cities.

In 2010 a decree was issued to split the area of the GCR into separate additional governorates, such that the district of Helwan and 6th of October city would constitute stand-alone governorates. This is reflected in the GOPP’s Strategic Vision for Greater Cairo 2052 which proposes yet another set of boundaries. This decision was later reversed and Helwan became once again a district within Cairo governorate, and 6th of October went

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4 In 2016 the president announced the launch of a new administrative capital that is currently under construction. This additional new city is also adjacent to the GCR.
back to being a new desert city rather than a governorate.

The GCR according to the GOPP’s definition constitutes roughly 1.8% of Egypt’s total area, and is expected by 2027 to host around 26.8 million people, increasing to 33.5 million people by 2052 (GOPP, 2012). Given the different definitions of its boundaries, it is difficult to state exactly the area that the GCR takes up, but according to the GOPP’s 2012 definition, GCR takes up roughly 18 km². The GCR hosts around 40-50% of Egypt's university spots, hospital beds, public sector and private sector jobs (Sims, 2010), 31% of the nation's economic output (GOPP, 2012), and around 83% of all foreign establishments in Egypt (Sims, 2010).

While the government continues to spend a substantial portion of the national budget on building new desert cities, millions of Cairo residents continue to resort to living in informal areas which have grown massively since the 1960s and now constitute a significant portion of the urban mass and provide housing for more than half of the population in Greater Cairo (Sims, 2010).

Figure 2: Cairo a city of contrasts.
Source: Google Earth
While it can be argued that much of the city grew informally – i.e. without top-down planning – it was not until the 1960s that slum-like areas began to emerge and be recognized as the beginning of a phenomenon (Sims 2001). Although today many informal areas no longer suffer from slum-like conditions, and actually include well-constructed structures and services, many other areas lack basic services and host shacks in sometimes precarious conditions. While the former are often considered to have become incorporated into the city, the latter are often perceived as dystopian sites of crime, perversion, and squalor.

In fact, the urbanization of Cairo can be seen as a testament to the dynamism of informality in Cairo. Informal areas, whether on peripheral agricultural lands, inner city historic areas, or state-owned desert land, continue to provide shelter for millions of Egyptians trying to claim their place in the city. Furthermore, this informal growth has taken place in the shadow of laws that criminalize it and media discourses that stigmatize it. Looking at informal Cairo during the past three decades in a way mirrors the changing national circumstances Egypt has witnessed, whether it’s the intervention of international donors (Dorman, 2007), combating terrorist threats (Singerman, 2005), neoliberal urbanization (Denis, 2006), or the obsession with modernity (Tarbush, 2012). In fact, some scholars have gone so far as to say that the growth of informal areas in Cairo is a reflection of how the Egyptian state governs its capital city in general (Deboulet, 1990; Dorman, 2007; Dorman, 2013).

1.4 Drinking water in Cairo’s **ashwa’eyat**

The initial idea for this thesis originated in 2008, when as an intern I joined an international aid agency in visiting a few of the **ashwa’eyat**. The agency had supported the instalment of in-home taps and latrines, and the purpose of the visit was to gather some of the residents’ feedback on the

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5 The term "ashwa’eyat" literally translates to haphazard areas or “haphazards”, and the connotation and stigma associated with the term in Egypt is similar to that associated with the term “slums” in English.
services they had received. As the residents proudly displayed their new in-home infrastructure, I naively inquired why they could not obtain water infrastructure themselves from the water company. In response, I heard story after story about their attempts to obtain in-home water infrastructure, and how these attempts were met with failure because they were living in an informal area. As a result, when I officially began this thesis in 2012, my initial interest was in how residents of informal areas have managed to access water despite years of being excluded from the official water network. I visited one of the so-called ashwa’eyat, the Ezbet El-Haggana neighbourhood, to explore this issue. As I spoke to residents about how they have accessed water over the years, I found their water access journey to be fascinating. Many began by relying on simple means such as public standpipes, and later hired a plumber to tap into the public water mains and install taps inside their homes, as described below:

“When I first moved here in 1978, we relied on two public standpipes for water, which were installed by the army. We would fill up our jerry cans and carry the water on our backs. But soon local strongmen [Arabic: baltagia] took hold of these standpipes and would only allow us to take water if we would also carry water to their houses. We refused and tried to find an alternative, which we soon found when we arranged cement-carrier trucks to fill up their containers with water and transport it throughout Haggana and sell it to us. This continued until the 1990s when the government installed water mains close to Haggana, and we were able to find a way to tap into them” (Interview 3, Haggana female resident, 2014).

When I first visited Haggana in 2012, residents claimed that this type of “self-help” (Wahby, 2013, p.8) infrastructure had been the dominant mode of access in Haggana for decades. They also explained that local politicians running for parliament or municipal office would, every election season, cover the costs of installing, repairing, or facilitating this self-help infrastructure in exchange for votes.
These stories intrigued me and I initially wanted to document these water histories and explore their parallels with the history and development of Egypt’s potable water sector. The more water histories I gathered, however, the more I began to notice that every resident who told me their water access story mentioned that while in the past, institutions responsible for providing water refused access due to legal issues, at present these institutions appear to care more about financial issues than legality. I could not help but wonder what exactly had happened to bring about this change, and whether it was a positive or negative development. The quotation at the beginning of this chapter was taken from an interview with a resident of Ezbet el-Haggana in 2014, in which she explained her frustration with the situation of water access in the neighbourhood. She was particularly concerned with the role of the water company in managing this access, especially in light of the increasing payments she and her neighbours were required to make to ensure that their access is maintained despite having no legal tenure to their homes. Just a few years earlier, she did not have to make these payments since she relied on the type of self-help infrastructure described above.

When I visited Haggana again in 2014, I saw less self-help infrastructure and more public infrastructure installed by the water company. I found this intriguing because the factor that had prevented Haggana from receiving public water infrastructure in the first place – its status as belonging to the *ashwa’eyat* or “unplanned areas”⁶ – had remained unchanged. Residents of Haggana manage real estate through informal transactions, meaning that oftentimes there is no paperwork documenting the transaction, and when there is paperwork it is not notarized or registered and therefore is not recognized by any official bodies. Furthermore, Haggana’s land was originally owned by the Egyptian armed forces⁷ and was not slated for residential use. During the 1970s people began encroaching on the land

⁶ Prior to 2008, government documents used the term “*ashwa’eyat*” to refer to informal areas. After 2008 they began using the terms “unsafe areas” and “unplanned areas”. More on this is provided in subsequent chapters.

⁷ Today it belongs to the semi-public company MNHD.
and informally subdividing and selling it. The absence of formally recognized land ownership means that all buildings in Haggana are unlicensed, since official proof of ownership is necessary to obtain a building license. Due to these factors, the Informal Settlement Development Facility (ISDF) classifies part of Haggana as an “unsafe area” (ISDF, 2012), while the Information Decision Support Center (IDSC) and the Cairo governorate refer to Haggana as one of Cairo’s ashwa’eyat (Nawwar and Al-Qitqat, 2008; Cairo Governorate, 2008).

Because of their tenuous legal status, it has been a struggle for Haggana’s residents, and residents of informal areas in general, to gain access to water, as the water company requires a building license and proof of tenure as part of the application for a water connection. To work around this, residents of informal areas relied on alternative means of accessing water, such as those described above.

Since Haggana’s legal status has not changed, what has caused the water company to finally connect the area to infrastructure? When I interviewed a high-level official at the Greater Cairo Water and Wastewater Company to ask about this expansion of infrastructure in Haggana, he replied that since they had become corporatized in 2004, the company has had to focus more on how to recover money from “illegal connections” than on the legality of water users’ housing situations. The potable water sector has been undergoing reforms since the 1980s, revolving mainly around converting government agencies into public companies and raising water tariffs. These reforms are consistent with what has generally fallen under the label of “neoliberalism”, particularly in regards to making government institutions more market-like, something Castree (2007) has described as the “use of market proxies in the residual state sector” (p.16).

According to residents and water company officials, these reforms have caused the water company to put cost recovery above legality, which has

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8 A more detailed history is available in Chapter 4.
had the positive impact of enabling residents to legally access public water infrastructure and the negative impact of increasing the payments residents have to make for the water they receive.

However, on paper, the legal status of Haggana and its residents has not changed. A municipal official from the East Madinat Nasr municipality, which includes Haggana, informed me that it is impossible for Haggana’s residents to have legal water connections because they are all encroachers on the land and have no documents to support their right to live there (Interview 43, East Madinat Nasr municipal official, 2015). Obtaining a letter of permission from the municipality is a crucial step in the application process for a water connection, and the water company cannot legally provide water access to residents without legal tenure unless they bypass the municipality. Indeed, Cairo’s oldest and largest informal area upgrading project faced several failures during the 1980s due to resistance from local government officials to the idea of informal areas gaining access to services (World Bank, 1986). Thus, government resistance to providing services to informal areas is not new.

The provision of Haggana with formal access to water infrastructure, therefore, raises the question of how this has impacted existing government legacies that may be resistant to the idea of residents of informal areas having legal access to water. It also raises the question of how Haggana’s use of water is being integrated into the water company’s relatively recent mandate to generate profit. Residents informed me that not only is the water company finding ways to charge them for their water consumption, it is also adding large arrears to their monthly bills as a compensation for the water they have allegedly stolen in past years. Water company officials informed me that since the company is mandated to generate profit or at least cover its operating costs, it must do everything it can to recover the money lost to illegal consumption.

What does it mean, then, that many residents today have legalized their
connections to water infrastructure, especially in light of the centrality of infrastructure within state discourse around power and development? How are the different state institutions addressing this situation in light of their different positions on Haggana’s legality? Have the sector’s neoliberal reforms had a positive impact of increasing their access to water? How has this impacted their relationship with the state? These initial questions form the basis of this thesis.

In essence, this thesis is an examination of politics that goes beyond official policies and projects and helps to explain the more hidden, tacit agendas held by the various actors involved in water access and its infrastructure. The impact of these tacit strategies is experienced quite profoundly by residents of informal areas in their daily lives, and this is the reason I chose to focus on access to water. The quotidian nature of accessing water, combined with the politicized nature of water in informal areas in many countries (since water is often used as proof of tenure), in addition to the fact that the potable water sector has been a battleground for neoliberal policies and principles in Egypt (and globally) for decades, makes it an interesting vantage point from which to study the relationship between residents and the state.

Furthermore, a study of infrastructure can be particularly salient during times of political transition, which can render previously unnoticed processes of infrastructure governance more visible (Angelo & Hentschel, 2015). In studying the period between 1952 and 2016, I choose three historically significant moments in Egyptian political history: the birth of the republic in 1952, the era of neoliberal structural adjustment during the 1990s, and the contemporary post-2011 era in the wake of the January 2011 and July 2013 uprisings. This allows me to trace the historical development of Haggana’s infrastructural waterscape across widely variant political climates in Egypt. Through this I can not only observe policy consistencies and shifts over time, but also (and perhaps more importantly) observe how/whether the changes in official pronouncements
actually manifested in changes in practice, providing rich insights into the workings of state power within political discourse and governance practice.

Therefore, this dissertation examines the historical trajectory of water and infrastructure governance in Cairo and focuses on the area of Ezbet El-Haggana for the specific details of the reality of water access for residents. Haggana makes an interesting case study for several reasons. It represents the dominant type of informal area within the Cairo governorate, which is an area on state-owned desert land. Furthermore, very few donor-led upgrading projects have taken place there, making it easier to trace the actors involved in the evolution of water infrastructure in the neighbourhood. Finally, Haggana’s land has been subject to disputes over ownership between various state agencies, and for the most part, its residents lack formal tenure documentation, making it again representative of most informal areas in Cairo.

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1.5 Thesis structure

Organizationally, this thesis is divided into eight chapters. In this introductory chapter, I began by fleshing out the main concerns and questions addressed in this thesis, as well as the motivation behind these concerns.

In Chapter 2 I delve into the main conceptual building blocks of this thesis and situate these within wider debates in the literature and differing approaches to the critical study of infrastructure. In Chapter 3 I turn to the
question of how to utilize the conceptual framework I outlined in Chapter 2 to answer the research questions. I provide a detailed account of the methodological issues at stake in such a study, and the justification behind the approach I adopt.

Chapters 4, 5, 6, and 7 constitute the main analytical chapters of this thesis.

Chapter 4 provides an overview of urbanism in Egypt, situating the research within a broader account of the Egyptian state, urban planning, and informality in Egypt. I shed light on the political economy of Egypt’s urban planning and its regulatory framework for informal areas. I then delve into the history of infrastructure in Egypt, and the multiple roles it has played in fulfilling state political agendas, therefore situating the analysis of water infrastructure within the broader politics of infrastructure in Egypt. I examine two forms of infrastructural politics: the production of state support through “nationalistic infrastructure” and the disciplining of space in informal areas. Both of these politics, I argue, lead ultimately to a reification of the state. Furthermore, I detail the many ways in which infrastructure has been at the heart of the state’s approach to informal areas in Cairo, particularly at times when such areas were heavily pathologized by the media. I argue that in mainstream discourse informal areas in Egypt have been pathologized, and infrastructure has been presented as the intervention necessary to cure Egypt’s cities of this illness.

In Chapter 5, the focus of the thesis turns towards water infrastructure in particular. I begin with an overview of Egypt’s water resources and a detailing of the water sector’s institutional framework. I then argue that the flow of water through its infrastructure in Cairo is spatially biased, and that this bias mimics a general bias towards new cities at the expense of older and informal neighbourhoods. Following this, I interrogate the mainstream narrative that water infrastructure in the new cities will avoid the problems faced by water infrastructure in Cairo. Focusing on the city of
New Cairo, I show that despite the fact that the flow of water and financial resources has been biased towards Cairo’s new cities, New Cairo is still dealing with many of the same issues as Cairo is.

In Chapter 6 I investigate the sectorial restructuring undergone by Egypt’s potable water sector since the 1980s. I question two dimensions of the narrative arguing that the water sector is being neoliberalized. The first is regarding how neoliberal ideas are realized in practice, which much of academic literature traces to the hegemonic nature of neoliberal discourse, and the interaction of neoliberal ideas with existing legacies to produce a path dependent “actually-existing neoliberalism”. The second dimension is the impact of neoliberal reforms, which most literature has described in terms of the erosion of welfare and state roll-back. My findings and arguments in this chapter draw from arguments around the link between the implementation of neoliberal reforms and illiberal governance techniques (von Schnitzler, 2008). Such reforms have not necessarily resulted in state roll-back but rather a reworking of certain political concepts (Collier, 2011). I link these ideas to what I describe as an unbundling of rights that has been taking place through the separation of water services from the right to adequate housing. I also find that the implementation of neoliberal reforms was not primarily enabled through the adoption of neoliberal discourse and ideology by central institutions, but rather only after the emergence of a powerful mass de-mobilization discourse of national reconstruction. The emergence of this discourse allowed state institutions to transcend their proclivity towards risk-aversion (Dorman, 2007).

In Chapter 7 I examine the actual governance practices of Egyptian government institutions in informal areas. I inquire more directly about what the state has actually achieved in terms of governing infrastructure. I therefore step away from a holistic view of infrastructure, and look in particular at the governance of water infrastructure in Haggana. I showcase the “flexible” governance of informal areas in Egypt and the contradictory
discourses and actions carried out by executive agencies in everyday practice. I argue that rather than this being a deliberate act of confusion as described by Desai (2012), it is related to the nature of power in governance which is necessarily uneven and ad hoc.

The conclusion, Chapter 8, draws together the themes and arguments made throughout this thesis and assesses their significance with respect to the wider academic literature on infrastructure, power, and neoliberalism.
Chapter 2 – Neoliberalism, informality, and the politics of infrastructure

2.1 Introduction

The question of neoliberalism has received increasing attention in scholarship on urban development and infrastructure in the last three decades, becoming one of the most persistent signifiers of a wide variety of forms of post-welfarist regimes of governing (Larner, 2000). Analyses of the application of different forms of governing within the governance of infrastructure specifically have proliferated in recent years, and there has been a strand of this literature that focuses in particular on infrastructure within informal areas. Together these literatures form a heterogeneous body of scholarship that attends to different sensibilities and schools of thought. In this chapter, I go into more detail regarding how these different literatures impact and feed into the research question posed by this thesis, which questions the extent to which neoliberal reforms in Egypt’s potable water sector have impacted access to water infrastructure in informal areas.

Before proceeding with this chapter, it is necessary first to emphasize the orientation of this thesis within the bodies of literature I discuss below. The literature discussing neoliberalism, infrastructure, and informality are distinct (notwithstanding overlaps in many cases) and draw from a variety of fields including critical geography, science and technology studies, urban studies, and anthropology, among others.

Although this thesis’ research question begins with a focus on neoliberal reforms, its unit of analysis is water infrastructure. This thus necessitates a deeper exploration of the body of scholarship concerned with infrastructure as an empirically observed phenomenon and object of analysis that can serve as a window onto hidden politics and social power in the social sciences. This scholarship can be broadly labelled as “critical infrastructures” literature. It is within this growing body of scholarship that

9 Discussed in more detail in Chapter 3.
I situate my research. This literature provides a critical eye onto many aspects that are taken for granted in traditional technical analyses, or even more development-oriented or policy analyses.

Many traditional studies of infrastructure assume particular roles for the state and the public, and therefore also assume a particular role that infrastructure should or does play. More critical approaches have shown that nothing should be assumed a priori when it comes to the politics of infrastructure. In essence, infrastructures hold the heavy responsibility of mediating between the citizen and the physical form of the city.

A central feature of infrastructure is that it can be hyper-visible but also remain invisible, not receiving a second thought from the millions of individuals who use it on a daily basis, until it fails. Modern life has become so saturated with various facilitative networks that we take for granted the ease of access and movement they allow us. We assume that we can reach the other side of the city in a certain amount of time if we take a specific bridge, until we find that the bridge is closed for maintenance. We do not appreciate that if we open the taps in our homes we will find water flowing out of them, until we find that there is a water outage. It is for these reasons – both the centrality of infrastructure in our daily lives and the disruptive nature of infrastructural malfunctions – that much of the literature on infrastructure has focused on the operational and policy dimensions of how best to manage infrastructure. This has included highly technical studies of infrastructure, as well as public policy and development literatures which, while more attuned to the practical dimensions of infrastructure provision and access, have tended to adopt less critical conceptual bases for their analyses (e.g. Hardoy et al., 2005; Bakker et al., 2008; Marin, 2009; Stren, 2012; Wild et al., 2012; Boex et al., 2013; Jones et al., 2014;).

As Graham and Marvin (2001) describe in their seminal manuscript “Splintering Urbanism”, there has been a dominant ideal of infrastructure
that portrays it as a public good universally available to all, and therefore “of relatively little interest to urban researchers because, to all intents and purposes, they don’t really have an urban geography in the conventional sense” (p.9). Graham and Marvin (2001) adopt a specific argument regarding the changing reality of this infrastructural ideal, which is discussed in more depth below. The point here is that infrastructure provision in technical literature is considered to be something governed by institutionalized, systematic, and therefore apolitical processes, although in reality very differentiated experiences of access exist among different social groups. As Von Schnitzler (2016) argues, infrastructure can offer a unique vantage point from which to observe political processes from a new epistemological perspective because it sheds light on the hidden rationalities that tend to be obscured by dominant historical narratives.

Critical infrastructures literature has succeeded in taking many of these assumptions and unpacked, challenged, and in many cases completely overturned them. This literature has also grappled with difficult concepts that deserve more theoretical reflection and grounding, such as the ideas of the nation-state, nature, and informality.

I thereby situate this research within the body of studies that treat infrastructure – and infrastructure’s politics – as a matter for critical social sciences. Such studies have offered ground-breaking insights into how infrastructures operate as manifestations of political rationality that shape (and are shaped by) domains seemingly far removed from their physical form (Larkin, 2013).

The following section focuses on how critical infrastructures literature has addressed questions of access to infrastructure in general and access to water infrastructure in particular. Section 2.2 presents a brief overview of approaches to water policies in order to situate neoliberal reforms within global water governance orthodoxy. Section 2.3 focuses on how the literature has addressed the question of neoliberalism, and Section 2.4
delves into how the literature has dealt with questions of informality and informal areas.

2.2 The evolution of global water governance orthodoxy

The governance and provision of infrastructure and public services has received quite a significant amount of attention from policy makers and public policy analysts. Particular attention has been paid to the institutional structures and reforms necessary to ensure that services are delivered effectively, efficiently, and such that they reach the poorest residents (Harpham and Boateng, 1997; Devas, 1999; Boex et al., 2013). The focus service delivery to the poor within policy literature has continued to increase in light of burgeoning urban populations worldwide and the surge in the number of those classified as the urban poor. A great deal of this literature has focused particularly on water and sanitation as a basic human right and a crucial service necessary to prevent the spread of disease (Jones et al., 2014).

Policy reform, institutional reform, and governance failures are commonly highlighted as core factors impacting the effectiveness of service delivery, particularly for the poor (Bakker et al., 2008; Hardoy et al., 2005). Some literature also focuses on the financial and technical constraints that can prevent effective service delivery (Boex et al., 2014; Stren, 2012). For example, the benefits of private sector involvement in the provision of water services through either Public Private Partnership (PPP) or Build Operate Transfer (BOT) schemes is a common trend in the literature (Marin, 2009). Furthermore, the Overseas Development Institute (ODI) created a framework of common governance constraints on urban public service delivery (Jones et al., 2014), and Wild et al. (2012) uses this framework to compare different urban areas.

A number of studies also examine the broader political-economic factors affecting water services particularly in developing countries (Bauer, 1998; Pierce, 2012). The most identifiable and widely cited trend in the provision
of basic public services is the privatization trend. The debate on whether basic public services and particularly water should be seen as public rights or private tradable goods are part of a debate encompassing at least a century. Smith (2004), speaking of water, differentiates between the “nationalization period (1940s-1970s)” (p.377) linked to the period of rapid industrialization and rising populations with concomitant water demands and health needs. Bakker (2003), argues along similar lines that the trend of privatization or marketization of services should be understood within broader shifts from state-led paradigms, what she terms a “state hydraulic mode of water regulation” (p.37), towards market-led paradigms. This corresponds to the prevalence of the developmental state model during the Keynesian-Fordist era, and the subsequent shift that took place after the Washington Consensus. Levy, Marx, and Satterthwaite (2015) argue that while there was a global commitment during the 1970s to fulfill basic needs such as water and sanitation, the commitments to universal provision of many basic services waned “in part because of the change in the orientation of most development assistance agencies, associated with economic policies of Thatcher and Reagan” (p.21). Basic public services, particularly water and electricity, were perceived as strategic national resources, public goods, and of such vital importance for the nation’s security and development that they must necessarily be provided, controlled, and managed by the state. Bakker (2003) characterizes this mode as “near-complete public control of water resources development” (p.40).

In much of Africa and south-East Asia this period was related to the postcolonial movement and newfound independence (Tangri, 1999). In Egypt this period began with the 1952 “Free Officers” revolution that overthrew the monarch and liberated Egypt from the remnants of British rule.

As the statist ideology came under criticism for its failure to secure the proper financing needed to ensure equity, the model of the developmental
and welfare state began to give way to the growing model of Thatcherism/Reaganism. Indeed, such critiques of state interventionism were accompanied by a portrayal of city-dwellers not as entitled to rights by virtue of their citizenship, but rather entitled to services based on their capacity to pay for such services (Pickvance and Preteceille, 1991). As this economic paradigm began to travel around the global North, and reached the global South through international donor agencies, more and more countries began experimenting with alternative institutional frameworks for the delivery of basic services. Multinational corporations like SAUR, EDF, Agnas de Barcelona, and ENDESA, were awarded concessions in a range of developing countries to supply water and electricity (a more detailed account of this can be found in Plane, 1997). The subsequent changes in the water supply governance system, especially tariff increases witnessed, led to protests in many countries. For example, after the Bolivian government awarded a concession for public water provision to a private company, which subsequently raised tariffs by 35%, protests broke out across the country (UNDP and SSC, 2013). These “water wars” (Finnegan, 2002) were especially intense in the city of Cochabamba, causing multiple deaths and injuries and leading the government to declare martial law (ibid.).

International financial institutions and donors active in the world’s developing countries began restructuring their aid, making it conditional upon the implementation of certain market-oriented policy reforms. Such reforms aimed at commercializing the water sector by instituting principles of cost recovery and financial self-sufficiency through the market-pricing of water and the gradual removal of subsidies. These measures were portrayed as necessary steps that would ensure higher levels of effectiveness and efficiency in service delivery (Florio, 2006). The implementation of subsidy reduction and service pricing measures has led to the reduction of public investment in such services. For example, Dagdeviren (2008) finds that in Zambia, where such commercialization
policies have been implemented, public investment in the water sector fell by 50% between 1998 and 2002. Similar studies have been conducted in different regions of the world (cf. Calderón et al., 2003, in Latin America; and Gulyani et al., 2005, in Kenya).

Today, drinking water is supplied using a variety of institutional models, including the public utility model, municipal boards, cooperatives, corporations, and private companies (a more detailed overview of water governance models can be found in Bakker, 2003).

The above is a simplified overview of the global evolution of policy approaches to the governance of basic services in general and water in particular. The historical evolution of water governance around the world runs parallel to the historical evolution of neoliberal thought (a full history of neoliberal thought can be found in Harvey, 2007, and a full history of the impact of neoliberal thought on water governance can be found in Bakker’s 2010 “Privatizing Water”). This history is also largely consistent with the history of water supply and governance in Egypt, which shifted from the public utility model in the 1950s and 1960s, to a publicly owned company in 2004, which was mandated not only to recover costs but to generate profit.\(^\text{10}\)

2.3 Infrastructure and neoliberalism

Neoliberal thought has impacted virtually every facet of modern urban life. Analyses of these impacts have varied depending on how neoliberalism is understood. Neoliberalism has been described as a hegemonic ideology (e.g. Harvey, 2005), a form of governmentality (e.g. Larner, 2000), and a form of “critical reflection on governmental practice” (e.g. Collier, 2011). The relationship between neoliberalism and infrastructure is enacted through the process of “neoliberalization” (Peck and Tickell, 2002, p.382) in which neoliberal thought and discourse interacts with local context to

\(^{10}\) A more detailed historical analysis of the evolution of water governance in Egypt is provided later in this thesis.
produce localized forms of “actually existing neoliberalism” (Brenner and Theodore, 2002).

According to Harvey (1982, 1985), capital is the main driver of urbanization, and since capital needs to be constantly reproduced and expanded, it is often invested in material entities such as the built environment. In this way, investing in infrastructure production becomes a method of overcoming crises of over-accumulation, while also enabling a more efficient flow of capital across connected spaces. Infrastructure is instrumental in this process, constituting one of the tools through which capitalism maintains its expansionary power. It functions as a tool for continued capitalist accumulation, as well as a manifestation of the unequal relationships produced by this accumulation. Based on this logic, the question of infrastructure becomes intimately related to the question of the commodification of nature, as well as the intersection between nature and socioeconomic power (Gandy, 2002; Swyngedouw, 2006; Smith, 2009; Loftus, 2012). Thus, from this perspective, the question of infrastructure is in actuality a question of the distribution of resources among social groups.

Asymmetrical access to infrastructure along spatial lines sheds light on the question of the distribution of resources across space. For example, Verdeil (2008) examines water and electricity supply in post-war Lebanon and finds that since the end of the 1990s, the many attempts to reform both sectors have conformed to the global trend of neoliberal reforms, and that this has both affected and been affected by the “process of territorial fragmentation” (p.1). Verdeil finds that there is vast inequality of supply between urban areas and social groups that is not the result of technical constraints, but rather the product of political exacerbation of existing socioeconomic divisions. Though there were massive investments in infrastructural improvement after the war, the efforts and benefits were spatially unequal, and thus although the efforts were announced as national post-war upgrading, they instead “added new layers of
differentiation between regions and cities” (Verdeil, 2008, p.2)). As argued by Ioris (2012), the logic of differential access to resources is manifested through the uneven distribution of resources and opportunities among different social groups. The uneven distribution of infrastructure across urban space is a reflection of the governance of those spaces, thereby providing useful terrain through which to examine how urban space is governed.

Many have argued that the distribution of infrastructure (and by extension, resources) has, in the wake of capitalist expansion, tended in many countries to follow the logic of capital. A seminal book in this regard is “Splintering Urbanism” by Graham and Marvin (2001). The authors present a wide range of global case studies spanning different forms of infrastructure (including finance, gated communities, highways, and pipes) to support their argument that the world’s cities are undergoing a substantial shift away from the modern “infrastructural ideal” (p.35). This ideal had for many years been built on an image of state-provided infrastructure that was affordable, reliable, and universally accessible. Today, in the wake of increasing neoliberalization of infrastructure and despite forms of resistance to and the contestation of this neoliberalization, this ideal is being slowly replaced by increasingly market-driven and divisionary forms of infrastructure that are “splintering” contemporary cities.

Graham and Marvin argue that the forces of neoliberal globalization are slowly straining the ability of public utilities to serve citizens, which is subsequently compensated for through neoliberal remedies that posit the inherent incapacities of government. In the authors’ words, “politically neoliberal critiques of the ‘inefficiencies’ of centralized public control and ownership have fuelled a widespread wave of infrastructural liberalisation and privatisation which is still accelerating” (p.91). This is causing cities to “splinter”, such that infrastructure is continually being reoriented towards serving the elite and powerful, with the aim of creating high-speed
connectivity between spaces that are deemed useful to the new global economy. Along similar lines, Gandy (2004) looks at the expansion of urban water systems since the advent of the 19th-century industrial city. He argues that over the last 30 years there has been a move away from the dominant technocratic approach that assumed a connection between infrastructure and citizenship rights. Instead, that mode of infrastructure provision is being replaced by a more fragmented landscape, due to declining investments and a shift towards the marketization of public goods such as water.

Speaking specifically about water in discussing this shift in the orientation of resource accessibility, Swyngedouw (2003) claims that we are currently witnessing a process of the transformation of “local water into global money” through its integration into the capital accumulation system. Loftus (2005) builds on this claim by looking at the state-owned institution that provides water through a commercial subsidiary in Durban, South Africa. He sheds light on its aggressive tariff increases and water disconnections upon non-payment of bills. He interprets these actions within the frame of accumulation by dispossession (Harvey, 2004) as manifestations of the spatial dynamics of capital and its impact on the production of nature (Swyngedouw and Heynen, 2003).

Such a focus on capitalist accumulation has led many scholars to focus on the impact of neoliberalism on changing global and national infrastructural governance policies. The foundational neoliberal principles of free-market fundamentalism combined with a minimalist state emerged in response to what its proponents portrayed as the inefficacy of Keynesian economics (Brenner and Theodore, 2002). The market’s natural disciplining forces would be, according to these proponents, enough to ensure balance and efficiency in all sectors, even those traditionally managed by the state. The state was portrayed as a de-stabilizing force that hampered unlimited economic development and growth through its inefficient bureaucracy and paternalistic interventions. Focusing specifically on the application of
neoliberal thought to sectors traditionally subsumed under the label of “nature”, Castree (2007) uses an ideal-type framework to outline what fully-realized neoliberal projects in such sectors would look like: privatization, marketization, roll-back of the state (deregulation), roll-out of neoliberal policies (market-friendly reregulation), the installation of market proxies in the residual state, the strengthening of flanking mechanisms in civil society, and the creation of the self-sufficient individual and community. Thus, the roll-back of the state within the neoliberal project is seen as necessary to catalyze a healthy, stable, and steadily growing economy. Where the state had played a regulatory role, the market would now step in and, according to proponents of neoliberalism, would do a superior job at regulating access to goods and resources.

The impact of the neoliberal paradigm on infrastructure occurs through the expansion of this approach from competitive goods and services to also encompass sectors traditionally perceived as belonging to the commons (Bakker, 2007) or as “merit goods” (Smith, 2004, p.375) such as water, electricity, and infrastructure in a more general sense. The complex and sensitive nature of such sectors entails that they cannot be simply privatized outright, but rather tend to witness more indirect neoliberal policy instruments such as the commercialization of water tariffs and the promotion of PPPs. For example, Bakker (2003b) has shown that even in countries where public sectors have not seen full privatization or private sector involvement, observers have highlighted less overt forms of “neoliberalization” such as the infiltration of private sector business models into the management of public goods such as water. Bakker (2003a) argues that in cities of the Global South, there are different pathways through which the neoliberalization of water has been taking place. She presents the metaphor of the “archipelago” to capture the different overlapping strategies that together create more complex forms of neoliberal policy that defy the public-private binary. One example of this is the distinction between outright privatization and subtler institutional
changes such as commercialization.

Along similar lines, Smith (2004) reviewed how public sector management of water in Cape Town was being slowly transformed through a particular form of neoliberalism – corporatization. Through the process of corporatization, the public sector adopts private sector principles, thereby reducing its accountability to the public and increasing its ability to implement certain policies such as cost recovery. Furthermore, the reframing of public government institutions as technocratic service-delivery corporations also entails that the officials and engineers employed within them are often poorly equipped to address “the politics of distribution”.

That the neoliberalization of infrastructure, particularly in the Global South, often takes place in insidious forms that rarely equate outright privatization is especially relevant in the case of Egypt.

In the context of Egypt, Ismail (2008) claims that the country has “witnessed strong efforts towards privatizing drinking water” (p.4) based on the 2004 reforms, but the reality is that in 2017 the role of the private sector in Egypt’s potable water sector continues to be quite limited, especially in comparison to sectors such as housing (Marafi, 2011), healthcare and education (Ambrust, 2011). As Egyptian urbanism expert David Sims (2012) explains, despite pressure from donors, water tariffs in Greater Cairo are still among the lowest in the world, and do not even cover operating costs.

This is where stepping away from narrow notions like “privatization” and moving towards a broader concept of “neoliberalization” becomes useful. Identifying the difference between these terms has been the subject of numerous studies engaged with potable water. Scholars such as Bakker (2009) and Smith (2004), in their discussions of domestic water supply, show how certain less overt forms of neoliberal reforms are becoming increasingly common within sector governance policies, as opposed to full-
fledged privatization or private sector participation, and without necessarily overt policy changes such as tariff increases.

Peck and Tickell (2002) and Lockie and Higgins (2007) differentiate between roll-back neoliberalism and roll-out neoliberalism. According to them, roll-back neoliberalism occurs when the state begins to retreat in order to reduce its role and allow the market to operate more freely. Such hidden forms of neoliberalism can often have very pronounced impacts, particularly in areas designated by the state as informal, where clientelistic politics, legal ambiguity, and stigma further complicate the situation. Roll-out neoliberalism is when new institutions are put in place to further entrench neoliberal modes of governance.

However, the stubborn focus on privatization by Egyptian activists and even the public has often allowed authorities to escape more nuanced discussions of neoliberal reforms by simply denying that privatization is occurring (Ahmed, 2016). The centrality of neoliberal thought in the governance of infrastructure and the intimate link between infrastructure and capitalist expansion is something I explore further throughout this thesis in light of reforms pushed by the World Bank and USAID onto Egypt’s potable water sector since the late 1970s. In general, the interest in how neoliberal reforms impact infrastructural distribution and the governance of public goods is something that inspires my own research questions.

However, certain phenomena linked with neoliberalism, such as state roll-back, raise interesting questions for informal areas where the presence of the state is already ambivalent and contested. Such less visible forms of neoliberalism can often have very pronounced impacts, particularly in areas designated by the state as informal, where clientelistic politics, legal ambiguity, and stigma further complicate the situation. Furthermore, Bakker’s archipelago metaphor is useful when applied not only to the public-private divide in informal areas, but also to the formal-informal binary. Such binaries are often forced onto infrastructures in the Global
South, whereas the reality in these informal areas, where infrastructure users not only consume infrastructure but often also produce it, is that networks can become so multifarious that labels such as “private” or “informal” become obsolete. Therefore, a more in-depth reflection on the nature of infrastructure in context of informality is needed, for which I turn in the next section to a sub-set of critical infrastructures literature that focuses on experiences with infrastructure in informal areas.

2.4 Infrastructure and informality

The emergence of informal areas as a global phenomenon has received considerable attention from development literature, literature engaged in critical urban studies, feminist economics, geography, sociology and anthropology among others. In critical urban studies, informal areas have been analyzed within the frame of the broader phenomenon of urban informality prevalent in many cities in the world, especially in Global South.

Due to a variety of issues such as the ambiguous legal situation that many informal areas face, scholars have highlighted that politics within informal areas often takes on forms different from those in the formal city. For example, many informal areas began as collective movements by several families from rural areas, and thus, tribal law or informal politics in some areas may continue to be present even decades after original settlement. Also, the labelling by the state of certain areas as informal automatically creates a relationship between such areas and the state that is unique and distinct from their formal counterparts. This literature has been referred to by some scholars as “slum politics” literature (Koster, 2009). The complexities of the relationship with the state as well as relationships between residents themselves necessitates an in-depth analysis of the politics of infrastructure within informal areas. The importance of paying specific attention to the workings of infrastructure within informal areas is also crucial because in many cities of the Global South, urban planning schemes responsible for the distribution of infrastructure have tended to fail informal areas. To borrow the words of Levy (2015), “at best, planning
has often been associated with lack of recognition of poor informal areas of the city; at worst, with the eviction of poor households and/or their livelihoods” (p.158).

In this regard, a number of analyses of infrastructure have examined how people experience infrastructure within informal areas, and have offered invaluable insights into the workings of cities, resources, and politics in everyday life. The objects of these studies have ranged from specific forms of infrastructure such as water, sanitation, and electricity networks (e.g. Ranganathan, 2014; Desai, McFarlane and Graham, 2015; Silver, 2015), to specific components of those infrastructures such as meters (e.g. Loftus, 2006; von Schnitzler, 2016; Baptista, 2016). For these authors, to understand the realities of water access and experiences it is necessary to turn attention away from policies and towards the everyday. It is essential, therefore, to focus on the quotidian experiences of infrastructure users because “the everyday is both a key domain through which processes are regulated and normalized as well as an arena for negotiation, resistance, and potential for difference” (Graham and McFarlane, 2014, p.2). Many of these studies have focused on informal areas in cities of the Global South and can thereby provide sophisticated insights into the unique nature of infrastructure in such areas.

Several studies have underscored the link between informality and illegality and the impact this has on infrastructure access. Residents of informal areas often have to contend with the accusation that they are stealing resources from the rest of the city. For example, Graham, Desai and McFarlane (2013) focus on police raids of illegal water connections in Mumbai’s informal areas and analyse how an everyday “infrastructural violence” is enacted. The authors analyse recent campaigns by the Mumbai police to cull the illegal use of water booster pumps in the city’s informal areas. The authors first frame these recent campaigns within a mainstream discourse, driven by the city’s elite, that “water theft” by the poor is dehydrating the rest of the city. This discourse dominates the mainstream
media despite significant water wastage by affluent communities that receives no attention from media or security forces. The authors then demonstrate that marginalizing such a sizeable majority of the city’s population (i.e. residents of informal areas) has a cost: it raises public health issues and expenditures for the city as a whole. However, rather than addressing these costs as a city-wide problem that can be solved by integrating informal dwellers into official water provision policies, the mainstream discourse uses them to demonize informal areas as spaces that must be reproduced in order to protect Mumbai’s image as a global city (ibid.).

Also focusing on water access in Mumbai, Bjorkman (2014b) conducts an ethnography of several residential areas in Mumbai, one of which is a “censused slum” (p.55) to show how residents contend with the risks associated with accessing water. She identifies this risk as the necessity for residents to constantly anticipate unannounced changes in water pressure, water prices, and police raids to remove illegal water connections. Bjorkman situates this within the context of an ongoing criminalization of the neighbourhoods’ water infrastructure particularly in slums due to their informal and/or illegal nature. Due to this endemic water risk, the infrastructure itself becomes imbricated with residents’ ability to interpret different symbols and hints in order to make strategic choices regarding what actions to take. Anand (2011) also studies informal areas in Mumbai and argues that water pressure functions as a political tool shaping the inequitable access to water.

Other studies have focused on the shifting presence of the state within informal areas. For example, Truelove (2016) examines a state-led initiative to provide water to a slum settlement in Delhi and finds that a variety of political assemblages between state and non-state actors are involved in the everyday regulation and governance of water. McFarlane (2008), finds in analyzing Mumbai that a state-led sanitation project was partially aimed
at disrupting existing clientelistic networks around sanitation that reflected voting patterns along religious and ethnic lines.

The issues that residents of informal areas face in accessing infrastructure necessitate a reflection on the varying conceptualizations of informality that exist in academic literature.

When reviewing the literature on informal areas, it is easy to immediately note a plethora of names used to describe these regions. Informal settlements, slums, squatter settlements, illegal encroachments, and shanties are all terms commonly used in academic literature, in addition to the country-specific terminologies used in each nation. When referring to informal areas, the term “slum” has prevailed in official development terminology and in the vocabulary used by some researchers (Deboulet, 2016). The problem with the use of this term is that it conveys a certain stereotype attached to a specific urban fabric, which includes deteriorated housing conditions, poor services, and generally unsanitary living situations\(^{11}\). Nevertheless, some scholars choose to use the term in order to make use of UN-Habitat’s substantial statistics on slums worldwide. However, notwithstanding the particular criteria that the UN-Habitat uses to define slums, much of the agency’s data is from governments of different countries, who themselves have varying definitions of what constitutes a “slum”. In many English-speaking countries, the term “slum” or “informal settlement/area” is used. In Turkey, the term “gecekondu” is used both commonly and officially, while in Morocco the term “bidonvillois” is used. In Brazil, the term “favelas” has become popularized through Hollywood films such as City of God and has received much attention in development literature since the 1970s. In Egypt, the term “\textit{ashwa’ey}” is used in popular contexts (which translates to haphazard in English), and it is often made into a noun: \textit{ashwa’eyat} or “haphazards”.

Definitions of what constitutes an informal area are similarly diverse. In

\(^{11}\)This is notwithstanding the fact that the term “slum” has been appropriated by slum dwellers in some countries to gain visibility and claim rights, such as the work of Slum Dwellers International.
development literature, informal areas are neighbourhoods in urban or peri-urban areas that were not planned to be residential areas by the state, and/or were built in contravention of legal building codes. Such areas are often cast in opposition to “formal” areas which were planned, and were built and inhabited within the scope of the relevant legal frameworks. Naturally, legal definitions vary from country to country. For example, in South Africa the official definition of an informal area is “an area of unplanned and unapproved informal settlement of predominantly indigent or poor persons with poor or non-existent infrastructure or sanitation” (Patel, 2011, p.19). In India the official definition is “residential areas where dwellings are unfit for human habitation by reasons of dilapidation, overcrowding, faulty arrangements and design of such buildings, narrowness or faulty arrangement of street, lack of ventilation, light, or sanitation facilities or any combination of these factors which are detrimental to the safety and health” (Chandramouli, 2011). In Egypt, the Unified Building Law 119/2008 defines unplanned areas as “areas that grew in contravention to laws and regulations that govern planning and building”.

The problem with such designations is the stigma they tend to carry. In Egypt, the term “ashwa’eyat”, much like the term “slum”, carries connotations of shacks, extreme poverty, and crime. Conditions in many informal areas in Egypt today are far from this image (Sims, 2012). It is for this reason that many scholars and even governments have tried to find alternative terminologies. “Precarious neighbourhoods” is the term used by Deboulet (2016). But even that is problematic because precariousness is not necessarily a feature of such neighbourhoods. Deboulet (2016) argues that the neutrality of the term “precarious” means it can refer to built structures, socioeconomic or environmental issues, or insecurity of tenure. My objections to such naming is that it does not really describe the neighbourhoods to which it refers. The neutrality of the term “precarious” is itself problematic, because it refers to any neighbourhood that has any
precarious elements within it. In this case, there is no way to distinguish between a neighbourhood that suffers from a high degree of poverty but has completely legal tenure, and one that has insecure tenure but, for example, a lower poverty rate. Such neighbourhoods receive the same treatment, even though their dimensions of precariousness are vastly different.

Because informal areas do not abide by legal norms, they are often considered illegal, and thus “live under a constant threat of legal eviction...and there is no obligation for anyone to provide basic services” (Patel, 2011, p.18). According to Davis (2006), the earliest documentation of urban informality and slum life was the largely dystopian Survey of Poverty in Dublin by James Whitelaw in 1805. The tone of dystopia continued throughout the 19th century, depicting slums as dramatic sites of crime, squalor, and moral depravity (Co, 2013). During the 1950s and 1960s informality had been increasingly gaining recognition as an international phenomenon, and scholars began to associate informal urban geographies with informal labour trends and economies. Scholars such as W. Arthur Lewis and Keith Hart promoted the idea of an informal-formal binary. This view dominated the work of most international organizations, including the ILO, the World Bank, and USAID (Co, 2013). Simultaneously, the self-help trend emerged around the work of architect John Turner who, contrary to the slums-as-inherently-negative perspective held in previous decades, viewed informal areas in a positive light. This perspective focused on the resourcefulness of the urban poor in responding to the failures of the state to provide affordable housing. According to this perspective, the adaptive ability of the urban poor should not be condemned, but rather should be praised and harnessed through self-help interventions that allow the poor to participate in incremental upgrading and legalize their situation. This approach was adopted by the international community, and with the help of the World Bank, UN-Habitat, and USAID spread worldwide as an international model (Ibid.). This model was also applied in Egypt
through the first international efforts to deal with informal areas in the country (Taher, 1997). During the 1980s many countries began to reap the results of this approach, which often entailed financial obligations from residents, and criticisms were emerging. One critic estimated that the bottom 30%-60% of the population couldn’t meet the financial obligations required by this approach (Peattie, 1987). This largely echoes what happened in Egypt, and is supported by accounts of projects in the Philippines, India, and Tanzania (Davis, 2006, p.74). In 1978 the government launched Egypt’s first Urban Development Project, in cooperation with the World Bank, with a shelter provision component that aimed to provide non-subsidized services to existing settlements, and sell property titles to the upgraded beneficiaries (Sims, 2003). But the costs were too high for most beneficiaries, and the project was not replicated nationally (Dorman, 2007). Towards the late 1980s and 1990s, the work of Hernando De Soto began to gain recognition in Peru and eventually internationally. De Soto’s celebrated book The Mystery of Capital (2000) – an extension of his first book The Other Path (1989) – outlined the approach that would go on to shape how the much of the world deals with informality. Like Turner, De Soto commended the urban poor’s entrepreneurialism and creativity in responding to excessive state regulation, and saw them as economic heroes who have been able to thrive, despite state interventionism. He saw informality not as a defined sector, but as an economy that includes all extralegal activities. Some have described this approach as “legalist” (AlSayyad, 2004, p.11), while others as “neoliberal populism” (Davis, 2006, p.79), but the main idea promoted by De Soto is the ‘dead capital’ thesis. This thesis argues that residents of informal areas actually have unaccounted for capital in the form of the informal real estate sector. If they possessed formal deeds/titles, they would be able to convert this wealth into liquid capital, jumpstarting microenterprises, employment, and equity. De Soto speaks of trillions of dollars hidden within the informal sector, ready to change the lives of informal dwellers if only they were able to access this capital. De Soto’s
approach has received widespread criticism (cf. Portes and Roberts, 2005; Bromley, 2004), and yet remains quite popular today among many policymakers and international organizations such as the World Bank (Davis, 2006). But not all international organizations agree on this approach, and there seems to be a divide within the international community on how to understand and approach informality. Soliman (2010) refers to a divide between the World Bank and De Soto on the one hand, and the approach used by UN-Habitat and UNDP on the other. Roy (2005) echoes this dichotomous framing and summarizes the debate by saying that the literature on informality can be broadly defined into two narratives: one of crisis and one of heroism. The De Soto and World Bank approach falls into the latter, while the UN-Habitat and UNDP approach falls into the former (see, for example, the 2003 UN-Habitat report The Challenge of Slums).

Another way to map the approaches to informality is through the frame of structuralism versus legalism. The legalist approach attributes informality to the legal, bureaucratic, and institutional constraints that make informality a rational economic choice, including primarily the above-mentioned work of De Soto who blamed excessive government regulation for the rise of the informal economy. Structuralist approaches, on the other hand, attribute the rise of informality to social, cultural, or political structural forces.

The now unpopular culturalist argument attributed informality to structural forces within the culture of rural-urban migrants. More common today among structuralist arguments are those that take a political economy approach, such as the neo-marxist perspective. Political economic arguments argue that “squatters are not outcasts of society and that their informal settlements are the direct expression of the development of dependent capitalism in their respective societies” (AlSayyad, 1993, p.4). This perspective is common within the UPE literature, within which much attention has been given to theorizing urbanization as a process. This focus can give interesting insights into the
different mechanisms at work within the city. Swyngedouw (1997) theorizes the urbanization process as one of “continuous socioecological and political economic transformation ... [that] operates through an application of socioeconomic and political power in which nature and its transformation take centre stage” (p.312). In other words, the control and domestication of nature is at the heart of the existence of urban spaces. Informal areas are particular forms of urban spaces that have been produced by the territorial manifestation of capitalism (Harvey, 2001), and this raises the question of how the domestication of nature takes place within these spaces.

Though development literature speaks of the formal and the informal as two easily distinguishable entities, in reality informality is much less tangible. For example, in Egypt one can easily come across an apartment that has been inhabited informally (i.e. through an uncertified sale or rental agreement) within a formal building, or a building that has been built informally (i.e. without a building license) on a formally registered piece of land. Alternatively, the land may be state-owned and thus the area itself is considered informal. In other words, in reality there are various scales of informality that often overlap, making it difficult to be conceptually robust when discussing informal areas in theoretical terms.

Due to the complex and multifarious nature of the informal, theoretical discussions of informality have burgeoned over the past several decades, and now encompass a wide variety of disciplinary approaches. This body of literature is concerned with analyzing what constitutes the formal-informal divide, and whether this division is real or constructed, as well as the economic, social, and political factors implicated in this division. For example, Beneria and Roldan (1987) stress that dualistic divisions between the formal and in the formal lead to “conceptual problems and shortcomings”, claiming that in reality the two overlap in various ways. This division, according to the authors, is an artificial one. Similarly, Portes (1983) encourages the perspective that rejects dualistic understandings of
a formal-informal divide and instead highlights the overlaps between different ways of acting within a single economy.

Classical conceptualizations of informality portray it as a distinct sector that operates outside of state control or intervention. More critical analyses of informality, particularly those based on research conducted in the Global South, have presented alternative understandings and conceptualizations of informality that take into account its intertwining nature with the formal. Roy (2005) explains that rather than being part of a formal-informal binary, informality should rather be seen as a entanglement of relationships that connect various spaces together. It should thus be understood as a mode of urbanization that is neither entirely separate from formal urbanization, nor is it exclusively the purview of the poor. There are countless instances where the middle and upper classes engage in informal transactions, seen in patrimonialism between business and politics, or elite gated communities that are in violation of building codes. Thus, the reality of urban life in many cities shows that there is no clear dividing line between the formal and the informal, but rather a continuum of legality and illegality, where two forms of housing (e.g. squatter settlements and upscale housing that violates building codes) can both be equally informal but carry with them very different connotations of legitimacy (ibid.). This means that rather than discriminating between the formal and the informal, differentiations within a continuum of formality and informality should be determined.

Another important point in this understanding is that informality should not be seen as something that exists outside of the state, but rather something partially produced by state practices. Thus, the problems of informal urbanization cannot be solved merely through better planning practices because the existing planning apparatus is itself implicated in the production of informal urbanization, and it is that apparatus that demolishes informal areas while providing legitimacy to upscale areas that violate the same building or planning laws (Roy, 2009).
The above conceptualizations by Roy align with the work of Yiftachel (2009) on the production of “gray cities”, in which certain spaces are “whitened” (approved) while others are “blackened” (criminalized). This produces a range of different types of informalities such that the informality of more privileged citizens is whitened while the informality of the less powerful is either blackened or remains indefinitely gray (ibid.). This grayness is a dominant logic that drives urban development, and thus the planning process is fully participant in the graying of certain spaces, placing them somewhere between being accepted and excluded by the state (Roy, 2009). The understanding of informality as a discursive practice of legitimizing and delegitimizing highlights the ways in which states can manipulate and mobilize the categories of informal and illegal to permit or criminalize different practices (Cheng, 2014; Misra, 2014; Kooy, 2014).

McFarlane (2012) expands on the above conceptualizations to understand informality as a form of urban practice. He describes the relationship between formality and informality as a “meshwork” (p.101) of varying practices that is not a pre-existing fixed category but is rather always in formation. From this perspective, actors within the city are constantly moving between formal and informal activities. McFarlane thus views the formal-informal divide as a tool that is “deployed by states as an organisational device that allows particular domains and forms of intervention (e.g. around resource allocation, service provision, or statistical monitoring)” (p.91).

Thus, informality is a complex concept that cannot be simply defined as everything that lies beyond the state’s influence (Ahlers et al., 2014) but is rather produced by and intimately tied to the state’s regulatory practices. This reaches the heart of the question in conceptualizing informality: what distinguishes formal from informal areas? The answer is that informal areas are informal not because they are poor or precarious or lack tenure, but rather, they are informal because the state designates them as such. In this thesis, I draw largely on the above ideas of informality as a discourse
propagated primarily by the state. City-dwellers engage in informal practices throughout the city and across the socioeconomic spectrum. Informal areas and informal practices become informal only because they are labelled as such by the state or by other city-dwellers. This does not mean that the formal-informal binary does not exist, but rather that creating this binary is one of the discursive tools of state-making employed by government entities to produce the effect of the state as a powerful and authoritative actor.

As shown in the above literature, discourses such as informality and illegality can greatly impact the ability and ease of accessing infrastructure. Indeed, discourses play a crucial role in how infrastructure is perceived, used, and governed by both residents and the state. Furthermore, infrastructures themselves can embody a symbolic power to create different imaginations of, and discourses about, the city. Informality and illegality are just two of the discourses mobilized around infrastructure. For further reflections on other discursive and symbolic elements of infrastructure, I turn to another body of scholarship in the following section.

2.5 The discursive and symbolic aspects of infrastructure

Some scholars have analysed infrastructure with a focus on how discourses are used and manipulated to facilitate or impede access to infrastructure by different population groups. Kooy and Bakker (2008a and 2008b) focus on the water network in Jakarta and find that the city’s water supply has always been highly fragmented and differentiated. They attribute this fragmentation to the colonial era, and find that the introduction of neoliberal ethos such as private sector management and the paradigmatic shift of the infrastructural ideal may have exacerbated but did not cause this splintering. They argue that rather than being shaped by global neoliberal paradigms, water supply patterns in Jakarta have instead been shaped by social differentiations along the lines of postcolonial governmentality (2008a). The authors analyse the history of Jakarta’s
water supply system from the colonial era to the present, focusing on the interrelationship between discourses, socioeconomic agendas, and identities in regards to infrastructure. Kooy and Bakker find that certain discourses, such as modernity and hygiene, were repeatedly employed during the construction of the city’s water network, the classification of its urban spaces/residents, and the subsequent differentiations in access to water (2008b). It is these relations that have shaped differentiated water patterns during the colonial era, and continue to shape them today, causing urbanism in Jakarta to be “splintered” rather than “splintering” (2008a).

In a somewhat similar vein, McFarlane focuses on how discourses such as participation and cost recovery were employed in Mumbai during the implementation of the large-scale Slum Sanitation Program (SSP) (2008a). He finds that despite the shifts in sanitation infrastructures used in Mumbai’s slums as part of this project and the preceding and associated discursive shifts, slum dwellers continued to be considered by the SSP as “populations outside the sphere of citizenship and notions of the clean, ordered, modern city” (2008a, p.39). He contrasts this with colonial discourses around public health and the “contaminated city”, and argues that many of these discourses persist in contemporary times under different guises such as “bourgeois environmentalism, discourses of the ‘world city’, and logics of community-managed sanitation infrastructures” (McFarlane, 2008b, p.415). In an argument similar to Kooy and Bakker’s (2008a, 2008b), McFarlane argues that because of the persistence of these discourses urbanization in the postcolonial city is “always already splintered” (McFarlane, 2008b, p.431).

Shifting focus to the symbolic power of infrastructure, Amin (2014) reflects on the aesthetic dimensions of infrastructure – or infrastructure’s “poetics” (Larkin, 2013) – and how they can be manipulated to generate public sentiments related to development, prosperity, and general progress (Amin, 2014). For example, Harvey and Knox (2012) observe the
construction of large-scale roads in Peru and find that these projects came to carry a promise of transformation that would deliver progress and development. The authors find that despite any negative consequences potentially generated by the roads’ construction as well as the actual failures of previous road projects, the construction of roads endures as source of “enchantment” due to its promises of “speed, integration and connectivity” (ibid., p.521). Infrastructures are, for Harvey and Knox (2012), “an archetypal technology of post-enlightenment, emancipatory modernity” (p.523). As Swyngedouw (1999) states, the production of Spain’s waterscape at the turn of the century was intimately related to a strong discourse of modernization, and the modernizing desires of a broad section of Spanish society. These discourses became hegemonic visions that impacted the social production of nature and infrastructure, generating a “phantasmagoria” of technological networks (Kaika and Swyngedouw, 2000).

2.6 Infrastructure and the State

Literature on theorizing the state has utilized a wide range of metaphors to help conceptualize it and understand its behaviour (e.g. the state as a structure, the state as a political system). However, such metaphors have implications for how one understands what kind of power the state holds. For example, some have described the Egyptian state as a “lame leviathan” (Munro, 1998, p.368; Dorman, 2013, p.1586), but such descriptions do not describe where to draw the boundary between state and society. In response to this conceptual dilemma, some have argued that the state does not exist; that it is a social construct that reflects merely the agglomeration of various government institutions and bodies. Mitchell (1991) argues that the difficulties in defining the boundaries of the state should not result in dismissing the concept entirely but rather should cause us to investigate more thoroughly the reasons why the concept of “the state” has been so persistent and universal, despite its ambiguity. Even if it is a social construct, this construct is still reproduced in very real ways that
people experience in their everyday lives. It is an ideological construct that has a very solid empirical basis, and this is itself the point worthy of investigation (Mitchell, 1999, p.81).

The reason the state-society boundary is so difficult to delineate is because it does not actually exist. In the words of Mitchell: “The line between state and society is not the perimeter of an intrinsic entity, which can be thought of as a free-standing object or actor. It is a line drawn internally, within the network of institutional mechanisms through which a certain social and political order is maintained”. In fact, the power to maintain order is derived from maintaining this artificial distinction, or as Mitchell argues, “maintaining the distinction between state and society is itself a mechanism that generates resources of power” (Mitchell, 1999, p.90). In other words, the apparent distinction between state and society is a product of certain practices and processes of regulation. Furthermore, the modern nation-state functions largely through creating the appearance that it is an external structure external to and encompassing society. Painter (2006, p.758) excellently explains such a conceptualization of the state as follows:

> “When I apply for a passport identifying me as a citizen of a state, the passport, the office and the officials that issue it, and the border post through which it allows me to pass all exist. However, the state in whose name they function is neither an aggregation of these elements, nor a separate reality behind them, but a symbolic resource on which they draw to produce their effects”.

Based on this logic, the state is not a mere construction, actor, or structure, but rather an effect. Mitchell (1999) and others (e.g. Painter, 2006) have argued that this effect is produced through the mundane ritualistic practices that infiltrate the daily lives of citizens, through which is created the impression of an external structure.

Others have shown that the state is produced just as much through grand
public spectacles and “performance” as it is through small mundane practices. For example, Adams (2010) shows how post-Soviet nation-building in Uzbekistan often took place through the performance of grand spectacles such as state-sponsored celebrations of national holidays. Cowley et al. (2015) builds on this further, arguing that state-making is a tenuous process of becoming, such that this becoming always takes on a performative nature, whether this be the performance of mundane tasks such as licensing, or the performance of public mass spectacles.

These works share parallels with the substantial body of political literature examining the way states employ infrastructural mega-projects to fulfill political agendas (Sangvai, 1994; Ren, 2008; Müller, 2011). They also share parallels with literature that conceptualizes state power as a performance enacted through specific practices and “public spectacle” (Cowley et al, 2015, p.186). In the previous section, I demonstrated how the construction of infrastructure has largely functioned as the sort of public mass spectacle described by Adams (2010) and Cowley et al. (2015). Harvey and Knox (2012) examined the construction of roads in Peru to argue that infrastructure has a capacity to enchant through the promise of general social good and prosperity, which creates a mood that tends to persist even upon failure to fulfill on these promises (Mukerji, 1997; Collier and Ong, 2003). Harvey and Knox (2012) describe infrastructure as a technology of modernity, and infrastructures are technologies that hold “promises towards a future which is uncertain and unclear” (p.523). The promise of delivering a modern, prosperous lifestyle to the masses is a central source of the immense discursive power held by infrastructure. Larkin (2013) described this as the promise that cities can “take part in contemporaneous modernity by repeating infrastructural projects from elsewhere” (p.333), while Dalakoglou (2010) termed this “infrastructural fetishism” (p.132). Pedersen (2011) reflects on investment in “infrastruktura” in post-Soviet Russia as a precondition for state modernity and the promise of ushering forth a new way of living for the public.
2.7 A situated approach to infrastructure

Much of the literature cited above falls within urban political ecology (UPE) literature. Scholars within UPE literature have often, though not always, taken a neo-Marxian perspective to study questions of infrastructure and broader questions of the relationship between humans and nature. During the 1980s Marxian scholars concerned with nature-related issues also base their analyses on the argument that the way in which capitalism exploits natural resources is inherently destructive (Benton, 1996; O’Connor, 1988; Leff, 1992). By the mid-1980s, a body of literature had emerged that focused on employing Marxian political-economic analysis to understand environmental degradation.

This work eventually began to garner recognition as an area of scholarship loosely labelled “political ecology”, which, rather than offering a theory or conceptual framework, simply articulated a common central concern for a broad spectrum of scholars. Blaikie and Brookfield (1987) defined political ecology (PE) as a field that “combines the concerns of ecology with a broadly defined political economy”. As described by Peet and Watts (2004), “Forged in the crucible of Marxian or neo-Marxian development theory, this new ‘political ecology’ was not inspired by the isolated rural communities [...] but by peasant and agrarian societies in the throes of complex forms of capitalist transition” (p.8). Mann (2009) outlines the variety of ways in which political ecological literature has adopted Marxian ideas, including green Marxism literature (cf. O’Conner, 1998), and peasant studies literature (cf. Watts, 1987). Perhaps the most common link to Marx in recent literature is that which falls broadly within the category described as an explicitly “urban” political ecology, using political-economic approaches to understand how the process of urbanization shapes the human-nature relationship. Urban political ecology has today emerged as almost a field in its own right. Urban political ecology is grounded in an understanding of the city as a co-produced outcome of processes from the societal as well as the natural realm. This body of work is concerned with
how urban landscapes are constituted by “social process, material metabolism, and spatial form” (Swyngedouw and Heynen, 2003).

Within this literature, there are a number of studies on the political ecology of water. The need to theorize water rests on the premise that water and social power are mutually constitutive. As Loftus (2009) states, “In recent years there has been a noticeable move between the study of how the distribution of water has been shaped by relations of power and an analysis of how water itself shapes those relations” (p.954). Some prominent authors within UPE literature have highlighted the centrality of reading the history of the city as a history of water and its urbanization (cf. Gandy, 2004; Swyngedouw, 1997, 1999, 2009; Loftus, 2005). Much of this work examines the mutually constitutive relationship between water and social power. Particularly notable is Erik Swyngedouw’s research on the historical geography of the urbanization of water in Ecuador (1997) and Spain (1999). Through these studies, Swyngedouw illustrates how the process of city-building is fundamentally related to the domestication of water, and that the politics of urbanization cannot be disentangled from the political economy of water12.

Within political ecology literature there have been voices advocating against the “structural legacy” so dominant in the field (Moore, 1993, p.381). These scholars argue that macro-structural accounts render invisible the micro-political contestations over access to resources, which can portray a misleading image of the state as a monolithic body with a unified agenda (ibid.). In focusing purely on macro-level structural analysis, political ecology has gone “a step too far away from consideration of the local” (Horowitz, 2008, p.260).

Although UPE today has expanded beyond its Marxist roots and encompasses post-structural and Science and Technology Studies (STS)-influenced approaches to UPE that draw on Foucaultian and Latourian

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12 For a more comprehensive overview of the UPE canon, see Keil (2003, 2005)
perspectives, there continue to be calls for expanding UPE to account for more diverse forms of urbanity. This entails an effort to “provincialize” UPE such that it becomes able to “question taken-for-granted ideas in order to broaden the scope for theorizing with more urban experiences in mind” (Lawhon, Ernstson and Silver, 2014, p.505; see also Zimmer, 2015, p.505; see also Monstadt and Schramm, 2017). It also entails looking beyond the Marxian-inspired focus on capitalism and class relations “as the overarching forces structuring power and inequality associated with socionatural transformations in cities” (Truelove, 2016, p.4). Such calls argue that all forms of UPE will continue to tell only part of the story if they do not take into account the unique circumstances of cities of the Global South that differ from the Northern context where UPE thought originally emerged.

The appeal within UPE to build theory based on urbanisms from the Global South mirrors similar proposals in other fields within urban theory. Drawing largely on postcolonial approaches, several scholars (Robinson, 2006; Roy, 2011; Simone, 2011) have challenged what they see as an epistemic bias of urban theory that is overwhelmingly drawn from the Global North, and have called for an urban theory based on “ordinary cities” in sub-Saharan Africa, Southeast Asia, and Latin America. Such an epistemologically diverse urban theory should examine the discourses and narratives used to produce the Southern cities as subaltern to urban theory. A related development is the call to theorize cities beyond the lens of neoliberalism. For example, Parnell and Robinson (2012) argue that the wide variety of processes beyond neoliberalism that are shaping cities must be taken more seriously in their own right, rather than being conceptualized as merely factors “contributing to the hybridization of urban neoliberalism” (p.594).

This is a task that a “provincialized” UPE seems adept at undertaking. A “situated” (Lawhon, Ernstson and Silver, 2014; Truelove, 2016) approach to UPE will better account not only for the unique histories and urban
environments of Southern cities, but should also provide more insight into the everyday politics and experiences around infrastructure that are, as mentioned in previous sections, just as crucial as broader macro-level dynamics (Graham and McFarlane, 2014). Understanding how political and social power operate within cities, and how cities shape and are shaped by infrastructure requires an understanding of the “archipelago” (Bakker, 2003) nature of urban environments in many cities, as well as an acknowledgement of the diverse forms of “splintering” (Graham and Marvin, 2001) and fragmentation that pre-date neoliberal thought (Kooy and Bakker, 2008a).

I situate this thesis within literature seeking to undertake an expanded UPE that accounts for the complex ways in which capitalism and neoliberalism are entangled within local urbanism, including country-specific legacies and the everyday experiences of residents, to produce a unique infrastructural landscape.

2.8 Conclusion

Although the literature discussed in this chapter may not be entirely exhaustive, what I aimed to do was discuss some of the key reflections within academic literature regarding the building blocks that constitute this study’s research question.

In light of my focus on sectorial reforms within the potable water sector, I began with a brief discussion of global shifts in water governance policy in order to orient the Egyptian case within the global arena. My aim in this section was also to situate the growth of neoliberal thought within the broader context of global water governance trends. Following this I turned towards critical infrastructures literature for discussions on how infrastructure interacts with neoliberalism and for the different ways in which neoliberalism can be conceptualized as a project that impacts infrastructure but is also imbricated within – and reproduced throughout – its everyday use. I highlighted that the literature focusing on the
relationship between neoliberalism and infrastructure does not sufficiently account for how a context of informality may impact this relationship, which is an issue that I addressed in the remainder of the chapter. I focused on how academic literature has undertaken analyses of infrastructure specifically within informal areas and the different issues it has highlighted, such as ambiguous legality and complex relationships with the state. I also drew from literature focusing on how best to conceptualize informality in a way that accurately reflects its continuum-like nature. I argued that informality should be conceptualized as a discursive tool propagated primarily by the state as a way of exerting its authority and showcasing its power. I then highlighted that infrastructure is affected by a variety of discursive tools in addition to informality, and that these discourses affect not only its access but also its governance. Building on this argument, I focused on the discursive and symbolic aspects of infrastructure, highlighting how infrastructure governance has often been imbricated with discursive tropes such as modernity, hygiene, and progress. I drew on literature that underscores infrastructure’s capacity to “enchant” the masses, something that has been capitalized on by states when undertaking mass infrastructural projects. I then argued that because of this capacity of infrastructure to enchant, many states rely on infrastructure to produce the effect of power.

Underscoring the need for an approach that can adequately combine an examination of the macro with the micro, and the material with the social and discursive, I situate this thesis within the body of literature aiming to develop a “provincialized” or “situated” UPE.

However, the bodies of literature discussed above draw from different philosophical traditions, including structuralist and post-structuralist perspectives, and thereby have very different understandings of power and politics. These differing perspectives also have methodological implications. I address these issues in the next chapter, where I discuss these implications and outline my own methodological approach.
Chapter 3 – Methodology

3.1 Introduction
In this chapter, I provide more detail regarding how I conducted the research, as well as the methodological issues at stake. I explain the research design chosen in detail, as well as the methodological approach and the research methods.

Section 3.2 begins with a brief discussion of how I conceptualize power and politics in relation to the varying perspectives outlined in the previous chapter. In Section 3.3, I engage in some much-needed reflections on the ontological complexity inherent in studying something like infrastructure. In Section 3.4 I outline the methodological approach taken in this research in more detail, and the different literatures I draw from to construct this methodology. In Section 3.5 I delve into some of the practical “nuts and bolts” issues related to the research, including my choice of case study area and the data collection methods I relied on.

In Section 3.6 I provide a more personal reflection on the research experience, the challenges I encountered when conducting this research in Egypt (a country that has recently made headlines for its hostility towards researchers), and my own positionality as an insider-outsider to my case study area. Finally, I conclude in Section 3.7.

3.2 Unit and scope of analysis
The critical study of infrastructure is made difficult by what Larkin (2013) calls infrastructure’s “peculiar ontology” (p.329), being both a thing and a relation between things. Infrastructures are built networks that enable the quick flow of things (which can be goods, services, people, or information) over space. The term “infrastructure” is widely used, and can include everything from water pipes and electrical grids to roads, bridges, and tunnels, to computer networks and modern digital banking systems that enable the flow of capital (Mitchell, 2014). In this way, infrastructures “comprise the architecture for circulation, literally providing the
As per the research question “To what extent is water infrastructure in Cairo being neoliberalized? What impact has this had on informal areas regarding access to water infrastructure and their relationship with the state?”, this thesis is particularly interested in water infrastructure, but water and its infrastructure are two distinct entities. Water is a natural resource, which itself has been subject to a vast body of research on the politicization of natural resources and how urbanization and the existence of city life is built upon the domestication of such resources. The way in which this domestication takes place, at a very basic level, is through water infrastructure, i.e. the stations, pipes, and valves necessary to transport water from its source to its consumer. A water meter is itself an object that can be the subject of ethnographic and historical research (e.g. von Schnitzler, 2008; Loftus, 2005, Baptista, 2016), but it is also a relation that enables a link between a resource (drinking water), the users of that resource, and the systems or institutions that govern the payment for that resource. In the words of Larkin (2013) in describing the unique nature of infrastructures, “as things they are present to the senses, yet they are also displaced in the focus on the matter they move around” (p.329).

The duality of infrastructural ontologies necessitates that they must be analysed together as a system comprising the infrastructure itself and the matter that it transports. In the case of this research then, rather than focus on water and its infrastructure separately, my focus is on the system that includes the natural resource of water, the pipes/pumps that extract it, the stations that purify it, the pipes that connect it to households, the taps in those households, the meters that monitor its consumption, the delimiters that limit its usage, and so on, as well as the institutions, policies, discourses, and social interactions around this physical system.

A comprehensive analysis of infrastructure therefore must go beyond its material aspects. Infrastructure’s physical state is shaped by a variety of
socio-political processes, termed “soft infrastructures” by Swyngedouw (2015, p.13). In the words of Herman and Ausubel (1988, p.1), “equally important [as physical infrastructure] and subject to change is the ‘software’ for the physical infrastructure, all the formal and informal rules for the operation of the systems”. In other words, the components that make up an infrastructural landscape of sorts include both physical and non-physical aspects.

Emphasizing this point, Anand (2013) stresses the importance of analysing infrastructures beyond their physical materiality. Employing the concept of “accretion”, he argues that infrastructures, by their nature, are born out of different historical moments, each of which carries its own political rationality. It is therefore, illogical to consider them as neutral machines that perform as planned, but rather “they are flaky, falling-apart forms that constantly call out for projects of management, maintenance, and repair”. These processes of management and maintenance become bound together through “techno-political projects” that rely on the actions of “human and non-human others” (ibid.).

The centrality of infrastructure’s non-material dimensions is consistent throughout the critical infrastructures literature, whether the focus is on neoliberal modes of governance (Smith, 2004), capitalist expansion (Swyngedouw, 2003), logics of citizenship (von Shnitzler, 2008), biopolitical techniques of government (Collier, 2011), or the social infrastructures created by residents in the absence of access to physical infrastructural networks (Simone, 2004; Elyachar, 2010; Anand, 2011).

Therefore, the infrastructural landscape that makes up our use of water comprises not only physical technologies and tools, but also regulatory institutions and frameworks, as well as water users themselves.

The concept of an infrastructural landscape raises an issue regarding defining the boundaries of analysis. Landscapes are defined as the different features comprising an area of land. In other words, the boundaries of the
area should be well-defined in order to determine which features to include in the analysis and which to exclude. In qualitative field research, where the presence of the researcher at the field site is crucial, defining a spatial boundary of the research site is the easiest way to delimit where the research begins and ends, hence the prominence of the case study design. However, when it comes to infrastructure analysis, spatial boundaries are problematic because the infrastructural components involved in the object of analysis tend to be located far from research sites. Applying this to my own research, although I do have a case study site (the Ezbet El-Haggana neighbourhood), in the end, conducting a proper study of the water infrastructure in Haggana necessitates gathering data about, for example, the water station that pumps water to Haggana and the relevant institutions that govern it, all of which are naturally far from the site itself. Therefore, the question of what components to include and exclude remains, regardless of the spatial boundaries I define for my case study area.

Based on the above, I chose the methodological approach for this research keeping in mind the need to analyse “built things, knowledge things, [and] people things” (Larkin, 2013, p.329), as well as the need to properly conceptualize the boundaries of my unit of analysis: Ezbet El-Haggana’s water infrastructural landscape.

It is for these reasons that I borrow the concept of “assemblage” from the growing literature on assemblage urbanism. Assemblage is similar to other concepts utilized in UPE literature, including political-economic perspectives on hybrid socio-natures that conceptualize the water landscape as a combination of historical-geographical relations and processes, both natural and social (Swyngedouw, 1999). The idea that “nature”, in this case drinking water, is produced, borrows from the work of Lefebvre (1991) on the production of space, and suggests that the social production of nature is a historical-geographical process (Swyngedouw, 2009). Swyngedouw (1999, p.447) elaborates this conception very clearly:
“Of course, the production process of socionature embodies both material processes and the proliferating discursive and symbolic representations of nature. As Lefebvre (1991) insisted, the production of nature transcends material conditions and processes; it is also related to the production of discourses of nature (by scientists, engineers and the like) on the one hand, and the powerful images, symbols, and discourses on nature (virginity, a moral code, originality, survival of the fittest, wilderness, etc.) through which Nature becomes represented, on the other”.

The concept is also very similar to Haraway’s (1991) conception of the “cyborg” as a “cybernetic organism, a hybrid of machine and organism” (p.149). These concepts fall along similar lines as Latour’s (1993) conception of “quasi-objects” – objects that are “simultaneously real, like nature, narrated, like discourse, and collective, like society” (p.6). These different metaphors share much with the concept of assemblage.

According to this view, the production of water takes place through the continuous development of the relations of material engagement, social interaction and cultural expression, forming an assemblage that is always present in the everyday flow of life, in action, interaction and perception.

Following other attempts to synthesize Marxian UPE and post-structural assemblage approaches, I draw from the above discussion the value of political-economic approach, while also conceptualizing the infrastructural landscape as an assemblage of physical, social, and discursive dimension.

3.3 Assembling infrastructure
For such a synthesis as the one I describe above, I turn to the strand of literature that has adopted more relational conceptions of infrastructure. Infrastructures are themselves invested with political rationalities that are not limited to the logics of capitalism. Indeed, the intimate relationship between neoliberalism and infrastructure is not that the latter is merely becoming neoliberalized, but rather that as neoliberal paradigms are
converted into new techniques of government, infrastructures themselves become one of those techniques, or become imbued with their own set of techniques. Therefore, any observations of the “splintering” of infrastructure must not privilege a priori any particular factor, such as neoliberal restructuring, but rather must account for the wide range of factors shaping political rationalities and techniques.

Some of this literature uses approaches inspired by a more object-oriented philosophy, believing that “what counts as ‘social’...has never fallen on the shoulders of humans alone” (Meehan, Shaw, and Marston, 2013, p.3) because agency is always a result of interactions between a multitude of forces, such as rivers, roads, or rain. This means that “no single line divides the human from the nonhuman” (Mitchell, 2002, p. 34). Much of this scholarship draws on actor-network theory (Latour, 2005) and assemblage theory (DeLanda, 2006), both of which provide different approaches for how to connect human and non-human elements (Meehan, 2013).

As opposed to political economy approaches, which perceive infrastructure as a materialization of underlying structural forces such as capitalism, this perspective views infrastructures as an integral part of producing, or “assembling”, the social (Latour, 2005). Infrastructures are therefore “material bundles of relationships” (De Coss, 2016, p.2) that are in a continuous process of being made and remade, thereby “contingently created by the coming together of numerous agencies, both human and non-human” (De Coss, 2016, p.2).

The perspectives outlined above have different conceptions of power and politics, and this in turn has implications for how they conceptualize the state.

From a political economy perspective, power rests firmly with capital and the means of production, and class struggle is the essence of politics. Capital is the driver of social and spatial organization, and power is exerted repressively by those who own capital over those who do not in order to
further their means of accumulation. Since in most societies the means of production tend to be owned mostly by the state and a small capitalist elite, it is also in these spheres that power lies. Power is, therefore, a contested resource that is in limited supply, concentrated within the hands of specific actors, ultimately negative and repressive, and the economic processes of capitalism are the only technology of power. From this perspective, infrastructures, as one of the materializations of the process of capitalism, can be places of resistance, but they cannot on their own effect durable social change, as such change can only take place through revolutionary action.

Material-semiotic perspectives view power and politics very differently. By adopting a more relational view of power these perspectives see it as not a resource, but rather a relation that is strategically exercised and wielded by potentially any actor through even the smallest, most quotidian act. It is therefore not held or concentrated within the hands of the state or capital, but rather dispersed across multiple social relations, though it is exercised unevenly. The logic of power does not always follow the logic of capitalist expansion and accumulation, as its “instrumentation” is specific and can follow multiple logics. Politics, therefore, happens not only through revolutionary class struggle, but rather in the realm of simple, everyday actions through the multiple relations between human and non-human agencies. This paints a very different role for infrastructures, which instead of being materializations of class struggle are rather an integral part of the continuous making of the social. The simple action of opening a tap or disabling a meter can be a political act, and since wherever there is power there is resistance, these can be acts of resistance to the contingent and precarious configuration of the social.

These seemingly opposing perspectives explain the different methods taken by researchers of both camps, where political economists often focus on “big-picture” methodologies such as historical geography, while
material-semiotic perspectives often focus on the “micro-physics” of power through ethnographic methods.

Many scholars have argued that these two positions, though opposing in many respects, can be simultaneously beneficial to analyses of infrastructure in different ways (Castree, 2002; Karaman, 2011). There exist many examples in academic literature on how a viewpoint that draws from such different perspectives can be articulated. For example, Loftus (2007) adopts a political-economic view of the subsumption of Durban’s potable water into the global capitalist accumulation system, presenting a historical-geographical-materialist account of this process. He also analyses how small practices by civil society and female residents can have the potential to impact this process in material and effective ways.

Drawing from the literature discussed in the previous section, in particular the two strands of political economy and assemblage urbanism, I am interested in attempts to marry the two schools of thought. Though these two perspectives hail from seemingly opposing philosophical traditions (the former largely based in a Marxian tradition and the latter largely drawing from “Deleuzoguattarian” thought), there have been several efforts in recent years towards producing an approach to studying the urban that benefits from both schools.

Brenner, Madden and Wachsmuth (2011) identify three ways in which this reconciliation has been attempted. The first is where the assemblage represents the unit of analysis, yet the analysis itself remains rooted in the political-economic tradition. One example of this is Graham and Marvin’s (2002) “Splintering Urbanism”, which can effectively be considered a “political economy of urban assemblages” (Brenner, Madden and Wachsmuth, 2011, p.230).

The second utilizes assemblage thinking as a methodological approach used to extend traditional political economy. Examples of this include the use of metaphors such as “metabolism” within UPE literature
(Gandy, 2004; Kaika, 2005; Heynen et al., 2006; Swyngedouw, 2006). Such work within the UPE tradition selects specific methodological tools from the toolbox of Actor-Network Theory (ANT) and assemblage thought more broadly, and uses this to expand the way UPE addresses objects of analysis such as infrastructure and nature within urban political economy/ecology. Such an approach maintains the concerns and orientations of political economy, but methodologically expands this framework using concepts drawn from assemblage thinking and methods used within assemblage analyses.

The third approach uses the assemblage concept ontologically, thereby subsuming “the entire conceptual apparatus and explanatory agenda of urban studies” (Brenner, Madden and Wachsmuth, 2011, p.232). Thus, the urban process is totally re-conceptualized as a network of human and non-human “actants” (Latour, 2005) within a flat ontology. In the words of Brenner, Madden and Wachsmuth (2011), “ways of understanding the city based on concepts from political economy or spatial sociology are considered illegitimate or at least bracketed” (p.232). Assemblage urbanism becomes not a way of extending traditional political-economic analyses of the urban, but rather an ontological alternative to these analyses.

My approach is firmly rooted in the second type described above. In other words, my conceptualization of infrastructure as an assemblage has methodological rather than ontological implications. How does this translate into an understanding of power and politics, which are quite different in the two traditions?

A synthesized conception of power that combines a political-economic sensibility with assemblage thinking which is largely Deleuzian, views power as a relation, and thus not concentrated solely within the hands of the state and ruling elite. However, the exercise of power is widely uneven, as it is fundamentally attached to resources, and while capital is not the
only resource that determines the ability to wield power it is often the central and most effective one. Material inequalities produce political dynamics that are shaped partly by class relations, but also by gender, race and many other factors. Power does not necessitate resistance, but it is also not only imposed upon subordinate groups; it can also be exercised by them through small acts in the “microspheres” of daily life. The small act of, for example, disconnecting a water meter, may not necessarily be an act of resistance in and of itself, but cumulatively such acts can effect lasting change. Inequalities are contingent, but they are also durable and not so precarious as to be shaken by a simple quotidian act. Inequalities go far beyond ownership of capital and means of production, but the multiple and complex inequalities that do exist are often intimately tied to class inequalities and are often exacerbated by the logic of capitalism.

Material inequalities are constantly reassembled in space and manifested through the built environment through a complex process that is itself composed of multiple relations and processes. These processes are diverse and can include everything from political contestations around infrastructure building, to policy directives of international organizations, to governance practices by executive institutions, to the actions of those who use infrastructure.

Therefore, infrastructures are not merely the materialization of capitalist power, as capitalism does not simply act on infrastructure but rather through it, as do a multitude of other forms of power. Infrastructure does more than merely transmit the effects of capital – it can itself impact the way the social is produced and constituted. Most importantly, while infrastructures are indeed bundles of relationships, they do not exist in a flat space.

A history of infrastructure should, therefore, go beyond a mere teleology, for even if infrastructural development has ultimately served the interests of capital, there are a myriad of other interests and agendas that have
played a role in shaping the infrastructural landscape. These can only be revealed through a historical analysis that takes into account material space, social interactions, and the circulating discourses and political rationalities involved.

What implications does the above have for method? While there is no agreed upon methodology within assemblage thinking – Wachsmuth, Madden and Brenner (2011) describe methods in assemblage thought as “simultaneously thick description, actor-network theory, science studies and basic ethnography” (p.747) – one can draw certain inspirations from an assemblage sensibility. However, this should be done, I believe, while maintaining the basic orientations of political economy, for as Swyngedouw (1999) argues, “following the maze of socionature’s networks – as Latour (1993) suggests we do – is not good enough if stripped from the process of their historical-geographical production” (p.447).

An approach that combines a political economy perspective with assemblage thinking requires a methodology that links the orientations and tools of both camps in such a way that the analysis focuses as much on local contingencies as it does on broader trends and dynamics (Brenner, Madden and Wachsmuch, 2011). Such a methodology should be concerned with understanding the interconnections between “micro” experience and “macro” power (Wachsmuch, Madden and Brenner, 2011). To achieve this, I combine “macro” level studies of power, infrastructural politics, and neoliberal policy with “micro” level analysis of the everyday experiences of water access and governance. A substantial portion of the research is historical, and I adopt different methods13 while engaging with my various foci. I simultaneously maintain a political economy focus on institutions, structures, and political incentives and contestations, while also engaging with oral history techniques, and ethnography-inspired qualitative research methods, which I detail in the remaining sections of this chapter. For the

13 One of the benefits of the fact that assemblage is somewhat of a “chaotic conception” (Walmuch, Madden and Brenner, 2011) is that it easily translates to a mixed-method approach.
details of everyday experiences with water infrastructure I rely on a case study design, which I elaborate in the following section.

### 3.4 Research design and case study selection

As I mentioned in the previous section, one of the benefits of the assemblage concept is that it lends itself easily to multiple research designs and methods.

Star (1999) recommends a mixed-method approach to studying infrastructure; one that would combine historical research with contemporary analysis, one that combines ethnographic data collection at multiple sites, one that combines the analysis of primary field data with the wealth of secondary data usually produced by governments regarding infrastructure, and one that combines qualitative and quantitative methods. This would also entail combining a sensitivity to the way people ascribe meaning to the built environment they encounter on a daily basis, with an identification of a grand narrative (ibid.). Star (1999) makes a strong case for the value of such a mixed approach, and I find such a methodological approach consistent with the theoretical framework I outlined in the previous section. The assemblage concept discussed above can map well onto a multi-focal lens that ascribes as much importance to the quotidian experiences of users as it does to the meaning of infrastructural “spectacle” (Cowley et al., 2015). Such an approach can combine a micro-level study of infrastructure user sites with a policy analysis of water governance and tariff structures.

I therefore combine a political economy approach with a case-study of an informal area in Cairo. I understand political economy here as more of a research agenda and general sensibility than a set of methods. The political economy perspective influences the research in several ways. Firstly, I maintain an ontology derived from Marxian political economy as explained in the previous section. Methodologically, a political economy approach entails maintaining a focus on the interaction of governance institutions
with broader economic structures, and the effect this has on policy. I therefore look into policy change within Egypt’s potable water sector as well as political-economic trends shaping the governance of infrastructure more broadly.

For the micro-level experiences of infrastructure users, I choose a case study research design because gathering data from infrastructure users themselves is central to gaining firsthand knowledge of how their access to water in general has changed over the years. The case study design satisfies the need to describe, understand in depth, and explain (Yin, 1994). The selection of the case study site and the interviewees is intended to produce inferential findings that expose underlying forces that affect the constitution of infrastructure and state-society relations. Given that I am particularly interested in observing access to water infrastructure in areas that are traditionally portrayed as marginalized or excluded from services and governance, I was naturally drawn to informal areas. Informal areas have also been at the forefront of utility companies’ battle with cost recovery from illegal connections, thus making them fertile ground for studying the neoliberalization of water and the governance of efforts in that regard.

This interest was strengthened by the fact that I developed the research question for this thesis after visiting an informal area and conversing with its residents. This informal area, the neighbourhood of Ezbet El-Haggana, is where I decided to conduct my case study. Haggana makes for an interesting case for a variety reasons. I was immediately primarily interested in informal areas on state-owned desert land, and Haggana is one such area. Within Cairo city, this type represents the majority of informal areas, and I also found that being on state-owned land would make for an interesting vantage point from which to understand state-society relations and governance efforts.
When I first visited Haggana in 2012, one year after the Egyptian revolution that toppled then-president Hosni Mubarak, people in Cairo, the country’s capital, were still trying to find their bearings. By the time I began conducting the actual field research in late 2013, Egypt was in the wake of yet another massive wave of protests that caused the military to intervene and depose President Mohamed Morsi. A newspaper report at the time stated that while the country was undergoing revolutionary change, inside Egypt’s informal areas life continued as normal, as if they were frozen in time (El-Habbal, 2013).

This has been, and continues to be, the dominant and mainstream narrative when discussing Egypt’s informal areas. The media often depicts informal areas as if since they emerged during the 1970s, their residents acquired the basic means to survive and then simply stopped developing and changing.
Yet, upon visiting a number of informal areas in 2012 and 2013, I was struck by a different narrative expressed by residents. There had been immense changes that had taken place since the early days of their neighbourhoods. For example, many streets had been overtaken by high-rises replacing the more common dilapidated housing I had witnessed there a few years before (see Figure 1). Haggana exemplified these changes perfectly. The wooden two-story homes known as *sueisy* houses were a thing of the past. In their stead was a vibrant real estate market with construction contractors making deals with residents to tear down their *sueisy* homes in exchange for new apartments in the high-rise they would build in its place (Transect walk, Haggana, 2013).

Water infrastructure was characterized by a combination of visibility and invisibility (Figure 2) that seemed to highlight the ad hoc and overlapping “archipelago” (Bakker, 2003) nature of the network in informal areas. Haggana had also been at the center of a court case filed by a local NGO against the Greater Cairo Water and Wastewater Company (GCWWC) regarding refusal to connect the area to the public water network (Interview 1, Haggana-based NGO manager, 2014).

![Figure 4: Visible infrastructure](image)
*Source: author.*
Haggana therefore provided a window onto a number of issues that were imbricated in the process of the neoliberalization of water in informal areas.

Another factor I considered was typicality, i.e. how typical the site and its demography is, to allow for broad inferences and the theoretical generalizability of findings (Barbour, 2008). Although typicality of a sample should not be confused with representativeness, the idea is not to represent the entire studied population (in my case, all informal dwellers in Cairo), but rather for there to be no reason to assume that the case studied is unique (ibid.).

Given the fact that official accounts regarding water infrastructure in informal areas highlight only the state’s role in providing said infrastructure, it was crucial to select a site where it would be feasible to extract a kind of counter-history from the residents. Therefore, given the lack of opportunity for a long-term historical study of several informal areas, it seemed logical to choose a settlement site that was fully covered by the infrastructure network to be able to examine the process by which this came about. I was also interested in examining an area where no comprehensive upgrading projects had taken place, such as Manshiyyat Nasir, for example, which has been flooded with donor funding since the 1980s. I believe that examining a process where infrastructure emerged seemingly organically sheds more light on the role played by residents and local government.

Other factors that made Haggana a strong choice for a case study are that it is an area covered by the public network where no comprehensive upgrading projects have taken place and that is on state-owned desert land. I excluded areas that are on state-owned land but that are considered “public domain” such as right-of-ways for railways, canals, and roads which were informally occupied by individuals, since these include shacks that cannot be considered “typical” of the majority of informal settlements in
Cairo. I am also only interested in Cairo city rather than the Greater Cairo Region (GCR) since I am interested in the operation of the Cairo governorate, which has received the highest budget and arguably the highest exhibition of political will at the highest level of government to address the “ashwa’eyat problem”.

There are also a number of additional factors that increase the feasibility of conducting such a study in Haggana. Haggana is an area big enough to provide some diversity, but still small enough that it can be managed within the scope of a single research project. Another important factor that made the research feasible is that Haggana is an area where it was possible for me to conduct such a study in the context of the new political climate in Egypt, which was highly suspicious of researchers. Thus, convenience and my existing networks of contacts in informal Cairo and among local government also factored into my selection.

In sum, Haggana provided an interesting case to study the neoliberalization of water due to its relationship with state institutions, and because it subscribed to certain criteria that made this study feasible. These include being:

- Located within the borders of Cairo city
- On state-owned desert land
- No state “slum upgrading” projects had been implemented there
- Covered by the public water network
- A moderate area and population size
- Feasible for me to access and reach a large number and wide range of residents

3.5 Methods and data collection

There are a number of parameters that are important to mention in regards to how I carried out this case study research, since infrastructural research does not easily conform to the traditional case study approach.
Though the spatial boundaries of Ezbet El-Haggana are well-defined, they do not delimit the extent of my field research. As discussed above, the study of infrastructure necessitates conducting research in sites far from the case study area. Thus, I consider Ezbet El-Haggana, my case study area, as the starting point for my research, rather than the area defining its limits. The study of infrastructure is complicated precisely because of the difficulty of choosing a starting point: which component of infrastructure does one begin field research from, and where is this component located?

Furthermore, adopting a historical perspective along with contemporary analysis was of the utmost importance to answering my research question since this answer is partly based on uncovering how access to water infrastructure in Ezbet El-Haggana came to exist as it does today. This therefore necessarily requires a study of the historical evolution of water access within my case study area.

For these reasons I began my fieldwork in 2013 with a transect walk. A transect walk is a walk along a defined path with several residents with the purpose of exploring and discussing local water resources and infrastructure (Keller, n.d.). I conducted this walk during the very early stages of my fieldwork with two residents, whom I met through a local NGO. Along this walk along the streets of Haggana, we stopped and chatted with six residents who displayed and explained different components of the local water infrastructure. Also in 2013, I conducted an interview with two officials from the Cairo Water Company who met with me together. I used the transect walk and interview to guide the further development of my methods and questions.

My discussions during the transect walk underscored the importance of obtaining a local history from residents of how their water infrastructure came to be. I thereby decided to conduct an ethno-history of the water infrastructural landscape in Haggana, relying on a combination of documented historical information and oral history techniques to obtain
firsthand accounts from residents of how their access to water has changed over the years. An infrastructure ethno-history entails using ethnographic methods to gather an oral or narrative history about local infrastructure. In the case of this research, my use of this methodological approach focused on the story of how residents in my case study area accessed water when they first moved to the neighbourhood, and how this has changed over the years up to the present.

Ethno-history comes from the disciplinary marriage of anthropology and history, which has been termed “anthropological history”, “historical ethnography”, and “ethno-history” (Marshall, 1994). The approach is based on a belief in the importance of the life stories and oral histories of the studied groups, and the conviction that it is crucial to give voice to such histories as a counterweight to official documented history, which is always told from the vantage point of the powerful, which in this case is the state. Thus, ethno-history is different from other historical methodologies mainly because of the critical use of ethnographic tools in the examination of historical processes (Fenton, 1966). In its dependence on both emic and etic approaches (Kottak, 2006), ethno-history adopts a more pluralistic framework for interpreting the past. It places importance on obtaining perspectives of certain historical events from the people that actually experienced them (Schieffelin and Gewertz, 1985). Such a diachronic approach (Simmons, 1988) allows research to combine official history with residents’ personal biographies or their perception of historical change. Combining both oral and documented histories can shed light on the complexities and power relations imbricated in the process studied (Marshall, 1994). The different histories obtained from different sources, whether from residents, government documents, donor reports, or others, are seen as complementary since “each sort of history has its own value” (Poyer, 1994, p.298). Using such an approach to study the history of local infrastructure can shed light on otherwise hidden processes of how this infrastructure came to be in the state it is in today.
I applied the oral history technique using an “infrastructure biography” method. I based this infrastructure biography method on the “house biography” method developed by Blunt (2008) and used by Ascensao (2015). The method utilizes ethnographic methods to collect historical and contemporary data. This approach is used to “tell stories of particular dwellings and their inhabitants over time and reveal the ways in which a house itself, and domestic life within it, are intimately bound up with wider social, economic and political processes” (Blunt, 2008, p.551). This method is implemented by visiting the house of the interviewee and asking the resident to tell the life story or oral history of their home (Ascensao, 2015). Applying this to infrastructure, I asked residents to show me their water meters and taps and tell me the life story of how these came to be. The end result what can be considered a micro-history of sorts (Ascensao, 2015) of each interviewee’s at-home water infrastructure. I conducted the infrastructure biography interviews during 2014 and 2015.

The findings from this fieldwork were triangulated with results of a community workshop I helped organize in 2014. The workshop consisted of 17 residents (8 male and 7 female) from different backgrounds (including 5 college students, 3 elderly residents, 3 teachers, 1 researcher, 4 NGO staff, and 1 headmaster of a local school). It began with an open discussion on the purpose of the workshop and the issues that would be discussed. The participants were then divided into four groups, and each group engaged in a mapping exercise to produce a map of Haggana from their perspective, highlighting the most important sites and services within the area. I organized this workshop as part of TADAMUN: The Cairo Urban Solidarity Initiative\(^{14}\), which I was working with at the time, and integrated questions relevant to my thesis. This was done with the assistance of a local NGO who assisted in reaching out to residents and who also kindly offered us the use of their premises.

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\(^{14}\) TADAMUN is a research initiative jointly founded and managed by Takween Integrated Community Development and American University in Washington, D.C.
I combined the infrastructure biographies and community workshop with a political economy analysis, which relied on placing a focus on the nexus between political institutions and economic processes, particularly neoliberalism.

Adopting such a political economy approach ensured that I was not limited to my case study area but was rather taken to a myriad of water governance institutions, urban planning institutions, and entities in charge of informal area development. In addition to conducting fieldwork with residents, I also interviewed several government officials at various levels of government hierarchy in different institutions.

In addition to the primary data I collected, I also gathered a significant amount of secondary data, including official studies not made public that I managed to obtain through personal interviews with officials who agreed to share these studies with me, as well as donor reports, and “grey literature”, such as media reports, which are crucial in analysing mainstream discourses. Indeed, official statements made to the media, as well as reports about water outages and other relevant issues constituted a
significant source of data for my analysis. The secondary data I used was both qualitative and quantitative and included both historical and contemporary data. I therefore relied on a mixed-method approach to data collection, mixing qualitative and quantitative data from primary and secondary sources. For the historical analysis, I also relied on secondary historical studies, particularly for information on water and informality during the Nasserist era (1952-1970) for which there was very little other data available.

For the primary data I relied on a combination of individual interviews and group interviews. The initial interviews I held with residents began as structured interviews, which I recorded and transcribed, and often conducted at the premises of a local NGO. However, I soon came to realize that adopting a more informal approach was much more conducive to gaining the type of in-depth information I sought, and therefore decided to utilize the infrastructure biography technique at people’s homes, rather than formal interviews in an NGO office. I quickly shifted to conducting informal semi-structured conversations with residents, who I visited in their homes and spent several hours conversing with, choosing not to record the interviews but rather to take notes.

For my interviews with government officials, I maintained a semi-structured approach. I would ask these individuals at the beginning of their interview if they objected to being recorded; in some cases they would agree to being recorded while in other cases subjects preferred not to. I also took exhaustive notes during the interviews. There were particular cases where I chose not to even ask to record the interview, as I could sense the person was already very uncomfortable talking to me. This was often the case with mid-level officials who were senior enough to be “on the radar” but low enough in the hierarchy to fear their supervisors. Lower-level officials tended to be more confident, feeling that nobody would care what they had to say, while higher-level officials tended to act as if they had nothing to fear and that no one would hold them accountable.
In order to reach residents, I relied on a combination of purposive and snowball sampling. The purposive sampling was done through the local NGO and targeted homeowners, since they are responsible for installing water infrastructure, while the snowball sampling was achieved through my personal relationships with certain residents who then introduced me to their neighbours and friends. As for the government officials, they were selected purposively to reflect a wide range of levels of responsibility and institutional mandates, as guided by my following the water.

I conducted some pilot research over a period of two weeks in the summer of 2013. I then returned to Cairo full-time in January 2014, where I spent the first few months immersing myself among Cairo’s urbanists, including seeking employment in the field of urban research in order to gain more experience and build a network of contacts that would make my fieldwork more feasible. I also wanted to be able to conduct some basic fieldwork in informal areas besides my case study area, in order to corroborate my findings and determine whether Ezbet El-Haggana could be considered representative of the general experience of informal areas. Thus, finding employment in February 2014 as an urban researcher at an urban community development consultancy was a boon. The fact that I had a demanding job slowed the pace of my field research but allowed me greater access to a larger number of people. My fieldwork thus extended over a long period, from February 2014 to December 2015, with occasional follow-up visits to Haggana in 2016 that did not include any interviews.

Regarding access to my case study area, I initially made contact with a local NGO that has worked in Ezbet El-Haggana since 2000 and is connected to a vast network of residents there. The NGO not only vowed to assist me in contacting residents but also allowed me access to their unpublished internal reports and documentation (e.g. meeting minutes, etc.) that contained a wealth of data about their interaction with government officials, local politicians, and residents. The NGO had been advocating for connecting Ezbet El-Haggana to public utility networks since 2000, and has
been involved in countless meetings with municipal authorities and water utility authorities both before and after its conversion into a company.

Although this resource was invaluable, accessing all interviewees through the same NGO raised some methodological questions. During the first few interviews I conducted in 2014 (which were facilitated through this NGO) I realized I was speaking to a very specific type of resident, i.e. not only one that has partaken in development projects, but also one who has been exposed to some of the concepts and terms that NGOs and development agencies enjoy using. These residents had interesting insights, but they could in no way be considered representative of the typical Haggana resident.

Soon after these interviews, I was, by coincidence, introduced to two women living in Haggana who had no contact with my gatekeeper NGO. I established a personal relationship with them that persists until today, and through their networks of neighbours, family, and friends I gained access to another group of residents who had no experience with NGOs and thus offered a different perspective. I also came across a researcher who had another set of contacts in Haggana, which allowed me access to an entirely different network of residents.

I conducted all interviews in Arabic. I transcribed the interviews I conducted in 2013 and 2014 in English to facilitate my analysis, but soon found that the process of translating the interviews was arduous and time-consuming. I therefore transcribed the interviews I conducted in 2015 in Arabic.

As a whole, my fieldwork included residents of Haggana, activists/researchers who had been monitoring Egypt’s utilities sectors, development practitioners who had been involved in water sector reform projects, and government officials within the water company and other government institutions. Overall, I conducted 44 interviews with Haggana residents, 4 interviews with staff members of various Non-Governmental
Organizations (NGOs) and Community Based Organizations (CBOs) operating in Haggana, and 9 interviews with government officials, and 6 interviews with academics, and other experts. I was also a participant observer in a number of government meetings regarding informal areas in general and Ezbet El-Haggana in particular.15

3.6 Research context, challenges, and positionality

I conducted this research from 2012 to 2016. Egypt has been notoriously unfriendly to researchers for decades, and data is treated as if it were a national security issue. For the most part, however, researchers have managed to carry on their work, and many students arrive from around the world to conduct field research in Egypt. Cairo has become even more attractive in the wake of the 2011 revolution, when the events that took place in Tahrir square and around Cairo became the subject and countless analyses, and it seemed that a window was finally opening for critical research. Yet by 2013, as Egypt underwent a second uprising and a second round of presidential elections after less than a year, the media became saturated with discussions about spies and foreigners who aimed to destroy the country. For example, a xenophobic TV advertisement was aired that showed a group of Egyptian youth in a coffee shop casually discussing political affairs taking place in the country, with a sinister-looking, clearly foreign man sitting close by eavesdropping and taking notes. The ad ended with a warning that the walls have ears, and one should always be wary of those seeking to destroy the country. This ad aired for only a few weeks before it was removed due to strong criticism from activists, but the type of rhetoric it represented strongly persists today.

Several events made the situation for researchers even worse. Amendments were passed in 2014 affecting the NGO law, which has made virtually any member of civil society vulnerable to the accusation of foreign

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15 For details of the interviews I conducted, see Annex B.
Another set of amendments were passed in 2016 that makes anybody who conducts even qualitative fieldwork without a security permit liable for jail time. The impossibility of obtaining a security permit for fieldwork is a well-established fact among researchers.

Residents who used to be relatively open to outsiders entering their neighbourhoods to ask questions became suspicious and mistrustful, and by speaking to them researchers risk being reported to the police at any moment. Furthermore, the heartbreaking events surrounding the murder of Cambridge student Giulio Regini made it clear just how careful researchers must be in the field. Conducting research in such a discouraging context was challenging, made finding residents or officials willing to speak to me more difficult, and made obtaining government data even more difficult than it already was. I was thankful that I finished most of my field research in Haggana in 2014, before things were as bad as they are now, although I was still prevented by residents from taking photographs of the area. Once I no longer absolutely needed to be in the street, in plain sight of all the residents to whom it was clear that I was outsider, I preferred to conduct my interviews and conversations inside people’s homes.

The situation also made me worry not only about my own safety, but the safety of my sources. Many researchers struggle with the issue of anonymity, whether to name their sources, and whether to even name their case study area. After discussing my worries with the residents I interviewed, who preferred their neighbourhood to be mentioned by name, I made the decision to disclose Ezbet El-Haggana as my case study area, but to maintain the anonymity of my gatekeeper NGO and all the individuals whom I interviewed. Obtaining signed informed consent forms from those I was interviewing proved as difficult as I expected, given my knowledge of the culture and how most people are resistant to signing any documents. After a few failed attempts and witnessing people becoming instantly uncomfortable when I asked them to sign the consent form, I
chose to simply obtain verbal consent.

As for my own position as an Egyptian female researcher researching an informal area while studying at a western university, this research is not free of my own political biases. In fact, it is in my opinion illogical to suppose that anyone can talk about the rights of informal dwellers in general and the distribution of water without engaging one’s own political biases. Access to water is inherently political because it expresses the political intentions and social biases – both conscious and unconscious – of the actors responsible for this distribution. In studying this situation, my own conscious and unconscious biases became tangled up in the research. In particular, studying not only the actions of the state but also the actions of informal dwellers presented the need for me to constantly question how I am perceiving such actions. Do I view the actions of informal dwellers, such as tapping into the water network, as an illegal act they are responsible for or a response to state oppression? When I analyse my interviews with residents and inevitably add my own analysis of their words, do I view informal dwellers as in need of being spoken for and saved? When I analyse my interviews with CBO owners who partook in brokering votes from residents for politicians in exchange for services, do I subconsciously view them as participants in the exploitation of residents?

In the process of this research I have had to face many of my own biases and dilemmas. Is being an Egyptian from Cairo, having lived in this city for over 20 years, sufficient to make me an “authentic voice” for Cairo’s informal dwellers? Does it give me the authority to speak on their behalf? This question is particularly important because it addresses my underlying belief that Cairo is “my city”, i.e. it is a city to which I feel I belong and a place that I feel that I “know”.

As true as it may be that I “know” Cairo, I acknowledge that the city I know is not the same as the city I am seeking in my research. My position of privilege in relation to informal Cairo is undeniable, and the Cairo I know is
undeniably shaped by those spaces of privilege where many informal dwellers would not even think of wandering. By the same token, my claimed familiarity with informal Cairo can in no way be compared to that of its inhabitants. My experience with informal Cairo is never without mediation. I know it through work, through research, through activism, but always through some secondary medium.

Rose (2005) discusses “reflexivity” in conducting research, which can be described as the researcher recognizing their position relative to the research participants and embedding this into the research. This perspective acknowledges that researchers are often privileged relative to the research subjects (both socioeconomically and through the fact that researchers make final decisions in interpreting the findings), that knowledge is never objective and often includes some facts while excluding others, that perspectives are always partial, and that the image of the distanced and detached researcher who sees everything is a false one. To overcome these issues, some have called for transparent reflexivity through several tactics, one of which is to shift power from the researcher to the researched.

My response is that the claim of being a powerful researcher who can shift power to whomever they wish is itself problematic. Power is, to a large degree, based on perception, and how can one fully know how they are perceived by external parties? Transparent reflexivity assumes that context and the self are transparently understandable, which is simply not the case. Researchers cannot fully understand how their gender, race, class, and other factors actually affect their position in relation to their researched subject. As researchers, we can never fully understand the power dynamics involved in our research, nor can we claim to be in control of how power is distributed. The best way to address this, in my opinion, is to admit that as researchers we are not entirely in control of the research process. We should acknowledge these fallibilities and include them in the research, which is what I attempt to do.
3.7 Conclusion

In this chapter I summarized my strategies for answering the questions posed by this research. I began by discussing some of the challenges inherent in studying infrastructure, particularly regarding defining the unit of analysis as well as its boundaries. I reflected on infrastructure’s unique ontology as a unit but also a network that connects other units.

I then discussed how these issues have been addressed methodologically in academic literature and my own approach taken in this research. Drawing from the literature, I argued that water’s infrastructural landscape is composed of physical entities, social interactions, and discursive elements that together constitute a hybrid object produced through a political-economic process. After this, I outlined the concept of assembling infrastructure and what it offers in terms of conceptualizing the unit of analysis as an infrastructural landscape.

Subsequently, I detailed the research design and methods that I adopt in this study, which is based on a historical and contemporary biography of water infrastructure in Haggana. I made the case for combining an infrastructure history method and a follow-the-water approach with a case study research design. This was followed by a brief reflection on my own positionality vis-à-vis the field research.

Before concluding this chapter, I believe it is important to emphasize one methodological assertion – although I do rely on ethnographic methods to collect some of my data, this study is not an ethnography. It does not have many of the typical features that constitute ethnographies, such as “thick descriptions” of the case study area, or extensive quotations from conversations with interviewees. My focus is not on the individual experiences of the residents I spoke with, nor do I pay attention to my own experience in the field, as many ethnographers are known to do. I did not immerse myself in the daily lives of the residents of Ezbet El-Haggana, though I did visit the area on a regular basis for a year.
My interest in the relationship between infrastructure and politics, while benefiting from ethnographic methods to investigate water infrastructural change in Ezbet El-Haggana, did not warrant such a purely ethnographic approach. As noted by Collier (2012), given ethnography’s history as an approach invented in relation to a specific theory of culture, and given the wide range of other objects of inquiry, it is useful to ask how ethnographic methods can benefit other forms of inquiry. This is exactly what I try to do in this study by using ethnographic methods to benefit a political inquiry into the relationship between infrastructural change and politics. The use of these ethnographic methods allowed me to gain access to the ways in which infrastructural change impacts the lives of those who depend on such “prosaic” (Painter, 2009) forms of what ultimately constitute a manifestation of the state.
Chapter 4 – The Flexibility of the Urban in Egypt

4.1 Introduction

This chapter is based on the premise that in order to analyze the governance of water infrastructure in informal areas, the analysis must be situated within the broader context of the governance of urban infrastructure in Egypt. The purpose of the chapter is to show that the flexibility of urban governance is a central part of how the Egyptian state governs the urban. The chapter begins by providing an overview of Egypt’s urban governance system, which is necessary in order to understand the multiplicity of institutions interfering in the affairs of urban areas. It shows that the “flexibility” of how Egypt governs informal areas is intimately related to its dualistic and fragmented governance system. This provides the context necessary to understand the relevance of the thesis research questions with regard to Egypt. The chapter then turns to Egypt’s urban planning approach, presenting the two dominant modes of urbanism in Greater Cairo today: informal areas and new cities. I then discuss the political-economic shifts that have shaped and impacted Egypt’s urban planning practices as well as its policy approaches to informal areas from 1952 to today. Thus, I shed light on the politics of Egypt’s urban planning and its regulatory framework for informal areas. I also expose the multiplicity of actors involved in producing the infrastructural landscape in Cairo generally and in informal areas in particular – a host of actors that go beyond the simple state-society dichotomy. Neither infrastructure nor informality in Cairo are simply created and managed by a homogeneous state nor by the alternative or insurgent practices of subaltern groups. Rather, they are formed through multiple political rationalities by institutions and residents and their ensuing material and discursive practices.

Following this, the chapter turns to the question of infrastructure and how it is governed in Egypt. In regards to infrastructure specifically, the chapter
makes two central arguments: firstly, that infrastructure has been presented as a necessary “surgery” to cure Egypt of the phenomenon of informality; and secondly, that infrastructure has constituted one of the main mediums through which the state has produced spectacles of state power. The flexibility of urban governance is therefore mirrored in the different political roles that infrastructure plays for the state.

4.2 The duality of Egypt’s urban governance system

There is not a great deal of literature on urban governance in Egypt, but what literature does exist suggests that the fragmentation of local administration between different ministries and institutions ultimately precludes the possibility of achieving effective governance (Dorman, 2007).

Physical and socioeconomic planning of existing urban areas in Egypt is carried out by two different organizations, which are the General Organization for Physical Planning (GOPP) and the Ministry of Planning (MoP), respectively. The GOPP is institutionally subsumed under the Ministry of Housing, Utilities and Urban Development (MHUUD). These institutions are also devolved locally and a directorate for the MoP exists in each governorate, as does a department for the GOPP under the MHUUD directorate.

Although Greater Cairo is considered by its residents as a single region, the fact that it is split over three governorates and eight new cities means that its governance is also distributed over a host of different institutions. The analysis in this thesis is focused mainly on the Cairo governorate, and to an extent its adjacent new cities, in particular New Cairo city. Cairo is divided into four regions encompassing 36 districts
According to the current local administration law, the governorate is the main unit of local administration in urban areas, and can consist of one or more cities. Cairo governorate currently consists only of the city of Cairo. The city is comprised of municipalities, which are the lowest level of governance. Municipalities are spatially divided into *shiaakhas*[^16], which could roughly be translated as sub-districts or neighbourhoods. This is not an administrative division but rather only a spatial one that is used for security, electoral, or data collection purposes in the census. Each level of governance is administered by an appointed chief (i.e. governor, city chief, or municipal head, respectively), as well as an elected Local Popular Council.

[^16]: Municipalities are also divided into *aqasam* or police districts; in 2015 the police district divisions were revised so that each municipality consists of only one police district.
The LPCs were dissolved after the 2011 revolution, and were meant to be re-elected soon after, but the elections continued to be postponed by successive presidents. The latest development, announced by President Al-Sisi, was to postpone the elections indefinitely. Thus, at present there is no form of elected local governance whatsoever. The LPCs are meant to be a body of local public oversight but have been largely co-opted by the ruling regime for the past several decades, as shown in further detail later in this thesis within the context of Ezbet El-Haggana.

Egypt’s “new cities” are planned and built by the New Urban Communities Authority (NUCA), and are governed by a city council. The city councils directly follow NUCA, and members are all appointed; there is no elected form of government in the new cities. The existing urban areas and new cities are governed in different ways. The former are governed according to local administration Law no.43/1979, while the new cities follow the to Law 59/1979. However, according to law, the new cities are to be returned to the control of the appropriate governorate upon completion, although it is not specified who decides when completion has taken place. The local administration law is currently being revised and discussed in parliament at the time of this writing.

Each level of local urban governance, whether at the governorate or municipal level, receives what can be called the “local development budget”. The municipal local development budget, which each governorate is responsible for distributing to its municipalities, covers street lighting, paving, environmental improvement (waste management, green spaces, etc.), and resource development for the municipality headquarters (Cairo Governorate, 2015).

In addition to the above-described administrative division, there is a separate sectorial division through which line ministries are devolved at the governorate level into directorates, each of which includes a set of departments. The directorates and their departments are housed within
the governorate headquarters but receive their budgets from (and report to) their respective ministries. The sectorial budget is allocated to the line ministries and distributed directly to the directorates with no intervention from the governorate.

![Urban spatial and administrative division](image)

**Figure 7: Urban spatial and administrative division**

*Source: author*

As for informal areas, they are all incorporated into the existing administrative/spatial divisions. Thus, the above system of governance applies. An additional institution that oversees only informal areas is the Informal Settlement Development Facility (ISDF), which was initially established in 2008 as an independent institution reporting directly to the ministerial cabinet. It was later converted into the Ministry of Urban Renewal and Informal Settlements in 2014, which was dissolved in 2015, and was in 2016 subsumed under the MHUUD. The ISDF is a national institution responsible for establishing a geo-coded database of all unsafe and unplanned areas nation-wide. Currently it has only prepared the database for unsafe areas, since these are the ISDF’s top priority.

According to an official within the ISDF, the Facility is currently working on the database for unplanned areas (Interview 12, ISDF official, 2014). It is
also responsible for providing technical and financial support for the governorates, which are actually responsible for implementing upgrading or relocation. Within several governorates, there are also Urban Upgrading Units (UUUs) that liaise with the ISDF regarding implementing upgrading projects for unplanned areas.

Ultimately, the division between sectorial and spatial planning, budgeting, and governance, as well as the fragmentation of governance responsibilities among multiple institutions (sometimes with overlapping mandates) has ensured that a certain degree of chaos is always maintained throughout the urban governance processes.

4.3 A political economy of Egypt’s urban planning

In 1952, the “Free Officers”, a clandestine group of military officers that consisted of soon-to-be presidents Mohamed Naguib and Gamal Abdel Nasser, among others, stormed the presidential palace, forcing King Farouk to abdicate his role and initiating Egypt’s first era as a republic. After the short two-year reign of President Naguib, President Nasser took power and ruled Egypt for almost two decades (1954-1970). The Free Officers established the Revolutionary Command Council (RCC) as the committee responsible for ruling the country and running its affairs (Mansfield, 1973). When they came to power, the Free Officers did not have a comprehensive economic development strategy in mind, but they announced their desire for a more even distribution of wealth, better health and education services, and more heavy industries (ibid.). The Free Officers had no plan regarding how to achieve these aims and built their national development approach on two political showcase projects: agrarian reform and the building of a large dam on the Nile near Aswan in the south of Egypt. The agrarian reform would redistribute wealth from the wealthy landowners to the poor _fellahin_ (peasant farmers), while the dam would increase Egypt’s cultivated area and provide inexpensive electricity necessary for industrialization. The RCC quickly issued a decree to limit land holdings to
200 *feddans*\(^{17}\) per family and redistributed the confiscated land to the *fellahin*\(^{18}\) in lots of two to five *feddans* (ibid.). As for the construction of the Aswan Dam, it became the cornerstone of Nasser’s development approach, and was surrounded with hyperbole linked to his ideology of pan-Arab nationalism.

Nasser’s ideology of nationalism manifested in almost every sector, as enterprise after enterprise underwent nationalization. He issued a series of laws in 1957 obliging all foreign banks and insurance companies to nationalize themselves (Monson, 1984). The state’s share in the economy was growing rapidly, and in 1958 the RCC developed a five-year development plan in which the state would provide 61% of financing. In February 1958 Nasser took the shocking step of moving beyond simply nationalizing foreign capital to nationalizing Egyptian enterprises as well. He began by nationalizing the National Bank of Egypt and Bank Misr, then nationalizing the press and the Cairo bus transit system in 1960. In the summer of 1961, Nasser decreed that the government would take over the entire import trade of the country and a major portion of the export trade, including raw cotton (ibid.). All banks and insurance companies were nationalized, along with around 300 industrial and trading establishments.

Foreign aid was provided mainly by the Soviet Union, which also decided to financially and technically support the building of the Aswan high dam. With the needed external support now secured, construction of the dam began in 1961 and ended in 1970. The dam, promoted through highly nationalistic propaganda, was the largest project implemented in Egypt during that century, and is considered a turning point by many for Egypt’s agriculture, industry, and water supply (Mansfield, 1973). Nationalization continued throughout the 1960s, combined with a substantial broadening of welfare measures, including free healthcare, education, medical and retirement insurance, and guaranteed employment.

\(^{17}\) 1 feddan is equivalent to 1.038 acres.

\(^{18}\) Farmers.
Nasser’s unexpected death in 1970 shocked the country, and he was quickly succeeded by his vice president Anwar El-Sadat. Sadat almost immediately began issuing a set of political rulings that diverged from those of his predecessor. In May of 1971, Sadat announced that he would be embarking on a “corrective revolution” (thawrat al-tasheeh) to purge all public institutions of the most powerful and leading Nasserists in the country (Onwar, 2000), and allow certain freedoms for the previously suppressed Islamist movements in exchange for their political support (Kepel, 2006). He then signalled a break with Egypt’s long-time political ally, the Soviet Union, by expelling Soviet forces from the country (Pace, 1981). This symbolized a turn away from the Soviet Union towards the United States. On October 6, 1973, Sadat launched an attack against the Israeli forces occupying the Egyptian Sinai Peninsula in an attempt to retake these occupied lands. A ceasefire was imposed on October 25th to end the war, and Sadat’s popularity soared as a war hero. In the years following the 1973 war, Sadat aimed to increase private investment in Egypt.

As his relationship with the West solidified, in 1973, Sadat established the GOPP under the Ministry of Housing (MoH) and tasked it with receiving funds from donor agencies to implement urban upgrading projects. One academic has suggested that the GOPP was created to function mainly as a donor client as new alliances with the West meant that aid began flowing into Egypt (Dorman, 2007). Between 1977 and 1987 Egypt became second only to Israel as the largest recipient of American foreign civilian and military aid, which, by 1984 had reached USD 2.5 billion annually and continued at that level through the 1990s (USAID, 1986).

Under Sadat’s predecessor, the government had promoted a developmental state and a command economy with a limited role for the private sector, but Sadat believed in capitalist economic policies as the road to prosperity. Sadat named this economic policy the infitah or “open door” policy, which he outlined in his “October Paper” (waraqat uktubar)
in 1974. The core of the policy was to open Egypt to private investors through official encouragement and incentives such as reduced taxes and tariffs. The new regulatory environment created by Sadat succeeded in attracting investors, both domestic and foreign, but most investment went to sectors that were perceived as the most profitable and least risky, such as real estate construction and tourism. Public and private investment in agriculture fell from 25% in the mid-1960s to around 7% by 1977 (Monson, 1984). According to the World Bank annual growth rate indicators, from 1960 to 1969 the growth rate for agricultural production was 2.9%, which dropped to 2.7% for 1970-1979.

In 1974, the Egyptian government was forced to embark on a major food importation program. Although Egypt had been self-sufficient for decades, it now had to import half of its food, and also increase its dependence on food subsidy aid from Western countries. The mechanization of farming also increased as the open door policy led to an exponential increase in tractor imports, which had a negative impact on labour employed in the agricultural sector (Monson, 1984). Sadat’s open door policy allowed billions of dollars to flow into Egypt in the form of much-needed foreign aid and international investment. In tandem, the agriculture sector saw falling revenues as a result of liberalization policies, and millions fled the unprofitable countryside in search of better opportunities in the city. As affordable housing became a rare commodity, far from jobs and livelihood opportunities, so began the phenomenon of informal housing. Many analysts attribute the beginning of Egypt’s urban housing crisis to Sadat’s reforms and their impact on both the agriculture and real estate sectors. Although the informal housing phenomenon began to emerge during the late 1960s and early 1970s, “the rate of informal growth was moderate and most informal areas were characterized by homogeneity and strong community relations” (El-Batran and Arandel, 1997, p.18).

In Sadat’s 1974 October Paper he also announced state plans to re-direct growth away from the overpopulated Delta valley towards the under-
populated desert regions. Egypt’s most abundant resource has long been its vast swaths of vacant land, which is ironic considering the immense housing and land shortages the country’s urban areas have been suffering from for decades. Almost every discussion of housing and land in Egypt begins with the fact that 90% of the Egyptian population is living on only 4% of its land, clustered around the Nile valley, with the rest of Egypt’s desert land sparsely inhabited and underused (Sims, 2012).

Sadat announced desert expansion to be the new official state policy for Egypt in general and for Cairo especially. Cairo is surrounded by desert lands to the East and West, and in Sadat’s 1974 October Paper, he announced official state policy that sought to shift Cairo’s seemingly unstoppable expansion from North-South to East-West – making urbanizing the desert a central theme (Denis, 2009). Thus, the early intentions behind Cairo’s new cities were to contain the city and absorb its population growth.

Donors that had recently started providing funding to Egypt almost immediately began pushing for privatization and state divestment, and housing policy became centered around providing low- and medium-cost units in new satellite cities to be established on Egypt’s hitherto vacant desert lands (Yousry and Aboul Atta, 1997). Thus, in spite of the growth of the informal housing phenomenon, state resources were being directed towards establishing new cities in Egypt’s desert hinterland. This should not, of course, neglect donor efforts to improve the conditions of informal areas. In particular, in 1978, the World Bank (WB) and USAID, in partnership with the GOPP, began the first donor-led urban upgrading project in informal areas in Egypt.

In 1979 the Egyptian government created NUCA, under the MoH, as the authority responsible for planning, constructing, and governing the new cities. One of NUCA’s founding goals is to provide housing for lower-income families (Metwally and Abdalla, 2011). The planning and
construction of the new desert cities commenced in the late 1970s. During this time there was no official policy or framework related to informal areas, but Sadat’s policy at this point had been a preference for relocating residents to new housing constructed specifically for this purpose (Ghannam, 2002; Khalifa, 2015).

Simultaneously, during the late 1970s and early 1980s, Egypt’s economy witnessed rapid economic growth, averaging around 8.5% annually (Korayem, 1997). However, accompanying this growth was a growing deficit in the government budget. As debt increased and growth rates began to fall in the late 1980s, the government of Egypt signed an economic stabilization agreement with the IMF in 1987 and another with the World Bank in 1991 (ibid.). These agreements were known as the Economic Reform and Structural Adjustment Programs (ERSAPs), as they had common objectives of reforming the public sector and ensuring that Egypt had a free-market economy favourable to the private sector and foreign investors. The public sector reform component aimed to change the environment surrounding public enterprises, including their legal and financial aspects, and generally increase their autonomy (ibid.). The pricing component involved liberalizing the agricultural sector most importantly through Law no.96/1992 concerning agricultural land, which in 1996 raised rents on agricultural land to the equivalent of 22 times the land tax, even though it was only seven times the land tax under the old law (Korayem, 1997).

The simultaneous decrease in agriculture investment and increase in real estate investment meant that urbanization became more lucrative than farming, and thousands of newly-poor families migrated towards the cities. It also meant that affordable housing became an even rarer commodity, pushing droves into the informal sector. As one study reports, from the late 1970s until the early 1990s, “a great change took place in the social structure due to the very rapid growth rate which followed the open door economic policy. The informal settlements became attractive for different
categories of unrelated new settlers from different origins, leading to weak social cohesion and the lack of accepted leadership” (El-Batran and Arandel, 1997, p.18).

Egypt witnessed slow economic growth during the early 1990s but began to recover during the second half of the decade, reaching a growth level of approximately 5% annually between 1995 and 2000 (El-Laithy, Lokshin and Banerji, 2003). Alongside this rise in growth, many studies found a decline in the national poverty rate, although one study found a higher concentration of poverty among specific geographical and economic groups, particularly for informal labour (ibid.). Informal labourers tend to also live in informal areas (Zohry, 2002), indicating an increasing concentration of poverty within these neighbourhoods. In the 1990s, estimates of the population size of those living in informal areas across Egypt ranged from a modest 8.1 million to around 15 million people (Egyptian Popular Parliament, 1992).

Despite this, state urban planning efforts remained focused on developing new cities rather than upgrading existing areas, whether formal or informal. By 2000, 16 new desert cities were underway, 6 of which lay within Greater Cairo. Yet, the growth of informal areas continued unabated and largely unobstructed by Egyptian authorities (Amnesty International, 2011). The first national effort to address informal areas was in 1993, prior to this there were only sporadic projects and legal reforms, such as a 1984 law allowing informal settlers to purchase their land plots. The National Program for the Upgrading of Scattered Settlements, launched by President Mubarak himself in May 1993, represented a significant shift in how the Egyptian state approached informal areas, from relocation towards upgrading (Dorman, 2007), and away from sporadic efforts towards a national approach. This program involved the provision of infrastructure and physical upgrading of specified neighbourhoods, and relocation of residents in neighbourhoods deemed too deteriorated to upgrade (Sims, 2012). The program continued over two phases until 2008,
but only a small portion of the planned upgrading efforts were actually implemented (Dorman, 2007).

During the 2000s, as Egypt’s growth rate rose, its national poverty rate also increased from 16.7% in 1999 to 25.2% in 2010 (Tsuchiya, 2016). One study also found that among those above the poverty line, the number of individuals close to falling below it had increased (ibid.), indicating a higher degree of vulnerability\(^{19}\). This was reflected within Cairo’s informal areas as many residents migrated during the early 2000s from rural governorates to Cairo due to increased poverty, and real estate prices pushed them to settle in informal areas (Community workshop 1, Haggana, 2014). As 2004 saw the appointment of what the World Bank called a “reformist government” (World Bank, 2010), Egypt witnessed what one observer described as “successive waves of neoliberal reform” (Shenker, 2009). Seven additional new cities were established across the country (NUCA, n.d.), and the national informal area upgrading efforts continued slowly. Egypt’s national growth continued to increase until the global financial crisis of 2007-2008, as did inequality. Even the World Bank, which praises Egypt as “one of the champions of economic reforms in the Middle East”, admits that the benefits of these reforms have impacted the population in “an uneven manner” and that “about 20 percent of the population have moved in or out of poverty over the last few years, heightening a sense of social vulnerability and insecurity” (World Bank, 2010).

In May 2008, Law 119/2008 was issued detailing the new Universal Building Law (UBL) to bring together the sporadic set of laws relating to urban planning and building. The UBL also put forth new terminologies for categorizing urban areas, one of which was the term “unplanned areas”. Unplanned areas are defined by the UBL as “areas that emerged in contravention to the laws and stipulations that regulate planning and construction” (Al-Garida Al-Rasmiyya, 2008 \(^{20}\)). In September 2008, a

\(^{19}\) For a more detailed discussion of how poverty lines are calculated in Egypt see Sabry (2009).  
\(^{20}\) Translation by author.
catastrophic rockslide took place in the informal area of Duweiqa, part of the Manshiyyit Nasir neighbourhood, Egypt’s largest slum, which took the lives of 119 residents (The National, 2010). In October of that year, Presidential Decree 305/2008 was issued establishing the ISDF\textsuperscript{21} to be the official body responsible for “inventorying, developing, and upgrading informal settlements, and preparing plans related to physical planning, and connection to infrastructure networks such as water, sanitation, and electricity, in coordination with ministries, relevant bodies, and local administration units” (Al-Garida Al-Rasmiya, 2008).

The ISDF adopted the terminology of “unplanned areas” from the UBL and added to it and sub-category of “unsafe areas”, which would help the ISDF to identify in advance neighbourhoods such as Duweiqa that were vulnerable to threatening events. Unsafe areas are identified by the ISDF nation-wide, and constitute smaller pockets of larger unplanned areas. They are classified according to four levels of “unsafety”, which are life-threatening areas (e.g. on the edge of a cliff), areas where buildings suffer from structural safety issues or are prone to collapse, areas that threaten the public health of their residents (e.g. where there is no wastewater network, or where homes are situated under high-voltage electricity cables), and areas of insecure tenure. Since its establishment, the ISDF has produced national maps for unsafe areas on an annual basis, updating them by removing areas that have been upgraded or demolished.

\textsuperscript{21} The ISDF’s official name in Arabic uses the term “\textit{manatiq ashwa’eya}”, which translates to haphazard areas rather than informal settlements, but the official name they use in English in their presentations and reports is Informal Settlements Development Facility.
The global crisis of 2007-2008 slowed national growth and led to an increase in poverty and unemployment that continued until 2010 (World Bank, 2010). As Egypt came out of its 2010 national parliamentary elections with an 86.4% majority for the ruling National Democratic Party (NDP), conditions seemed ripe for the wave of protests that would take place in January 2011 and become known as the Egyptian popular uprising/revolution.

The events of 2011 plunged the Egyptian economy into disarray, from which it is only beginning to recover from in 2018. The revolution also had an impact on informal housing, which witnessed a burst of growth²² (Viney, 2013), especially in the GCR’s peri-urban fringe.

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²² According to Viney (2013), data suggests informal areas have been growing at around two to four times their rate of growth before the revolution.
By 2015, NUCA had planned and/or built 31 new cities, with roughly 5 of those 31 still in the initial planning process, including the New Administrative Capital, and the other 26 fully constructed or under construction. These cities consist of a mix of free-standing cities with independent economic bases, and satellite or “twin” cities that depend on the adjacent existing city for jobs and opportunities. Free-standing cities constitute a small minority of Egypt’s new cities, while the majority are satellite or twin cities.

Initially, these desert lands were intended to house Cairo’s urban poor, who would vacate the inner Cairo neighbourhoods they had “occupied” and move to the desert (Denis, 2006). However, as it became abundantly clear that Cairo’s surrounding desert could be put to more profitable uses, urbanizing the desert was left to the purview of the private real estate market (Tarbush, 2012) and became a process characterized by “the flight of the urban elites” towards “privatized domestic bliss” (Denis, 2006, p.51). The suburbs and desert plateaus surrounding Cairo to the east and west are now littered with gated compounds with tantalizing names like Park Avenue, Dreamland, Hyde Park, Beverly Hills, Palm Hills, Jolie-Ville, and Utopia, and are described in glittering advertisements as cities of international standards (Tarbush, 2012), boasting shopping malls, luxury villas, golf courses, and perhaps most importantly, gates with security guards to control who is allowed access. The stigmatization of the poor is exploited to promote the idea of inner Cairo as an unexploded bomb, and the new gated compounds as “defensive bastions against the lost metropolis” (Denis, 2006, p.51).

Within the GCR, urbanizing the desert has entailed the establishment of nine new cities around the region. As mentioned above, the new cities are also intended, at least in theory, to provide affordable housing to lower-income populations who have traditionally not been able to access housing in Cairo’s formal market, hence the emergence of the successful informal housing sector. Therefore, the vast majority of subsidized housing
produced by the state has been located in these remote towns. The success of the new cities policy has been widely debated, and most critical urbanists in Egypt would agree that it has been more a failure than a success (Metwally and Abdalla, 2011). It has not met any of its population targets, nor has it succeeded in housing lower-income groups. The policy has not achieved its goal and the result has been a phenomenon of “nearly empty new towns” (Fahmi and Sutton, 2008, p.277) that surround many of Egypt’s cities.

Yet, urbanizing the desert remains at the heart of Egypt’s state-led urban planning. The policy has driven the surge in real estate price inflation both in the new cities as well as in existing adjacent urban areas\(^\text{23}\). However, it is important to mention that NUCA is mandated to become self-financing, and thus it has a direct incentive to steer its resources towards lucrative land deals with private investors rather than subsidized housing.

As mentioned above, the idea of urbanizing the desert and exiting the valley has been central to Egypt’s urban planning imaginary since roughly the 1970s. However, this has taken on renewed importance in the post-2013 era with the announcement of the new administrative capital. Despite all obstacles, the state has insisted on this strategy, and the recent announcement of a new administrative capital to be built along the Cairo-Suez road approximately 60 kilometers from Cairo’s center has supported the trope of fleeing the lost city and urbanizing the desert. Hailed as the gateway to a flood of potential foreign investment that has been hesitant to invest in Egypt’s ailing cities, the new capital would cost an approximate USD 66 billion (El-Wahsh, 2015). The planned location of the new capital is along the Cairo-Suez highway at the 60\(^{\text{th}}\) kilometer, and an examination of the desert land that stretches between the planned capital and the existing city sheds some light on how, and for whom the desert is being urbanized around Egypt’s capital. The Ezbet El-Haggana neighbourhood lies at the

\(^{23}\)Thus far, no studies have been made public as to the benefits from such a project or the potential impacts it might have on land prices in the surrounding areas, which have already been suffering from high rates of inflation (Shawkat, 2015).
4.5 th kilometer of the Cairo-Suez road; adjacent to it is land owned by the armed forces, which is currently building homes to house its officers. At the 18 th kilometer lies the gated community of Tag Sultan, at the 33 rd kilometer is the gated community of Madinaty, at the 45 th kilometer is a planned service compound by Madinat Nasr for Housing and Development, at the 50 th kilometer is the gated community of Mustaqbal city, and finally the new capital is located at the 60 th kilometer. Cairo is slowly turning into a sprawling mega-city, extending far beyond its original boundaries into the vast desert that surrounds it. This desert is slowly being filled with upscale communities, shopping malls, golf courses, and swimming pools, while millions in the existing city continue to struggle in over-dense informal areas.

4.4 Planning Informality: The example of Madinat Nasr and Haggana

In this section I discuss the planning of Madinat Nasr, which is today the district that encompasses Haggana. I show that it is actually the state’s planning efforts when building Madinat Nasr that ironically led to the emergence of Haggana as an informal area.

As Nasser’s regime was busy planning the construction of the City of Victory, Cairo’s newest urban expansion, they were unaware they were also laying the groundwork for the development of what would become one of Cairo’s largest unplanned areas: Ezbet El-Haggana.

In the wake of the 1952 coup, the armed forces stationed its camel corps on a vacant piece of desert land adjacent to the land slated for the development of Madinat Nasr, which later became known as Ezbet El-Haggana. Haggana’s location was close to the army barracks in al-Abbasia and housed the camel corps soldiers who were mostly from Upper Egypt and Sudan (Interview 1, Haggana-based NGO manager, 2014). Haggana remained a military zone until 1963, after which the soldiers were permitted by the armed forces to build houses and invite their families to live with them. Military officers divided the land into plots for around 10
single-storey houses between 200-1000 meters. Houses were built using traditional materials (stones, red bricks, mud ceilings), with an opening in the wall through which the army could provide drinking water daily, which it transferred from the Saraya al-Quba camps (Interview 1, Haggana-based NGO manager, 2014). Gradually, the soldiers expanded their land plots so that they could build new houses for their children and relatives in exchange for a fee paid to the armed forces (10 piasters per meter) (Interview 1, Haggana-based NGO manager, 2014).

As construction continued in Madinat Nasr, Egyptians flowed from across the country to take advantage of the construction work opportunities. Progress was slow; by 1966, the media was still discussing Madinat Nasr as a planned rather than actual city. Madinat Nasr did not even appear on the official map of Cairo printed in the census until 1976, and it was absent from the 1960 and 1966 official maps of Cairo (CAPMAS, 1962, 1970, 1978). In 1972 Madinat Nasr was officially classified as a district of Cairo rather than an independent city through Ministerial Decree 1062/1973 (CAPMAS, 1978). Furthermore, the poor and working class who were most in need of housing were precluded from moving there by the middle class oriented prices, while the middle class was reluctant to move because of Madinat Nasr’s distance from the city center (El-Shahed, 2016). By the time the 1976 census was conducted, only 64,892 people were residents of Madinat Nasr out of Cairo’s total population of 5,074,016 (roughly 1.2%).

Workers’ housing had not been provided as part of the Madinat Nasr project, and public housing was still struggling to play catch-up with housing demand by the working class. Furthermore, due to the rent control policy, the number of units offered for rent had fallen sharply by this time. Thus, the thousands who found work in Nasr City’s construction had less success in finding affordable shelter.

The families of the original camel corps soldiers began taking control over plots of land to sell to people searching for affordable housing. By the mid-
1960s, Haggana’s original families had developed a complex system of land subdivision and sales, concentrated mainly at the area’s northern region (Interview 1, Haggana-based NGO researcher, 2015). The population of Haggana had grown considerably before state authorities even began to take notice. Once the state did register the changes, the question arose of which actions to take with regard to this slum-like residential neighbourhood that had seemingly appeared out of nowhere, especially given that slum clearance and upgrading was on the state’s agenda. The GOMN, which had by then been renamed the MNHD, claimed that even though this area was not part of Sayed Kurim’s original Madinat Nasr masterplan, its location adjacent to it logically implied that it should fall under their authority (Interview 1, Haggana-based NGO researcher, 2015). The armed forces were quick to claim that it fell on military land and thus under their authority. The Cairo municipality, which had by then become the Cairo governorate, claimed that since the authority over this area was disputed, the land should logically come under their authority. According to elderly residents who remember this time, this dispute made them feel that the likelihood that they would be evicted was quite weak, since the government would not be able to agree who should carry out such an eviction. This encouraged the residents to continue building and selling, and attracted even more people to the area (Interviews 25 and 26, Haggana female residents, 2015).

As Sadat came to power and began implementing his open door policy, as detailed previously, the combination of falling agriculture profits and increased mechanization meant that suddenly, millions of Egyptians were without jobs, and were leaving the countryside for the city in search of better opportunities. The surge in working class, rural-urban migrants was not matched with an increase in low-income housing, as public investment was being directed elsewhere. Also outlined in the October Paper was Sadat’s desire to develop Egypt’s vast vacant desert lands, which he described as strategic vacuums (Sims, 2015). By doing so, the state would
create a new map for Egypt that would make full use of Egypt’s land, respond to the ever-growing demand for housing, and ameliorate the population explosion. State investment in housing was to be concentrated within these new cities rather than existing ones. Planning for the new cities began shortly thereafter, and by 1977 the 10th of Ramadan City – the first city to be labelled as one of Egypt’s new desert cities – was underway (Metwally and Abdalla, 2011).

Thus, in this era, the agricultural sector was collapsing, the prices for private real estate were soaring, real estate continued to be offered mainly for ownership due to the rent control law, and investment in public housing within existing cities (i.e. near jobs) was virtually non-existent. Mass rural-urban migration ensued as people flooded Cairo in search of work, but rising real estate prices made it impossible for these migrants to find affordable housing in the formal sector. Compared to a formal area such as the newly established Nasr City, “informal” areas such as Haggana offered very attractive prices. Many informal areas in inner-city Cairo are adjacent to more upscale areas or have histories related to labour opportunities, and most trace their origins to the late 1960s and large increases in their populations occurred in the late 1970s. During this time, Haggana and informal Cairo in general, increased exponentially in area and population.

Informality continued to grow, and by the mid-1980s two studies concluded that the bulk of housing at that point was supplied by the informal market, constituting about 84% in Cairo between 1970 and 1981 (ABT Associates and GOHBPR, 1981; El-Messiri, 1985).

Meanwhile, in 1976 the first Habitat conference took place in Vancouver, Canada resulting in the “Vancouver Declaration” and renewed interest by donors and international agencies in informal settlements. Within the conference, the newly-popular approach of John Turner was discussed and adopted by many donors as the new mainstream modus operandi for
dealing with informal areas. This involved in-situ upgrading of informal areas through the provision of basic services and the attempt to make use of the existing capital stock, which was not to be dismissed merely because it was informal. Shortly thereafter Egypt began its first partnership with international donors towards the upgrading of informal settlements. Thus, as Sadat was promoting and implementing major slum-relocation projects, the WB was trying to steer state policy towards in-situ upgrading.

While the share of the informal sector in the housing market had been estimated at 77% during the 1966-1976 period (Mayo and Katz, 1982 and GOHBPR/IBRD, 1981), by 1981 it was estimated at between 84%-91% (World Bank, 1986). Contrary to official discourse, and reflecting the popularity of the John Turner school of thought, donors did not see this as necessarily negative. For example, the WB stated in one report that there was not actually a housing shortage but rather an imbalance in its spatial distribution. It explained that the reliance on “informal arrangements for land subdivision, housing construction, and rentals” is a testament to the market inefficiencies created by existing state interventionist policies such as rent controls and land use restrictions. It also considered informal settlements to be a testament to how the housing market, if left alone, can successfully respond to increased demand. The report highlights that even in the conditions of land scarcity in Cairo, the “market” managed to exceed the rate of population growth through vertical additions to existing buildings, a particular feature of informal areas (World Bank, 1986). The switch from horizontal, low-density expansion of single-storey homes to vertical expansion and increased densities signalled the beginning of drastic changes in the urban fabric of informal areas across Cairo. In Haggana, early dwellings that had been built in the Nubian style (described above) were beginning to be replaced with multi-storey homes known as “Sueisy” homes. These homes were two or three storeys high, made of brick walls and a wooden roof, and allowed for the hosting of several families.
In 1978\textsuperscript{24}, the GOPP partnered with the WB and the United States Agency for International Development (USAID) to launch the first donor-funded urban upgrading projects in Egypt, despite Sadat’s preferred approach of eviction and relocation. The WB implemented a 1978 USD 14 million “Urban Development Project” in Cairo, Alexandria, and Assiut that followed Turner’s in-situ informal settlement upgrading approach that was popular at the time. In Cairo, the project was implemented in Manshiyyit Nasser, the largest and densest of Egypt’s informal areas, claimed by Amnesty International to be the densest in Africa (2009). The intent was for the Manshiyyit Nasser pilot project to later be expanded to other informal areas in Cairo. This Manshiyyit Nasser upgrading project is particularly significant because it is the first informal area upgrading project to be implemented in Egypt, and set the standard for other similar projects\textsuperscript{25}.

The WB described a strong demand for its project services within Cairo’s informal settlements (WB, 1986). However, the project reports lament that construction was poorly supervised, which led to the existence of many quality defects in water distribution in the main pilot area of Manshiyyit Nasser (ibid.). Unfortunately, state provision of poorly supervised lower quality services and infrastructure to informal areas became a trend that persists until today. According to the report, the employees the reporters spoke with within the Cairo administration were only “vaguely acquainted with the project”. More importantly, however, is that the report highlights that the inefficiency in the construction of infrastructure is “primarily because the coordination was assigned to a central government agency which was incapable of bringing local authorities to work together” (World Bank, 1986).

Part of the reason for the low buy-in on the part of executive agencies was

\textsuperscript{24} For a more simplified timeline of Egypt’s urban development milestones see Annex C.
\textsuperscript{25} Furthermore, the current head of Cairo governorate’s Urban Upgrading Unit, who is responsible for working with the ISDF to develop and implement an upgrading plan for Haggana, was a leading figure in the Manshiyyit Nasser project, and during my personal interview with him drew on many lessons from this project.
that the WB’s approach of in-situ upgrading directly contradicted Sadat’s relocation policy. According to El-Batran and Arandel (1998), “the project faced resistance from government officials who preferred to conserve the government’s interventionist approach to providing housing and worried that upgrading informal areas would signify its acceptance of an illegal act. Another complicating factor is that much of the land on which informal dwellers had settled was owned by the governorates, who resisted the idea of providing dwellers with legal title to the land. In light of this, the project failed to permanently change the Egyptian state’s housing policy and it continued its policy of building new housing in the new cities, a portion of which would be dedicated to the relocation of informal areas residents (Tadamun, 2014).

In regards to Ezbet El-Haggana, in line with the increased state attention towards informal areas, in 1978 both the MNHD and the armed forces offered to sell residents their plots of land to legalize their tenure and ensure safety from any future eviction risks. However, while the MNHD offered the land at market prices and under non-sellable contracts, the armed forces offered the land at symbolic prices and under contracts that would allow residents to sell their property if they wished (Badr, 1998). This incident signalled the beginning of a protracted dispute between Haggana’s residents and the MNHD (Interview 1, Haggana-based NGO researcher, 2015).

The trend of state official policies and pronouncements almost directly contradicting actual outcomes in unplanned areas continued throughout the 1990s. As described above, in the wake of the earthquake and terrorism threats in the early 1990s, in 1993 President Mubarak announced the first national plan to upgrade Egypt’s unplanned areas, with a focus on those in Cairo and Giza.

However, according to observers of the post-1993 period, very little was actually carried out in the way of upgrading and especially demolition.
Infrastructure work was carried out in the Imbaba area of Munira Gharbeya, where the main clashes had taken place over water and sanitation connections, street lighting, paving, school building, clinic building, and building a police station. In fact, building police stations was one of the only forms of “upgrading” to take place in several informal areas. Meanwhile, most settlements, including those near Munira Gharbeya, continued to lack basic utilities in the mid-1990s (Tadros, 1996). Dorman (2009) comments that though the upgrading of Munira was considered a showpiece project (including a visit from British royalty) and a model for other upgrading efforts in Egypt, the provision of water services was only made possible by donor funding. This, he argues, is emblematic of “the ambiguity of Egyptian upgrading efforts” (ibid., p.429).

4.5 Informal areas in Egypt today

The thesis focus on informal areas carries with it certain implications regarding access to water different from those in formal parts of the city. Not only do most informal areas suffer from various forms of water scarcity\(^26\), but governments often exclude informal areas from public infrastructure, forcing these areas to rely on alternative means to access water. Although data on access to water in informal areas is not easily available, a simple look at the national census can give some insight. Unfortunately, data from the most recent (2017) national census has only been released at the governorate level. This data shows that in Cairo, 98.5% of the governorate’s population have a tap inside the home, while only 0.5% rely on a source of water outside of the public network\(^27\) (CAPMAS, 2017). However, data from the 2006 census found that of the 378,234 people who do not have a tap inside their home\(^28\), the district with the highest share is Manshiyyat Nasser (65,670), which also happens to be

\(^{26}\) I adopt a wide definition of water scarcity here, but understand it in a material sense, following Molle and Mollinga (2003).

\(^{27}\) The figures for access to a tap inside the home within Greater Cairo’s other two governorates – Giza and Qalyubeya – are slightly lower than Cairo, but still quite high at 91.6% and 94% respectively (CAPMAS, 2017).

\(^{28}\) Constituting around 6% of Cairo’s 2006 population according to CAPMAS, 2006.
Egypt’s largest informal area.

Numerous global studies highlight the various channels through which residents of informal areas access water, including public standpipes, informal water vendors, water tanker truckers, community-managed projects, boreholes and wells, various illegal connections, and even gathering water from open drains by the side of the road (Kariuki and Schwartz, 2005; Kjellén and McGranahan, 2006; Gandy, 2006; Obrist et al., 2006; Gulyani and Talukdar, 2008; Dagdeviren and Robertson, 2009; Hoffman, 2011; Ranganathan, 2014; Ranganathan and Balazs, 2015).

The literature on access to water in informal areas in Egypt is quite limited. The few studies that do exist often focus on the issue of water shortages. For example, in one study, the authors examine two peri-urban informal areas in Giza and Qaliubeya (Urban Training Institute, 2006). The study finds that there is a general shortage of potable water in both areas. Residents rely on a combination of piped water (either legally or illegally), pumped ground water, and water purchased from informal vendors. Residents complained that the network is dilapidated, causing water shortages, and the volume of water pumped to the area is insufficient for the number of residents. Due to the insufficiency in water quantity, residents must supplement by purchasing water, thus paying for water twice. Additionally, water pollution is also a serious problem, with the study finding that water is unclear in colour and carries a bad taste and smell, highlighting the multiple forms of water scarcity that exist. In two different studies Wahby (2013) and Bremer and Bhuiyan (2014) examine access to water in Haggana and the use of “self-help” efforts by residents to develop alternative means to access water. Their studies represent important sources of information for this thesis, particularly in triangulating and confirming accounts given by residents regarding how they accessed water before the water company connected them to the public network.
Although most studies focus on specific areas such as those discussed above, there is one important exception. A 2013 report published by the Cairo governorate with support from the German Technical Cooperation (GIZ) uses Geographic Information Systems (GIS) technology to map the water network across all informal areas in Cairo. It then classifies areas into those with a formal potable water network service, those with a “water network reaching their borders but not going through built-up areas”, those with “a water pipeline through the built-up areas but no network service”, and those with no water service of any kind (Cairo Governorate, 2013). The Cairo governorate report highlights the struggle that many areas continue to endure in order to access water, as well as the multiple forms of water scarcity from which they suffer.

Within the context of Cairo, informal areas were marginalized for decades by the state and excluded from infrastructure and services, particularly water provision. The relevance of this research is in understanding what it means when the state finally connects these areas to the public water network, and how this process occurred.

Today approximately 16 million people live in informal areas across Egypt (ISDF, 2010), constituting around 60% of the Egyptian population. The ISDF estimates that unplanned areas make up 75% of urban areas nationally, while unsafe areas constitute only 1% of urban areas (ISDF, 2013). While the ISDF has not publicized much data regarding unplanned areas (its focus has thus far been on unsafe areas), it states in its 2010 report that Cairo hosts 53 unsafe areas (hosting a population of 171,247 people) out of a total of 404 unsafe areas across Egypt, the highest out of all of Egypt’s governorates. Older documents by the Ministry of Local Development (MoLD) state that there are 81 informal areas in Cairo (MoLD, 2008). These comprise different types of areas, including relatively well-constructed

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29 The ISDF has not publicized any of its annual reports since 2010. Since the 2011 uprising, the ISDF has been more protective of its data, has not publicly released any reports nor has it even updated its website. Before 2011 the ISDF website contained more data and some reports were downloadable. After 2011 all of this was removed.
neighbourhoods on state-owned desert land or on urbanized privately-owned agricultural land, as well as shack-like dwellings which are far fewer in number.

Within the literature on informal areas in Cairo there are a number of different typologies. The below table (see Table 1) summarizes the different ways in which some scholars have classified different types of informal areas in Cairo. The main distinguishing factors between the different categories are: type of land (agricultural vs. desert land), location (fringe vs. inner city), the process of settlement itself (individual vs. collective), and the mechanism of settlement (squatting vs. illegal purchasing).

<table>
<thead>
<tr>
<th>Source</th>
<th>Typology of informal areas in Cairo</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABT Associates and GOHBPR (1981)</td>
<td>Illegally occupied land not included in a legal subdivision</td>
</tr>
<tr>
<td>Deboulet (1990, 1994)</td>
<td>Desert collective invasion</td>
</tr>
<tr>
<td>Soliman (2002)</td>
<td>Settlements on privately-owned agricultural land (semi-formal)</td>
</tr>
<tr>
<td>Sims (2003)</td>
<td>Settlements on former agricultural land</td>
</tr>
</tbody>
</table>

Table 1: Typologies of Cairo informal areas

For the most part, agricultural land, illegal purchasing, and individual settlement go hand in hand, and occur on the periphery of the Greater Cairo Region (GCR) (Sims and Sejourne, 2000). Within Cairo city, informal
settlements are either i) on desert land, in which case settlement tends to occur through individual or collective squatting; ii) on agricultural land on the city fringe; or iii) in deteriorated urban pockets (also referred to as the historic core), in which case settlement tends to be collective and residents are usually descendants of historical inhabitants of the area (Soliman, 2002). The table below (see Table 2) shows the estimation by Sims (2001) of the scope of the different types of informal areas in Greater Cairo. Although this data is from over a decade ago, not much change has occurred, aside from a continued increase of the urbanization of even more private agricultural land.

<table>
<thead>
<tr>
<th>Typology / Sub-typology</th>
<th>% of GCR surface area</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 On private agricultural land</td>
<td>81.6%</td>
</tr>
<tr>
<td>A2 On core village land</td>
<td>3%</td>
</tr>
<tr>
<td>A3 On government agricultural land</td>
<td>3.3%</td>
</tr>
<tr>
<td>B1 On local administration desert land</td>
<td>3.3%</td>
</tr>
<tr>
<td>B2 On reclaimed desert land</td>
<td>3%</td>
</tr>
<tr>
<td>B3 On decree desert land</td>
<td>6%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Table 2: Different types of informal areas**  
*Source: Sims, 2001*

It should be noted, however, that the majority of Type A informal areas (those on agricultural land) are in Giza governorate. Within Cairo governorate, according to data by Soliman (2002) the majority of informal areas are Type B (areas on desert land), and Type C (hybrid or ex-formal).

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30 Soliman (2002) defines Type C as follows: “These are residential settlements in formal areas, which have temporarily or permanently acquired degrees of informality. Unlike settlements in informal areas, this type of informality relates to individual dwelling units on a case-by-case basis: some units in a neighbourhood or even an individual building are formal, while others have been built illegally or have been transformed over time into illegal tenure arrangements” (p.193).
Soliman ibid.) attempts to map these areas within Greater Cairo, and within Cairo maps one Type A area, 10 Type B areas, and 10 Type C areas. Since Type C areas relate to the individual dwelling rather than the entire neighbourhood, this makes Type B the dominant type of informal area in the Cairo governorate. The vast majority of Type A areas are in the Giza governorate.

![Map showing informal areas in Cairo](image)

*Figure 9: Informal areas in Cairo*
*Source: Kipper and Fisher, 2009*

According to Arandel and El-Batran (1997) public desert land squatting involves the “poorest among the poor” as opposed to the agricultural fringe areas which cater to a much wider demographic. Squatting involves a considerable degree of risk of eviction, especially in its early stages, and thus is resorted to by those who cannot even afford to purchase illegally on the city fringe. From a legal point of view, squatting on public land is illegal,
but at the same time benefits from a very important legal provision, *wada’ yad* (also referred to in literature as *main-mise*) (Deboulet, 1990). The law of *wada’ yad* stipulates that the duration of the squatting period increases its legality and establishes a basis for legal claims to the land (Ismail, 1996). This usually occurs on land controlled by the governorates or municipalities, and often the ownership of such land is ambiguous, leading to occasional disputes between government bodies (Soliman, 2002; Arandel and El-Batran, 1997). Examples of such areas include Ezbet El-Haggana, Ezbet Khairallah, and Mahsiyyit Nasser.

Agricultural settlements are part of what used to be the peri-urban fringe but has been or is being incorporated into the urban agglomeration. The land is privately owned but is classified in the governorate’s records as agricultural land and not slated for urban uses such as construction. Thus, all subdivisions and sales for the purpose of housing are illegal. Settlement is usually individual (Sims, 2003). The layouts tend to be somewhat more organized than desert and historic areas, as the subdivisions are conducted along the lines of the former agricultural patterns (ibid.). This phenomenon has been deemed a criminal offense since the issuance of Law 53/1966, but has continued more or less unabated. In fact, the phenomenon of urban expansion onto agricultural fringe land exploded after the 2011 revolution (Viney, 2003), and members of parliament are currently proposing to amend Law 53/1966 to increase the punishment for urbanizing agricultural land to include jail time in addition to a fine (Ali, 2018). Such areas are mostly clustered within and around Giza city, and constitute the majority of informal urbanization in the Greater Cairo Region (Sims, 2003). Examples of this type of informal area within Cairo city include El-Marg.

As for the deteriorated urban pockets, the majority of such areas did not begin as informal per se. Many are historical areas that have existed for over a century, before official plans were ever drawn up for Cairo. Current residents of such areas are for the most part descendants of the original inhabitants, and consequently many do not have official tenure
documents. Since these areas were ignored by the state for the better part of the century (Deboulet, 2011) they have experienced deterioration in housing structures and lack many services. Soliman (2002) refers to this category of areas as “ex-formal”, which makes his typology unique in that it accounts for areas that have become “informalized” over time, highlighting the different degrees of informality. Examples of this type include Ramlet Boulac.

Evictions were quite uncommon in informal Cairo before the revolution (Dorman, 2009). Arandel and El-Batran (1997) point out that in an initial state plan, 171 informal areas were identified for upgrading. However, 25 of the 171 areas were inner-city areas “located on valuable state land needed for investment” (Arandel and El-Batran, 1997), and thus the approach adopted for those 25 regions was clearance. This decision was made in the early 1990s, but in 1997 not a single area had been cleared (Arandel and El-Batran, 1997), and a study in 2009 confirmed that only few areas had actually seen evictions (Dorman, 2009b). This is probably the result of a combination of the law of *wada‘ yad* and Egypt’s highly bureaucratic and complex policy-making and planning environment, in which various government entities often have conflicting responsibilities and jurisdictions as discussed above. This has led to many ownership conflicts between different government bodies over land (Arandel and El-Batran, 1997) – particularly vacant public desert land – making it more difficult for eviction decisions to be enforced. However, the situation changed after the 2011 revolution. With renewed presidential focus on the *ashwa‘eyat*, evictions have become much more common. This is discussed in more detail later in this thesis.

In 2008, the Egyptian government codified the terms “unplanned area” and “unsafe area” to designate the different needs of such areas. The term “*ashwa‘eyat*” is still widely used in Egyptian media and remains much more popular than the official term “unplanned”, to the extent that some official documents (such as the 2014 national constitution) still use the term
“ashwa’eyat”. The stigma associated with the term “ashwa’eyat” persists, despite the fact that people living in informal areas constitute the majority of urban dwellers in Egypt (Barakat, 2015), even according to official statistics, which tend to underestimate their size.

The stigma associated with informal areas has been documented in many countries. For example, Babourkova (2010) looks at how the privatization of electricity distribution in Bulgaria combined with the perception of widespread electricity theft in Roma settlements caused the electricity distribution company to place meters within “large, silver-metal boxes attached to electricity or telephone poles 6-12 meters above street level” (p.34), therefore making it impossible for residents to monitor their consumption. The stigma against informality in Egypt is so strong that many government officials do not believe informal area residents are deserving of infrastructure or services. For example, I raised some of such issues with a senior official in the Cairo Water Company, stating that the poorest citizens in Cairo are being affected the most by the ongoing efforts to raise tariffs. He responded that this was simply untrue because the poorest Cairenes live in the “ashwa’eyat”, and as everyone in the ashwa’eyat is stealing water, the tariff changes will not affect them (Interview 8, GCWWC official, 2014). This attitude is also seen in a World Bank project report published in 1986, which described its informal area upgrading project, the first of its kind in Egypt. The report blames many of the project’s failures on resistance from government officials to the idea of informal areas receiving infrastructure (World Bank, 1986).

Part of the reason for the resistance of local government agencies to providing informal areas with infrastructure, as opposed to their acceptance of providing such areas with schools and healthcare facilities for example, is that access to infrastructure carries very specific connotations. When I asked some of the Haggana residents I met whether or not they were concerned about eviction, many told me that they cannot be evicted because they have water and pay electricity bills, which proves
that they have the right to live in Haggana.

“This bill right here, it has my name on it. These payments are like a real estate tax! How can they ever evict me when I am paying taxes?”

(Interview 5, Haggana male resident, 2014)

That access to infrastructure is associated with legal tenure is not something unique to Egypt. In her article Paying for Pipes, Ranganathan (2013), shows not only what access to water means for residents who are living informally on the urban periphery, but specifically what paying for water entails for their self-perceived legitimacy. In other words, taking part in the state’s formal infrastructural governance system – in Ranganathan’s case, paying to install water pipes and meters – can have serious implications for residents’ sense of inclusion in the city. This raises important questions regarding what access to infrastructure means for groups that are traditionally marginalized, if not actively excluded, from city governance. When a highway is constructed to improve connectivity in the city but exit ramps are only constructed for certain neighbourhoods (Dana, 2012), infrastructure becomes connective for some and divisionary for others. When residents have to precariously walk on a water pipe to get from one side of their district to the other, but do not actually receive water from that pipe because it was built to provide water to a nearby wealthier district (Graham, 2000), infrastructure can become a “splintering” force (Graham and Marvin, 2001).

4.6 A complex relationship with the state

In general, the relationship between the Egyptian state and Cairo’s informal areas is a very complex and sometimes contradictory one. One scholar has argued that the state prefers to ignore informal areas as long as they do not pose a threat to its authority (AlSayyad, 1993). This narrative is somewhat similar to that put forth by Ismail (2006), but she attributes state inaction to informal areas being allowed a certain degree of autonomy as long as they do not interfere with state agendas, rather than
the state ignoring informal areas.

Another important point is that while the premise of ignoring informal areas implies the absence of the state from these areas, Ismail (1996) demonstrates through ethnographic data that a defining characteristic of this relationship is actually a constant presence of the state within these quarters, whether through the police, market authorities, or officials that manage electricity, water, and other public services. During my fieldwork, particularly in the community workshop in Haggana, residents described what can be considered an indirect presence of the state through figures that would not necessarily be thought of as “the state” per se. For example, one resident mentioned that “a lot of the people here that own CBOs also collude with municipal officials to help keep tabs on the area” (Community workshop 1, Haggana-based NGO manager, 2014). Ismail (1996) describes something similar when she explains how local authority figures relied upon for decision-making and conflict-resolution are often co-opted by the state to ensure it maintains some control over the area.

Even the presence of the police, which Ismail (1996) highlights as one of the forms of state presence in informal areas, was described by the workshop participants as insufficient. In the words of one participant:

“*There needs to be more police presence here. The biggest problem here is that there is no law, anyone can do anything. And there is still a lot of theft. Even when there is a gunfight the police come, but they don’t arrest anyone. If there were more police here it would make a big difference*” (Community workshop 1, Haggana female resident, 2014).

One issue that came through clearly during the workshop is that state presence in informal areas has undergone various phases over the past several decades. Only a couple of the residents participating in the Haggana community workshop had been living in Haggana since the 1980s, but they indicated that there was much less state attention given to the
area during this period than in the 1990s. In the words of one respondent, “back then, nobody paid any attention to us, but after the earthquake the police started coming here more often” (Community workshop 1, Haggana male resident, 2014).

Along the same lines, the literature emerging from Egypt points to various attitudes/strategies that the state has adopted towards informal areas over the past three decades. Some scholars have explained this changing attitude in the form of a timeline, describing an evolution in state attitudes towards informal areas that began by ignoring the phenomenon during the 1960s, succumbing to international pressure and undertaking some token projects during the 1970s and 1980s, and confrontation followed by national upgrading plans during the 1990s (Arandel and El-Batran, 1997). The confrontation and upgrading in the 1990s is the result of what one scholar has described as the “securitization” of informality when the media showed some anti-state militants hiding in such areas (Dorman, 2009a). Immediately after this, the government announced the establishment of a Fund for the Upgrading of Scattered Settlements, which prioritized the areas that posed a security threat, and these areas received upgrading (mostly street widening, infrastructure, and lighting) accompanied with severe police brutality (Singerman, 2009).

One important frame through which to understand the relationship between the Egyptian state and Cairo’s informal areas, and one that I use later in this chapter and in other parts of this thesis, is that of clientelism. The literature on political clientelism, particularly that on clientelism among the urban poor, can give useful insights into the workings of state-society relations in informal areas. Clientelism can be defined as the provision of favours by political figures in exchange for votes from residents (Mattina, 2007). As Mattina (2007) explains, while in traditional patronage relationships these favours were often in the form of goods or even protection, as political regimes shift from authoritarianism towards democracy these favours increasingly tend towards services and jobs. This
is certainly the case in Haggana, as votes by residents have primarily been exchanged for water and electricity. For a certain period of time, clientelistic relations were the dominant feature and the main channel through which residents obtained services. In this Egypt is not unique, for as Shefner (2001) shows, this has tended to define the politics of the urban poor in Latin America as well. However, in understanding clientelism it is important to avoid perceiving residents as “blind followers, dupes in the grip of clientelistic politics” (Auyero, 2001, p.13). As Portes (1972) explains, clientelistic behaviour on the part of the urban poor should not be considered a form of “false consciousness” but should rather be understood as a conscious decision made by people who strategic assess the range of political choices available to them, and choose the behaviour that is most likely to improve their situations. I find that this is consistent with my findings that clientelistic relationships between Haggana residents and political figures were widespread during a particular period of Haggana’s history, but later weakened. Shefner (2001) explains that as structural conditions change, the available political choices and outcomes also change, therefore affecting the actions residents take.

A useful way to understand the complexity of this particular feature is to separate the state’s bureaucratic arm and its political arm. Regarding the former, Fahmy (2004) describes a relationship where civil servants regularly threaten residents with eviction in order to extract payments from them. This occurs with officials at various levels, but usually at the municipality and district level, and can range from bribing engineers sent from the Department of Electricity to paying off police officers who visit occasionally and pretend to check illegal connections to utility networks (Fahmy, 2004). There are many anecdotes of informal dwellers being harassed by the police for being unable or unwilling to pay the expected bribe (Fahmy, 2004; Ismail, 2006).

The police often also cooperate with thugs and drug dealers in the area (Fahmy, 2004). As for the political apparatus of the state, this usually
comes into play during election periods, when candidates make promises to secure votes. Such promises include providing services, subsidized apartments, and other tantalizing “carrots” that summarily disappear once elections are over (Fahmy, 2004). During the 2000 parliamentary elections, for example, the platform of one of the candidates in the Shubra district included the reconstruction of the public water tap which had been broken for seven years (Fahmy, 2004). Fahmy (2004) tells an anecdote where aides of a candidate distributed free water containers during election time, a process that terminated as soon as the elections came to an end. Such accounts of fit well within what Dorman (2009b) refers to as the clientelization of society, which is a feature characteristic of the post-1952 political order in Egypt. Through its patrimonial nature, the Egyptian state uses clientelistic practices to keep certain groups in “material thrall” (Waterbury 1985, 349; cited in Dorman, 2007, p.46). This quotation from Dorman (2009a) nicely summarizes the way in which the state benefits from informality:

“...informal settlements are regarded as the path of least resistance for low-income families, and state agencies develop the formal city almost exclusively for the elite. Thus, these neighbourhoods should not be understood as a disorderly oppositional zone. Rather, they are a reflection, however oblique, of the political order they seem to confront” (p.435).

Dorman (2007) framed this relationship as one of “neglect”, while Deboulet (2011) claims that this relationship is slowly shifting as the state has increasingly come to see informality not as a useful way to bypass bottom-up demands, but as an obstacle to achieving its development dreams. Today, and even a few years before the revolution, residents of several informal areas have experienced a sudden interest by state institutions in evicting them in order to develop the area into a tourist location with hotels and shopping facilities, such as Bulaq Abu El Ela. This has been the case for informal areas that have a mawqa’ mutamayyiz
(English: special location). The ISDF (2010, p.23) labels such areas as *manatiq isti’adat taklufa* (English: cost recovery neighbourhoods) and describes them as follows:

“Cost recovery neighbourhoods are characterized by their low density which makes it possible to construct new facilities and to make use of vacant land, or by the high value of their land due to their special location. These features allow for cost recovery (self-financing neighbourhoods), or allow for the extraction of new resources (value-added neighbourhoods) that can then be used to finance other neighbourhoods where no cost recovery is possible”\(^{31}\).

According to the ISDF (2010), there are 4 self-financing areas and 14 value-added areas in Cairo\(^ {32}\). The report does not, unfortunately, provide a list of these areas, but areas such as Ramlet Boulaq and the Maspero triangle have been at the forefront of ongoing disputes between residents and government institutions regarding the high value of the land due to its special location on the Nile banks. Haggana, thankfully, does not seem to have this problem, and its location on the Cairo-Suez highway does not inspire the description of “special”. Furthermore, the upgrading plan for Haggana described in Section 4.5 describes rarefaction for the sake of constructing roads and community facilities rather than profit-making endeavours. This may be the reason why areas such as Ramlet Boulaq have witnessed a more confrontational form of state presence than that witnessed by Haggana, as described later in this thesis.

4.7 Ashwa’eyat as pathology and infrastructure as surgery

As described previously, in 1977 President Sadat was faced with mass riots in response to decreasing bread subsidies.

In 1976, as part of his turn towards the West, Sadat sought out loans from the World Bank to relieve Egypt’s debt burden. The Bank criticized the

\(^{31}\) My own translation.

\(^{32}\) No updated data about cost recovery neighbourhoods has been publicly issued since this time.
existing state policy of subsidizing basic foodstuffs, and thus in January 1977 Sadat announced that he would end most basic foodstuff subsidies, which would result in a rise in food prices of up to 50%. Almost immediately after the announcement, riots erupted across the country, leading to 79 deaths, hundreds of injuries, and thousands of arrests. Sadat quickly cancelled the policies and the riots subsided.

One of the less obvious impacts of the 1977 riots is the way they shifted Sadat’s attitude towards Cairo’s informal areas, which had by then become commonly known as the ashwa’eyat. After the 1977 riots, the ashwa’eyat became more than merely a small obstacle tarnishing the city’s modern image. In Sadat’s eyes these areas were a threat to the safety of the country and the president himself. The bread riots infuriated Sadat, who felt betrayed by the masses he claimed to be trying to serve, particularly as the demonstrators almost reached his house in Giza (Ghannam, 2002). He labelled the riots “the Uprising of Thieves” and claimed that many demonstrators were able to carry out acts of vandalism and then escape from security forces because they hid in the ashwa’eyat, which had narrow streets that police cars could not enter (Ghannam, 2002). Such a “securitization” (Dorman, 2009a) of the discourse around Cairo’s ashwa’eyat shifted state policy towards the areas to a more aggressive approach based on relocating residents to new state-built housing projects.

The securitization discourse was soon replaced with a developmentalist discourse, in which state officials presented so-called scientific data to prove that the miserable conditions of the ashwa’eyat’s residents were preventing them from effectively contributing to the country’s development (Ghannam, 2002). The built environment was repeatedly highlighted as an indicator of modernity, and this was especially true of access to piped water and sewerage. State officials highlighted certain conditions as unhealthy, such as families living in one room together, sharing a room or bathroom with another family, or not having a safe source of water. Thus, relocation was seen as a necessary “scientific
method” and “plastic surgery” crucial to “beautify Cairo’s face” and offer the residents, who were described as vulnerable to drug dealing and other social ills, more appropriate housing that fit the “modern” lifestyle (ibid., p.31). In 1977 the governor of Cairo announced that his agenda included “the demolition of thirteen informal areas and turning them into green space” (Bell, 2011).

Thus, as part of this policy, around 5,000 families were forcibly relocated between 1979 and 1981, mostly from Ishash al-Turguman in the historical Bulaq neighbourhood in central Cairo to new public housing projects in Ain Shams and al-Zawiya al-Hamra (Ghannam 2002). State officials announced that Ishash al-Turguman would be replaced with hotels and entertainment facilities.

In the wake of the assassination of President Sadat in 1981, there were mass arrests of alleged terrorist militants involved in the assassination or in the plotting of other murders. The majority of these arrests took place within the informal urban settlements that had been emerging on the Greater Cairo’s periphery (Kepel, 1985). As had previously occurred in the wake of the 1977 riots, the mainstream media firmly linked the security threats to the existence of the ashwa‘eyat, with their unruly streets impenetrable by the police. Towards the end of the 1980s, the media began reporting that a large number of militants had relocated en masse from the upper Egyptian governorate of Assiut to the neighbourhoods of Ain Shams and Imbaba in Greater Cairo, both to escape security forces in their home towns and to expand their bases of operation closer to the seat of the government (Mubarak, 1995; Hafez and Wiktorowicz, 2004).

Imbaba has, since then, become notorious as the one of Egypt’s largest ashwa‘eyat, despite the fact that much of it is actually state-planned (Tadamun, 2016). One newspaper article in December 1992 recalls the night of the arrest of the alleged leader of the “Emirate of Imbaba” movement (Salah El-Din and Desouky, 1992). It describes Imbaba as “that
district that has stood out since the 1980s as one of the most prominent centres for extremist religious organizations”. The article states that the security forces had carried out a campaign there in the wake of the assassination of President Sadat, but despite the campaign the extremist groups in the area had increased their hold over the region such that some residents began to regard them as above the law. It blamed these neighbourhoods for “exporting” extremists to other districts and hiding culprits of acts of violence, particularly during the violent episodes witnessed in Upper Egypt and some areas of Cairo.

A spokesperson for the Interior Ministry said that the campaign was carried out in Imbaba as part of a ministerial plan to combat terrorism in the wake of the attacks on tourist buses in Upper Egypt. The article states that ministerial sources claim that the head of the extremist group took advantage of the residents’ poverty and ignorance to spread his claims. It links this to the mass rural-urban migration that took place during the 1970s and claims that this was a migration of extremist groups from Upper Egypt to Imbaba and other areas of Cairo, and built homes in a random and cancerous way without any planning or organization.

It is no coincidence that shortly after the assassination of President Sadat, there was a slew of ministerial decrees establishing new police stations around Cairo, many of which were in unplanned areas (see Decrees 838/1981, 2662/1983, 791/1983, 27/1986 and 38/1986) (CAPMAS, 1986).

In October 1992 a major earthquake struck Egypt that resulted in 561 deaths and 12,000 injuries in the GCR (Cairo, Giza, Qaliubeya) and the Fayoum governorate (Nassar, 1981). By the time the earthquake struck Cairo, there had already been recurrent clashes between the police and alleged militants in various informal areas in Cairo (El-Kadi, 1994), and the El-Gamaa Al-Islamiyya militant group had been carrying out attacks on public officials and politicians (e.g. Farag Fouda) from their base of operation in Imbaba.
The earthquake had a particularly disastrous impact in informal areas where the housing structures and infrastructure were less able to withstand shocks. Mubarak’s government sprang into emergency relief action in the affected cities, but expectedly fell far short of actual need. In the wake of this disaster, the gap created by the government’s failure to provide victims with alternative shelter was filled by Islamist organizations, particularly the Muslim Brotherhood, who provided shelter, services and assistance to those affected by the earthquake. The media heavily criticized the government for its poor emergency response and acknowledged the role Islamists groups were playing in this regard (El Kadi, 1993). This apparently further increased the confidence of militant groups, one of which announced to a Reuters correspondent in November 1992 that they had established the Islamic Emirate of Imbaba, which was independent from the Egyptian state (Singerman, 2009).

While the media had long been aware of Cairo’s informal areas and had repeatedly shed light on their problematic aspects, whether security-related or socioeconomic, the quantity of media attention increased exponentially during this period. The *manatiq ashwa’eya* (haphazard areas) became simply the *ashwa’eyat* (the “hazards”) and the media highlighted the way these areas appeared to operate and run their affairs without any state intervention. The pathologization of informal areas as havens for criminals and terrorists reached unforeseen heights, and the term went from being a “descriptive label for unplanned urbanization” to a “pejorative objectification of social disorder” (Dorman, 2009a, p.427).

Within weeks, Central Security Forces had invaded Imbaba and conducted mass arrests throughout informal Cairo. In December 1992, an 18,000-strong police force laid siege to the neighbourhood of El-Munira El-Gharbeya in northern Giza, which is part of the Imbaba neighbourhood (Singerman, 2009). This began the process of “indiscriminate mass arrests, hostage-taking by the security forces to secure the surrender of suspected militants, and the ‘widespread’ use of torture” (Sherry, 1995; cited in
Once again, as in the wake of the 1977 riots, the state quickly combined their security approach with a developmentalist one. By May 1993 President Mubarak had announced that the state would carry out upgrading and demolition as necessary to address the problem of the *ashwa’eyat* (Kupfinger, 2001). This would be done through Egypt’s first ever USD 563 million National Fund for the Upgrading of Scattered Settlements, which included around 80 neighbourhoods in plans to upgrade water, wastewater, electricity, street widening, lighting and paving. Some scholars claimed that the focus on basic infrastructure was seen as a strategy to ensure easier control and access by security forces (El Batran & Arandel, 1998: 230). It is thus perhaps no surprise that these 80 areas included neighbourhoods where security forces had clashed with militants, such as Imbaba.

Infrastructure, whether through the construction of utility networks, police stations, or streets and roads, was in this case used by the state as a primary tool for intervening in the unplanned areas of Cairo.

Roads have been used as a planning strategy since the 1970s, particularly for addressing the proliferation of informal areas in the GCR’s peri-urban periphery. For decades, the primary strategy for attempting to stop the proliferation of unplanned areas around Greater Cairo’s peri-urban periphery has been the strategy of *tahzeem* (English: belting). This approach has involved the construction of a ring road around the GCR that would serve as a “belt”, preventing its informal expansion outward. Naturally, the construction of the ring road, despite its many benefits in improving accessibility and connectivity, did not have the intended effects in regards to informal housing. Instead, it had the opposite impact, as more people became attracted to areas that before the ring road had seemed remote and inaccessible. The peri-urban informal neighbourhoods had, until the construction of the ring road, been considered far from the city.
center, making it a sacrifice for inhabitants to live there because of the difficulty in reaching their places of employment. After the ring road was constructed, such neighbourhoods suddenly had the double benefit of offering affordable shelter and relatively easy connectivity to the city. Indeed, the GCR has a long history of major road works having a double impact on unplanned areas: forced demolition of homes that happen to be in the path of the road followed by a population surge in the area immediately after the completion of construction. Mit Uqba in Giza city saw an influx of new residents after the construction of the 6th of October bridge, and Izbit Khairallah in Cairo witnessed a similar trend after the ring road passed through the neighbourhood. In both cases, the neighbourhoods were bisected by the new route being constructed, entailing not only the demolition of thousands of homes, but also the separation of families and communities.

The construction of transportation corridors through unplanned areas has become one of the primary strategies for “upgrading” them. This centers on the concept of “rarefaction” or de-densification. The idea of rarefaction is part of the approach promoted by the Cairo 2050 plan for addressing Cairo’s informal areas and features prominently in the plan’s presentations. The idea is to create roads or axes that cut through unplanned areas and relocate the residents that fall in their path, thereby simultaneously achieving de-densification of informal areas, as well as the opening of vacant land on which to build services. In relation to Haggana, this approach was described to me by a high-level official in the UUU of the Cairo Governorate in a personal interview, with the plan being to construct a road from the El-Tabba bus station at Haggana’s south-western border to cut through Haggana over the high-voltage cables to the 4.5 entrance in the north. The cables would be buried, and all those living on this path would be offered alternative housing.

The official policy is to offer alternative housing as close to the original housing as possible, but in practice residents have often been relocated to
areas far from their original place of residence. According to this official, this plan has been discussed with President Al-Sisi, and they are preparing to enter discussions with the MNHD and the armed forces, with the intention that the MNHD would build the new housing for those relocated on nearby vacant land that the MNHD would identify. The MNHD would also be asked to legalize the tenure of those living on its land as part of the project. The MNHD describes the project as follows (MNHD, n.d.):

“The scheme entails relocating the inhabitants living under the cables area after alternative housing is built in the vicinities of Ezbet El Haggana. The developed corridor is to serve as the nucleus for further development, including the building of schools, hospitals, fire, sports playgrounds and other services and amenities needed to create a successful community”.

Employees within the ISDF have informed me that the UUU’s plan for Haggana is currently being reviewed by the ISDF and is being prepared for implementation. It would entail the relocation of 4,000 homes in the path of the planned road, as well as those in several other side streets to make way for services.

With the renewed presidential interest in resolving the ashwa’eyat problem, state institutions have become increasingly heavy-handed since the revolution. This is evident in the increased rate of evictions since 2011. Within the GCR, aside from the more protracted disputes from before the revolution, such as those surrounding Ramlet Bulaq and the Maspero Triangle (The Mosireen Collective, 2012), there have been forced evictions in many areas across Cairo as the governorate and the ISDF have undertaken upgrading and relocation efforts at an unprecedented pace.³³

It is telling that the Cairo governorate recently announced that relocation projects would include a rehabilitation component to “improve the

³³ Including, but not limited to: Matareya, Qursaya Island, Hikr Abu Doma, Tal Al-Aqareb, Sharea Al-Sudan, Heikstep, various parts of Al-Duweiqqa and Manshiyiyt Nasser, Dar El-Salaam, El-Marg, El-Madabigh, Istabl Antar and other parts of Ezbet Khairallah, among others.
behaviour of residents” so that they “don’t take their chaotic behaviour to the new place” (Tamam and Zaki, 2016). Just as the state has been more heavy-handed in carrying out its evictions, it has also been more interventionist in upgrading, seen by the spate of official announcements regarding upgrading projects. These projects are almost entirely focused on the upgrading of infrastructure.

The above account indicates the centrality of infrastructure in defining the state’s relationship with informal areas. Infrastructure is a tool with multiple uses, and here, it acted as a mechanism for spatial control in informal areas.

**4.8 Nationalistic infrastructure as stage for state power**

After the events of 195234, state-led urban development played a central role in establishing the “revolutionary” character of the post-1952 regime, which relied largely on transforming urban space, solving the pressing housing problem, and developing better access to infrastructure and services (El-Shakry, 2016).

In 1954, Nasser proclaimed in his National Charter that “development must be planned”, and in tune with the general tone of nationalism and the developmental approach of the state, urban development and “modernization” became a central task of the state (Mansfield, 1973). This issue became more pressing as urbanization and mass migration into Cairo increased. By 1964 one out of three Egyptians lived in an urban center with at least 20,000 residents (with Cairo housing the majority of these) and more than one-third of Cairo’s residents had been born elsewhere and migrated to the region (Abu Lughod, 1964).

In light of this and the unabated housing crisis, popular housing and increasing access to services emerged as a central priority for the new regime. This was not something completely new, as the monarchy had

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34 See chapter 4 for some more detail about the 1952 “Free Officers” coup.
taken notice of the beginnings of a housing crisis after the end of WWII. In fact, in 1949, the Ministry of Social Affairs published a study on the necessity of increasing low-income housing, co-authored by architect Mahmoud Riad, who later became the head of the Cairo Municipality during most of Nasser’s presidency (1953-1960). In response to the budding housing crisis, in 1951, the monarchy issued the Social Housing Law 206/1951, which established the need for state-built workers’ housing. In the post-1952 era, the state claimed responsibility for building not only housing for the working class, but also for civil servants and the middle class as well – a doubtless enormous task.

Construction became a driver of nationalist sentiment, and a mechanism that was easily visible to the masses and carried strong overtones of tangible state power and symbols of the revolution.

The RCC, established by the Free Officers and President Nasser, formed a Supreme Council for Construction responsible for researching and planning public housing projects. The Council recommended the need for workers’ housing, as well as the state’s right to forcibly evict residents from land occupied by “unhealthy districts” (Wheelock, 1965:125, cited in EL-Shahed, 2016). This is one of the earliest references to the emergence of neighbourhoods designated by the state as deteriorated to the extent that they warranted state intervention – in other words, slums. The RCC subsequently created the Popular Housing and Development Company in 1954 to implement workers’ housing and slum clearance, but since most public resources were directed towards public housing, slum clearance was a lower priority (Abd al-Gawwad, 1989; Wheelock, 1965).

The media obsessed over images of recently-constructed housing projects and modern-looking apartment buildings. Between 1952 and 1965 over 15,000 public housing units were built in Cairo alone (Abu-Lughod, 1971:231). Images of new constructions were showcased in official media and publications. For example, a report by the national newspaper al-
Ahram in 1965 announced that “the revolution” had built half a million popular housing units that managed to reduce child mortality, disease, fires, and crime (El-Shahed, 2016).

The RCC also tried to address housing needs through legislative intervention; between 1952 and 1962 several new rental and property laws were decreed, such as Law 199/1952, which lowered apartment rents, Laws 55/1958 and 168/1961, which gave incentives for landlords to lower rents in exchange for tax breaks, and Law 46/1962, which decreed that rents should be determined by an official committee on a case-by-case basis based on a set of standard criteria. This culminated in the rent reduction law of 1965, which placed a ceiling on rents and required landlords to fill vacant apartments within two months. Rents were reduced by around 35% of the 1944 value (Hasan, 2011).

The obsession with construction translated into infrastructure as well. According to Wheelock (1965), figures from the Ministry of Municipal and Rural Affairs show that between 1952 and 1957, more state funds were spent on building new roads in Cairo and Alexandria than were spent on building hospitals throughout the entire country.

State-led efforts immediately began to expand water and sewerage networks as well as street lighting in different cities, but particularly in Cairo. The head of the Cairo municipality at that time, Mahmoud Riad, promoted the importance of providing “modern” access to in-home water and sanitation to “prevent disease and improve public health” (El-Shahed, 2016). Between 1952 and 1963, the number of residents in urban areas with access to clean drinking water in cities outside Cairo, Alexandria, and the cities around the Suez Canal doubled from 2.2 million to 4.5 million. Cairo alone saw an increase in accessibility to the sewage system that added 2 million new users.

Nonetheless, some voices within the mainstream media remained critical, claiming that “105,000,000 pounds spent and 153,000 units built yet the
housing problem hasn’t been solved!” (1965), and that the housing problem is “a reflection of the undeveloped and incomplete socialist vision propagated by Nasser” (Hussein, 1966; cited in El-Shahed, 2016, p.380). The housing crisis became a regular feature in popular theater and cinema, all serving to highlight to Nasser the need for a new project through which to regain his popularity. This project involved the construction of a new city named the “City of Victory”.

In 1959 Presidential Decree no.815/1959 was issued announcing the establishment of the “General Organization of Madinat Nasr” (GOMN) as a new branch of the General Egyptian Authority for Housing and Development. The GOMN would be responsible for planning and developing a large piece of desert land in eastern Cairo that had been housing British troops into a new city named Madinat Nasr (“Nasr City” which translates to City of Victory in English). Madinat Nasr was described in official media and discourse as the “city of the revolution”, and promised improved housing and services and “tangible progress” (1958 government brochure cited and pictured in El-Shahed, 2016).

Architect Sayed Kurim was hired as the chief planner of Madinat Nasr, while Mahmoud Riad (the head of the Cairo Municipality at the time) and Abdul Latif al-Baghdadi (the Minister of Municipal Affairs) would oversee the day-to-day progress. Despite Riad’s previous concern with the importance of workers’ housing during his tenure as a civil servant in the Public Works department, Madinat Nasr was not planned as a working class city, but rather as a middle class one.

Although today Madinat Nasr is a municipality of the Cairo governorate, its chief planner Sayed Kurim presented the city’s initial plan “not as an expansion of Cairo” but as a new city with administrative buildings, relocated ministries, a stadium, modern apartment blocks, a convention center, and new architectural landmarks such as the monument of the unknown soldier. The regime had other intentions with the new city; it was
meant to reflect the progress of the new regime (El-Shahed, 2016). The prices of housing units were set to target the newly-forming Egyptian middle class. Much of the land-area of Madinat Nasr was military-owned land, and the authority over the land transferred to the GOMN after the 1959 decree.

However, Nasser’s efforts failed to keep up with demand in Cairo, and by 1965 Cairo’s sewage system was experiencing major breakdowns and the city suffered from traffic congestion and infrastructural decay in some of its older areas (Habitat, 1993; Ghannam, 2002). When President Sadat came to power in 1970, he was faced with a host of urban problems plaguing the capital and saw modernizing Cairo as a top state priority. Almost immediately after coming to power, Sadat announced in his 1974 October Paper that he planned to renew Cairo, transforming it into a modern, Western-style capital. The capital would be “renewed to become a city that fits its international position through providing it with the necessary infrastructure, modern communication systems, and the facilities needed for work” (Sadat 1974: 47). In the words of Ghannam (2002, p.29):

“Sadat encouraged private developers and land speculators to build new hotels and buildings, and Egyptians were encouraged to work in oil-producing countries and invest their remittances in the building of their home country. Construction boomed in and around Cairo, hotel chains dotted the Nile Corniche, bridges and new roads were constructed to facilitate the circulation of goods and people [...]”.

Sadat also spoke of developing Egypt’s “strategic vacuums”, referring to the country’s vast swaths of vacant desert lands, to remake Egypt’s population map (Sims, 2014). This officially launched Egypt’s new cities policy as the dominant feature of its urban planning paradigm35, which has continued to reshape Egyptian urbanism until today. The new cities policy persisted and gained prominence throughout the Mubarak era, at times

35 See Chapter 4 for more detail on this policy.
coupled with mega-projects such as the failed Toshka land reclamation scheme. The construction of new roads, tunnels, and water and electricity works continued to feature prominently in the national socioeconomic plans and national budgets, as shown below (see Table 3). In fact, public investment in these sectors has been increasing steadily over the last decade.

<table>
<thead>
<tr>
<th>Year</th>
<th>Construction &amp; Building</th>
<th>Real estate</th>
<th>Water</th>
<th>Electricity</th>
<th>Health</th>
<th>Education</th>
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<td>2978</td>
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<tr>
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<td>5663</td>
<td>13279</td>
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<td>3431%</td>
<td>150%</td>
<td>123%</td>
<td>32%</td>
<td>51%</td>
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Table 3: Public investment in construction and services 2004-2014
All figures from Central Bank of Egypt (2016) (EGP million)
According to the Central Bank of Egypt, in the 10 years between fiscal years 2004/2005 and 2014/2015, public investment in the real estate sector increased by 3431%, while it increased by 164% in the construction and building sector, by 150% in the potable water sector, and by 123% in the electricity sector. The lowest increases in public investment were in the education (51%) and health (32%) sectors (CBE, 2016). The above shows the importance that infrastructure and construction (which go hand in hand) have played for successive Egyptian regimes, although the role of infrastructure in showcasing state power and fostering nationalism has intensified significantly in the post-2011 era.

Since the coming to power of current Egyptian president Al-Sisi, the media and urban landscape have been flooded with accounts of infrastructural development. Shortly before the ouster of former president Mohamed Morsi by current president Al-Sisi (who was at that time Morsi’s Minister of Defense), the military engineers department (a department of the armed forces’ engineering agency) stated to the media that their role during times of peace was to build roads and bridges as a way of giving thanks to the Egyptian people for their support (Ramadan, 2013). This type of patriotic rhetoric around infrastructure has been an extremely prominent feature of the post-2011 era. Transport works (e.g. roads, bridges, tunnels) in particular are a relatively quick way to present tangible evidence of progress and development. Furthermore, their hyper-visibility makes it easier for whoever is responsible for their building to display their name and ensure that anyone using the new infrastructure knows who deserves credit for its construction. Perhaps this is why the Ministry of Defense alone is involved in 15 transport works projects (Ministry of Defense, 2016). President Al-Sisi himself officially inaugurated those projects in March 2015 with accompanying fanfare and hyperbole.

Once completed, these projects are littered with signs that carry slogans
such as “we promised and we delivered” and “Egypt comes first”. For example, the bridge that passes over the 4.5 entrance to Ezbet El-Haggana labelled “Kobry Al-Gaish Al-Masry” or “The Egyptian military bridge” has one of these signs almost every 2 meters.

Figure 10: Nationalistic sign on a bridge: “Egypt the nation”
Source: author.

The 2015/2016 national public budget allocated EGP 100 million specifically to the National Roads Program (Ministry of Finance, 2016). This is the first time such a program has been announced that is dedicated specifically to the building of roads. In early 2016 the Minister of Planning announced that the government will establish an independent fund dedicated specifically to investing in infrastructure; the fund will be owned by the state and will include subsidiary funds for each infrastructural sub-
sector (Daily News Egypt, 2016). This corresponds with announcements by the Minister of Finance in July 2016 in which he claimed that Egypt’s infrastructure projects are “the cornerstone of the recovery of the Egyptian economy” (Samir, 2016). He cited an increase in the GDP growth rate from 2.2% in 2013/2014 to 4.2% in 2014/2015 and credited these signs of recovery to infrastructural mega-projects such as the road networks project and the Suez Canal project (ibid.).

This trend continued in the 2016/2017 budget, as the investment plan for that fiscal year allocated EGP 60 million towards improving and upgrading 22 roads in 9 different cities (Ministry of Finance, 2016). This trend is also reflected in the state focus on building new cities. In July 2016 the Minister of Housing stated that NUCA would be starting the biggest investment plan in its history. The value of its investment budget – the entirety of which goes towards housing, infrastructure and services in the new cities – in fiscal year 2015/2016 had been EGP 22 billion, which increased in fiscal year 2016/2017 to EGP 37 billion (NUCA, 2016). The 2016/2017 figure would constitute 70% of NUCA’s total investment funding since its inception in 1979.

As described by one Egyptian economist:

“Every era is characterised by a prevailing economic trend. The 1950s and 1960s is remembered as the period of nationalisation and socialism. The 1970s witnessed the return to a market economy with the Open Door Policy. The 1980s saw a search-for-an-identity phase, followed by a privatisation wave and later, in the 1990s and 2000s, a shift to local monopolies and foreign investments. As we look at the new phase, which started three years ago, a clear trend is government-launched national projects referred to as mega-projects” (El-Shenety, 2016).

As mentioned earlier, infrastructure and construction have always played a seminal role in the Egyptian state’s approach to politics. However, in the
post-2011 context, the number of infrastructural mega-projects and the rhetoric surrounding them has taken on more attention than at any previous time in Egypt’s post-1952 history. While each of the previous eras had one or two mega-projects, the current regime has a list of seven such projects.

These projects have been marketed by the official media as a way to revive foreign direct investment, which has been in decline since 2011, and provide much-needed sources of foreign currency, of which Egypt has been suffering from severe shortages. In the words of Housing Minister Mostafa Madbouly “National mega-projects are the way forward for Egypt” (Hafez, 2016).

President Al-Sisi was sworn into office in June 2014 and by August of the same year he had already announced plans to construct a new shipping lane alongside the existing Suez Canal, thereby increasing its capacity and decreasing the waiting time for ships using the Canal. The project was not portrayed in official discourse as a new shipping lane, however, but rather as a new Suez Canal. In the words of the chairman of the Suez Canal Authority on state television: “This giant project will be the creation of a new Suez Canal parallel to the current one” (Reuters, 2014). The president announced that he had challenged the project workers to complete it at an incredibly fast rate (within one year) with an approximate cost of USD 8 billion (Barnes, 2014). In September 2014 Al-Sisi announced that one of the goals of the project was to restore the self-confidence of Egyptians, as well as strengthen the state against those trying to undermine it (Saleh, 2014). The inauguration celebration of the new Suez shipping lane in August 2015 was, as one media outlet describes, “endless, expensive and unceasingly nationalistic” (Magid, 2016). The completion of the Canal in under one year was surrounded by stories about the president pushing workers to labour overnight for the sake of the Egyptian people. The official opening was an enormous event with signs hung all over Cairo, and a large celebration gala “featuring specially flown-in palm trees, a naval air show and a special
performance of Verdi’s ‘Aida’” (Hafez, 2016). The new Suez Canal lane was to be followed with a project to develop the entire canal region.

Other mega-projects include the plan to build a new administrative capital on a vast piece of vacant desert land along the Cairo-Suez road. To use these projects as a platform to encourage international investment in Egypt, a high-profile summit was held in March 2015 called the “Egypt Economic Development Conference”. On the first day of the conference President Al-Sisi announced his plans to build the new capital, complete with a park twice the size of New York City’s central park.

![Figure 11: Mega-projects in the news](image)

Headline reads “86 projects by the Armed Forces Engineering Agency with a cost of EGP 4 billion annually” (Source: Al-Ahram, 2018)

Also presented at the conference was the “Egypt Vision 2030” strategy document, outlining several other mega-projects that were planned to lead to a “competitive market and happy citizen” (Ministry of Planning, 2015a). The strategy outlines four mega-projects in addition to those discussed above, which are the million-unit social housing project, the Golden Triangle project (which involves building a new mining zone between Qena, Safaqa and Al-Queseir cities), developing the North Coast area of the Mediterranean Sea, and the construction of 4,800 kilometers of new roads. These projects have been referred to by the president as necessary in order to boost public morale and confidence in the state (Menas
These projects have garnered significant attention in the media, and official media in particular has uncritically praised these efforts. The amount of money planned for investment in these projects, and in infrastructure in general, is enormous; the new administrative capital is expected to cost USD 45 billion. In addition, the 2015/16 national plan allots USD 9 billion to electricity generation, USD 25 billion to the building of nuclear power plants, EGP 2 billion to the 4th and 5th metro lines, and EGP 100 million to the National Roads Program (Ministry of Finance, 2016). The 2015/2016 national plan dedicates a section specifically to the national mega-projects, stating that “the plan has given priority towards funding the national mega-projects that are listed as part of the presidential platform/program” (Ministry of Planning, 2015b). To further garner support for these projects, a “mega-projects conference” was held in December 2015. It was announced months in advance and was endorsed by Egypt’s Ministry of Investment, with high-level ministerial participation, as well as heavy private sector and investor participation.

In this section I provided an overview of the historical and contemporary role played by infrastructure in projecting certain political imaginaries. One such imaginary is the state itself, and its production as a powerful external actor, which I address in the next section.

The capacity of the promise of progress to enchant the masses has been noted by Ghannam (2002) in her description of how residents of the popular Cairo neighbourhood Bulaq would gaze fondly at the upscale neighbourhood Zamalek across the Nile, because they felt that their proximity to Zamalek raised their neighbourhood’s social status (p.77). Reflecting on this within the context of another popular Cairo neighbourhood, al-Zawiya al-Hamra, she argues that the masses are “not outside the discourses and processes of modernity” (Ghannam, 2002, p.21). In my own fieldwork in Haggana I noted a similar phenomenon, as
several of the residents I interacted with also gazed fondly at the newly-constructed military housing on the area’s eastern border, and described how soon the area would be filled with upscale shops, cafes, and shopping malls that would raise the status of Haggana. According to them, the existence of these new buildings would push the government to upgrade Haggana’s water, sanitation, and electricity networks, and it was for this reason that the natural gas company had begun connecting Haggana to the gas network. Once the area’s infrastructure is upgraded to the modern standard of the adjacent new buildings, Haggana, according to the majority of my interviewees, would no longer be one of the ashwa’eyat. In their eyes, infrastructure was so powerful that it held the key to converting them into a legitimate part of the city.

I argue that infrastructure and construction, through their promise of prosperity, are not only part of the modernization process, but reflecting on the previous section’s account, also integral to the process of state-making itself. Ghannam (2002), drawing on Berman (1983), has argued that the former Egyptian president Sadat is more adept at manipulating discourses and images of progress and development than he is at effecting actual progress in the lives of people. This, she argues, makes him a “pseudo-Faustian developer” (Ghannam, 2002, p.39). I contend that this is not unique to President Sadat but rather emblematic of the Egyptian state from 1952 up to the present.

The capacity of infrastructural projects to foster sentiments of state support, patriotism, and patience for the sake of national development creates a sort of “nationalistic infrastructure” such that infrastructure becomes embroiled with nationalistic sentiments.

Another way through which the state effect is produced is through the disciplining, or “meticulous organization” (Mitchell, 1991, p.92) of space. If the state maintains its power through creating the effect of order and control, which is done through many mundane practices including spatial
ordering, what does this entail for how we understand spaces that supposedly emerged in contravention of this ordering, such as informal areas?

As shown above, the media often described informal areas as lying outside the power of the state. The state’s response to this was dominated by one particular approach: installing infrastructure. Water, electricity, and roads, were all used as methods for the state to prove that informal areas were within its realm of power.

4.9 Conclusion

This chapter argued that the relationship between informal areas and the Egyptian state is a highly complex one that has revolved greatly around infrastructure, and that has mirrored the way the state governs in general – which is “flexibly”. Infrastructure has constituted one of the primary tools through which the state has intervened in informal areas, and although this chapter focused on infrastructure in general, as opposed to the rest of the thesis which focuses on water infrastructure specifically, it is crucial as a frame within which to understand how water infrastructure is governed.

The chapter also showcased the role that infrastructure has played in producing public spectacles that foster the image of the state as powerful and progressive. This image is heavily dependent on and constructed through infrastructural interventions, and can be observed not only after the 1952 coup, but also after the 1977 riots, the 1993 terrorism attacks, and the 2013 political crisis.

The state has relied on construction and infrastructure to ensure that it is imagined by the masses as revolutionary, legitimate, and powerful. The process of establishing the state’s power and legitimacy was tied not only to controlling urban space through infrastructure in general, but also to effecting its presence within informal areas. Infrastructure has, for decades, served as a tool for effecting state power and as a physical
materialization of that power. This has remained consistent throughout different political periods despite seemingly divergent state ideologies. However, as Dorman (2007) shows, the post-1952 political order shares certain commonalities that seem to supersede the different ideological discourses prevalent during each era.

Examining state attention given to infrastructure and construction and examining the prevalent discourses surrounding these processes during the periods after the 1952 coup, the 1977 riots, the 1993 terrorist attacks, and the 2013 political crisis, it becomes clear that infrastructure cannot be understood separately from the prominent narratives surrounding it, including modernity, hygiene, security, and development. Harvey and Knox (2012) link the construction of infrastructure to certain modernity-related promises, such as speed and connectivity. The discourses surrounding this process are, they argue, a form of “enchantment” (Bennett, 2001; cited in Harvey and Knox, 2012) such that they “produce a generalized sense of social good to which the majority of people subscribe” (Harvey and Knox, 2012, p.522). I thus showed that modernity was one of many discursive tropes used to link infrastructure strongly with the idea of state power and legitimacy.

I also demonstrated that the state has frequently relied on infrastructural mega-projects surrounded by nationalistic hyperbole not only to showcase its ability to bring modernity to the masses, but also to suppress dissent in the name of national development. Furthermore, since the early days of the phenomenon of informal areas during the 1960s, state-led interventions in those areas have often focused heavily on infrastructure and less on social or legal interventions. These infrastructural interventions are often showcased by the state in the official media as attempts to bring modernity even to the poorest of citizens, to protect the country’s security and development achievements, and the beautify the capital. Overall, infrastructure has tended to constitute the main tool through which the state attempts to control the phenomenon of informal areas. I show how
the upgrading of informal areas through basic infrastructure (such as water) has often taken place in tandem with the strategic placement of roads to contain or de-densify neighbourhoods.

Overall, in this chapter I argued that infrastructure is simultaneously a materialization of the effect of the state, as well as a central instrument through which the Egyptian state governs its capital and particularly its “unruly” populations within that capital. Infrastructure’s capacity to both effect a material state and govern difficult spaces and populations is what has made it so effective at reifying the state and transforming it into a powerful external structure in the minds of the masses.
Chapter 5 – Producing Egypt’s Water Scarcity

5.1 Introduction

Providing drinking water to urban dwellers continues to be a problematic issue in the Global South. But to fully comprehend the workings of urban water scarcity, it must be understood in its broadest form, encompassing “multiple scarcities” (Ioris, 2012, p.614) that are often a manifestation of uneven development. In this chapter I look into the situation of potable water in Egypt, including the natural resources it is extracted from, the institutional framework through which it is governed, and some aspects of its management and distribution that I believe are key to understanding the governance of water infrastructure in urban Egypt. Egypt has been classified as a high water stress country, due to limitations in its natural water resources. However, I argue here that despite Egypt’s “water stress” in regards to its natural water resources, much of the water scarcity that urban Egyptians face in their daily lives is not natural but rather artificially produced by the water governance system.

I begin in section 5.2 with an overview of the natural and institutional dimensions of water provision in Egypt. In section 5.3 I delve into the issue of urban water scarcity in Greater Cairo, highlighting the multiple forms and underlying factors. I turn towards the distribution of potable water across different urban areas. I argue that the flow of water through its infrastructure in Egypt is spatially biased, and I evince this through a comparison between Cairo’s and New Cairo’s per capita shares of water. I contend that this bias mirrors an overall state bias towards Egypt’s new cities, and a relative neglect of existing cities and the informal areas within them. I then turn towards the mainstream narrative propagated by the state which is that water infrastructure in the new cities will avoid the problems faced by water infrastructure in the existing cities. Focusing on the city of New Cairo, I show that despite the fact that the flow of water has been biased towards New Cairo, it is still dealing with many of the
same issues as Cairo is, including an urban water crisis. These arguments build on arguments made in Chapter 4 regarding the, flexible, ad hoc nature of governance, and underscore that discourses manipulated by the central state are rarely manifested in residents’ daily lives. Ultimately, the chapter serves to highlight the multiple, often hidden, forms of water scarcity that exist in Cairo, and sheds light on how unequal spatial distribution of resources along with poor water governance practices produce this scarcity.

5.2 The provision of water in Egypt

Egypt’s water resources are limited to the Nile River (its main source of freshwater, covering 95% of the annual freshwater budget). For the governance of the distribution of the Nile waters, Egypt signed an agreement with Sudan in 1959 that sets Egypt’s share (FAO, 2016).

Other sources of fresh water in Egypt are deep groundwater in the Delta, the Western Deserts and Sinai, and little rainfall (Elshopky, 2008). Groundwater is considered a potentially important source of fresh water in Egypt because 95% of Egypt’s area is desert land, for which groundwater is the main source. However, despite ongoing efforts until now this desert land continues to be mostly uninhabited.

Agriculture is the largest component of the water demand in Egypt, consuming more than 85% of annual water use, while around 8% goes to domestic use, 6% for industry, and the remaining less than 1% to navigation and hydropower (FAO, 2016). While Egyptians for decades had to contend with the flooding of the Nile every year, the establishment of the Aswan High Dam in 1964 meant there was now the ability to store large volumes of water and ensure a fixed water yield for the country. The High Dam is considered a turning point in Egypt’s history in regards to water, electricity and agriculture (ibid.).

As for the governance of drinking water, the institutional landscape for
Egypt’s governance of water has always been quite variegated. Egypt’s first water companies were created during the colonial era by European investors in the country’s main cities Cairo and Alexandria during the 1860s. However, alongside these companies, other cities utilized different forms of governance, such as municipal institutions. When President Nasser nationalized the water governance system in the 1950s, national institutions were created for the management of potable water and sanitation respectively (Elshopky, 2008).

Egypt’s water sector today is governed through three central institutions: the Egyptian Water Regulatory Authority (EWRA), the Cairo and Alexandria Public Water Organization (CAPWO), and the Holding Company for Water and Wastewater (HCWW). The HCWW has subsidiary water and wastewater companies in the governorates. There is also the National Organization of Potable Water and Sanitary Drainage (NOPWSD), which is responsible for setting the national policies and designing national-level projects (Presidential Decree no.197/1981, and revised in 2007). The CAPWO is responsible for implementing all projects in Greater Cairo and Alexandria (Ministerial Decree 497/1981 and 372/2006, and 296/2007). According to the Cairo Governorate strategy for informal areas, the CAPWO is currently implementing all wastewater projects in informal areas in Greater Cairo with “no input from local administration” (p.23). The EWRA is responsible for supervising the sector, and HCWW is responsible for the day-to-day management of water in the different governorates through its subsidiaries (Presidential Decree 135/2004). The subsidiaries are also responsible for collecting bills and for maintenance. Within Cairo, drinking water is managed through the GCWWC. All the aforementioned potable water institutions are also subsumed under the MoHUUC. Other utilities (namely, electricity and natural gas) have their own ministries and thus do not follow MoHUUC.
Additionally, the municipalities also play a small role in the potable water sector, as applicants for household water connections must first apply to the municipality for a letter indicating their building is licensed. This letter is one of the documents required for submission to the water company when applying for a household water connection. The municipality is also required to inform the water company of any illegal connections it observes within its jurisdiction. The municipality provides the water company with the license to dig, and the company is responsible for returning the streets where they have undertaken digging and construction to their original state. The municipality is also mandated to carry out very simple maintenance.

5.3 Acknowledging Egypt’s urban water scarcity

The issue of water access has long been contentious for Egyptian citizens, who continue to face many difficulties in accessing clean water, despite the repeated investment of billions of Egyptian pounds by national government as well as foreign donors (Shawkat, 2012). Despite these investments, Egypt’s highly bureaucratic water institutions have struggled
to keep up with growing populations and rapid urbanization, while at the same time dealing with internal red tape and corruption. When broaching the topic of drinking water in Egypt, one is often confronted with the fact that Egypt has been classified as a high water stress country (Afifi, 2011). Egypt’s water stress, as well as the high cost of the available alternative water resources (such as desalination) has led many government officials to point to demand management as a high priority in national water plans (Hamza and Mason, 2006). Such a narrow understanding of deprivation hides the complexity of the phenomenon by privileging the natural and the technical at the expense of the socioeconomic and political. The fact of the matter is that demand management is already occurring in a very uneven way. While the country’s elite have access to lush golf courses with large water fountains, swimming pools, and unlimited access to 24-hour clean water, poorer areas are often given water just for a few hours a day, and sometimes not even in their homes (Shawkat 2012).

Overall, urban water scarcity has been largely denied or interpreted as the result of population pressures and budgetary constraints. This line of argument is often used by government and international aid agencies. For example, UN-Habitat has recently framed gaps in water and wastewater access in Cairo’s informal areas using language that suggests a well-intentioned government that lacks the technical capacity to handle “informal areas that are growing at a pace too fast for government infrastructure and upgrading projects to keep up” (UN-Habitat, 2011, p.57).

During an interview I conducted with two GCWWC officials in 2013, I asked whether there were any areas in Cairo that do not have water, and received a firm “no” in response (Interview 1, two GCWWC officials, 2013). Later that day, I visited some residents in Haggana who informed me that they were still not connected to the public network. The origin of this discrepancy lies in the way I phrased my question: “Are there any areas in Cairo that do not have water?” This phrasing fits very conveniently with the way the water company presents its data, because it implies a very broad
form of access and does not concern itself with details of the source of water, the quality of water, or the regularity of that access. A few months later I interviewed another, more senior, official in the Cairo Water Company and rephrased my question asking “Are there any areas that aren’t covered by the public network?”. In this case I got a slightly different answer: “Yes, there are areas not covered by the public network” (Interview 8, GCWWC official, 2014). I exhibited my surprise that official statistics indicate 100% coverage despite the official’s acknowledgement that the coverage rate was actually lower than that. His response surprised me further:

“The statistics we produced don’t only count formal connections to the network, but also those that are informally tapped into the network. This is because we do not count the number of household connections but rather we check whether or not the neighbourhood has a water main passing near it and then count the population size of that neighbourhood” (Interview 8, GCWWC official, 2014).

This corresponded more accurately with the 2006 national census data that showed that 30,350 people in Cairo relied on a water source outside the public water network (such as a groundwater pump or well), and that out of the 6,657,611 inside the public network, only 6,309,727 had a tap inside their home, while 125,909 relied on a shared tap for the whole building and 221,975 relied on a tap outside their home (CAPMAS, 2006) (see Table 4). However, aside from being quite dated, the census data is notorious for under-counting informal areas and does not provide any information regarding whether access to water is formal or informal.
<table>
<thead>
<tr>
<th>District</th>
<th>Number of those without tap in home (descending order) (CAPMAS, 2006)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manshiyyat Nasser</td>
<td>65,670</td>
</tr>
<tr>
<td>Masr El-Qadima</td>
<td>28,074</td>
</tr>
<tr>
<td>East Madinat Nasr (EMN)</td>
<td>24,694</td>
</tr>
<tr>
<td>El-Sharabeya</td>
<td>21,234</td>
</tr>
<tr>
<td>El-Marg</td>
<td>20,423</td>
</tr>
<tr>
<td>Hadayeq El-Qubba</td>
<td>15,866</td>
</tr>
<tr>
<td>El-Salam</td>
<td>14,667</td>
</tr>
<tr>
<td>El-Sahel</td>
<td>12,108</td>
</tr>
<tr>
<td>El-Matareya</td>
<td>11,884</td>
</tr>
<tr>
<td>El-Sayed Zainab</td>
<td>11,528</td>
</tr>
<tr>
<td>West Madinat Nasr</td>
<td>2,733</td>
</tr>
</tbody>
</table>

Table 4: Numbers of those in Cairo without a tap inside the home

These deficiencies in the available data regarding water access renders many forms of water scarcity hidden. The scarcity of water is certainly a physical phenomenon, but it is also the result of the intersection between poverty and inequality (Ioris, 2012). Planners have to deal with several dimensions of water use, in particular with their spatial and temporal manifestations (Molle and Mollinga, 2003). In using the term “scarcity” here I refer not to the political discourse of constructed scarcity described by Kaika (2003, 2005), but rather the material experience of water shortages felt by residents in their daily lives. For this I rely on the conceptualization of water scarcity put forth by Molle and Mollinga (2003), which highlights the multiple potential causes of material water scarcity: physical, economic, managerial, institutional, and political scarcity.

The above makes recent data by the Cairo Governorate all the more salient. A report produced in 2013 by the governorate’s UUU presented the outcomes of a much deeper study of water infrastructure in Cairo’s
informal areas\textsuperscript{36}. The report, titled “Strategy for the Provision of Water and Wastewater Services in Informal Areas”, classifies informal areas according to the level of access they have as follows: i) areas with no water service, ii) areas with a service line going through the area but no formal network, iii) areas with water service only at the border, and iv) Areas with network service. The significance of this report, aside from the fact that it is the first state-led study to focus specifically on water in informal areas, is that it is the first instance in which an official state body acknowledges not only that water scarcity (in its broadest definition as explained above) exists within Cairo, but also that it can exist in multiple forms.

The report finds 3 areas in which there is no water service\textsuperscript{37}, 10 areas with a service line through the area but no formal network\textsuperscript{38}, 14 areas with water service only at the border\textsuperscript{39}, and 14 areas with network service\textsuperscript{40}.

The nuance presented in this data makes for an interesting comparison with the CAPMAS statistics of network coverage in Cairo\textsuperscript{41}. I present one example below (see Table 5), which shows that there is a very clear case of under-counting when it comes to water access in the national census. It is, of course, not a straightforward comparison, since the census uses different categories (inside the public network and outside the network) than the Cairo governorate report (full network service, service line going

\textsuperscript{36} The strategy was jointly published by the Cairo governorate and the short-lived ”Ministry of Water and Wastewater Utilities”, which lasted for less than a year, and was then re-subsumed under the MoHUUD. The strategy is supported by GIZ’s WWMP project, which was planned from 2007-2015 but has been extended until 2018.

\textsuperscript{37} Ein El-Seera in Masr El-Qadima; Markaz El-Shabab in Manshiyyit Nasser; Mantiqat Al-Qabr in West Madinat Nasr.

\textsuperscript{38} El-Nahda, Wadi Faroun, El-Narsh, Hadabet El-Hirafeyeen 2, and El-Khazzan in Manshiyyit Nasser; El-Sad El Aly in El-Salam; El-Zayaeb in El-Marg; Masakin Arab El-Hesn and El-Ezab in El-Matareya; and Ezbet Abu Qarn in Masr El-Qadima.

\textsuperscript{39} Tal El-Aqareb and El-Mawardy in El-Sayida Zainab; Abu El-Suoud and Batn El-Baqara in Masr El-Qadima; Gabal El-Muqatam, Ard El-Simad, Hadabet El-Hirafeyeen 1 in Manshiyyit Nasser; Ezbet El-Ward in El-Sharabeya; Ezbet El-Arab and Ezbet El-Arab Aala El-Gabal in West Madinat Nasr; Suq El-Gomaa in Khalifa; and Ramlet Bulaq; Kabish and Arcadia in Bulaq.

\textsuperscript{40} Ezbet Abu Hashis in Hadayiq El-Qubba; Ezbet El-Haggana in EMN; Istabl Antar, Ein El-Khayyala, and El-Madabigh in Masr El-Qadima; El-Sad EL-Aaly, El-Assara, Abu Regeila in El-Salaam 1; Dayer El-Nahya and Ezbet Wahba in El-Sahel; Ezbet El-Arab in West Madinat Nasr; Hikr El-Sakakeeny old and Hik El-Sakakeeny new in El-Sharabeya; Unintelligible.

\textsuperscript{41} The lowest spatial level at which 2006 census data is presented is that of the sheyaakha, an administrative division that can be roughly translated as a “sub-district”. In the few cases where an informal area constitutes a sheyaakha, it is possible to compare both sources of data.
through area, service only at border, no service). However, the comparison is still useful as it shows how different categorizations, or different definitions of access, can result in very different impressions of water needs. The discrepancies between both sources of data show very clearly the politics involved in measuring water scarcity, particularly in the capital Cairo where the government has repeatedly highlighted its achievement in reaching a 100% coverage rate in Millennium Development Goal (MDG) reports (e.g. UNDP and MoP, 2015).

<table>
<thead>
<tr>
<th>District</th>
<th>Level of water access according to CAPMAS (2006)</th>
<th>Level of water access according to Cairo governorate (2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manshiyyit Nasser District</strong></td>
<td>95% connected to public network, and 5% outside public network</td>
<td>80% have full networked service 20% lack full networked service</td>
</tr>
<tr>
<td><strong>El-Khazzan sub-district</strong></td>
<td>Only one family (three individuals) are outside the public network.</td>
<td>Neighbourhood has only a service line going through the area but no formal network.</td>
</tr>
</tbody>
</table>

Table 5: Water access in Manshiyyit Nasser

Furthermore, officials have long denied that informal areas suffer from a lack of water, claiming that they all simply steal water. That the existence of water scarcity in Cairo’s informal areas has finally received official acknowledgement constitutes, in my opinion, one of the most important developments regarding water and informality in the post-2011 era.

In general, there has been limited analysis within Egypt of the connection between multiple forms of scarcity and the associated production of contained abundance that underpin water problems. Understanding the spatial manifestation of water scarcity in an agglomeration like Greater Cairo is particularly significant as the two dominant forms of urbanism within the region have become informal areas and new desert cities that are littered with upscale gated communities. In the remaining two sections I focus on what I argue are two of the main factors leading to the production of urban water scarcity in Greater Cairo: uneven spatial
distribution of resources, and poor water governance practices.

5.4 Water spatial inequality

In this section I turn to the flow of water and demonstrate that the distribution of potable water in Egypt is spatially discriminatory, and that this discrimination is largely legally mandated. I argue that the flow of water largely follows the obsession with modernity I highlighted earlier in the thesis.

In technical analyses of potable water, distribution is often portrayed as something neutral and apolitical, governed by inanimate objects (pipes and valves) that could not possibly express bias. Other perspectives have taken a more critical stance to show how the flow of water is embedded within the urban biases that dominate the city as a whole, thus reflecting them. Egypt is a highly centralized state and Cairo receives the second highest per capita share of water (the highest per capita share is the North/South Sinai water company, which is due to Sinai’s very low population but large presence of tourist resorts that are not counted in the official population count). In 2010/2011\(^\text{42}\) Cairo had a per capita daily share of 599 liters per capita per day (l/c/d) of produced water, followed closely by Alexandria at 591 l/c/d, and Giza at 354 l/c/d. The poorest upper Egyptian governorates’ shares fall gradually, reaching 109 l/c/d in Minia.

This means that the per capita share of produced water for Greater Cairo is around 476 l/c/d. Official data estimates water losses at 31%, and thus for Greater Cairo’s 476 l/c/d per capita share of produced water, the average per capita consumption falls to 328 l/c/d. However, other sources, such as a 2008 Cairo Future Vision document produced jointly by JICA and the state’s GOPP, estimates that actual per capita consumption in Greater Cairo could be as low as 130 l/c/d based on higher estimates of both network losses and household losses (GOPP and JICA, 2008).

\(^{42}\) The data on per capita shares of produced water comes from the EWRA, but unfortunately the last national report it produced or at least publicized was in 2010/2011.
The GCWWC is responsible for distributing water to Cairo’s 39 districts, Giza city’s eight districts, and Shubra Al-Khaima’s two districts. It does this through 18 water stations, 16 of which extract water from the Nile while 2 extract water from the Ismailia Canal (GOPP and JICA, 2008). These 18 water stations produce varying volumes of water daily. The table below shows the amounts produced by the water stations in Cairo city and its adjacent new cities, and the resultant per capita shares.

The per capita share calculated in the table below (see Table 6) for Cairo’s existing urban agglomeration in 2008 by JICA and the GOPP is 633 l/c/d which is higher than that provided by EWRA in 2010 at 599 l/c/d. This could be due to the fact that between 2008 and 2010 the per capita share fell, or it could be a result of differences in data sources (the former relies on USAID data while the latter relies on data provided by water companies).

Either way, the table below reflects an important issue: the new cities around Cairo (Badr, Al-Sherouk, New Cairo, 15th of May, 10th of Ramadan, and Al-Ubour) all received higher shares of water than the existing city in 2008.

Part of the reason for such diverging shares of produced water is that Egypt’s water code – an official manual establishing the technical standards for the planning and implementation of potable water and wastewater infrastructure – legally mandates such water discrimination. The code sets standard per capita consumption levels for the different spatial categories across the country. It was published in 1998 by the Housing and Building Research Center, affiliated with the MoH. It sets the standard per capital consumption (without calculating water losses) in the new cities at 300 l/p/d, while the per capita consumption for the capital cities of Egypt’s urban governorates is set at 220 l/p/d. Furthermore, the marakiz (capital

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43 Within Cairo’s existing urban agglomeration, the amount of water produced by the different stations varies widely, meaning there is a possibility that different districts receive different shares of water. Unfortunately, it is not possible to examine the per capita shares between districts in Cairo city because data is not available at the district level. Although there is 2007 data on which area each station serves, it is possible that one area may be receiving water from more than one station, so it is not possible to determine the exact population that each station serves.
centers of rural governorates) are given a standard per capital consumption of 180 l/p/d, while rural villages (populations under 50,000) are set to a standard of 150 l/p/d. This demonstrates that spatial water discrimination is integral to Egypt’s water governance approach. However, this data was produced in 2008, which makes it quite dated.

<table>
<thead>
<tr>
<th>Area</th>
<th>Per capita share (litre/person/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Cairo urban agglomeration</td>
<td>634</td>
</tr>
<tr>
<td>Badr</td>
<td>1,944</td>
</tr>
<tr>
<td>Al-Sherouk</td>
<td>1,071</td>
</tr>
<tr>
<td>New Cairo</td>
<td>1,760</td>
</tr>
<tr>
<td>15th of May</td>
<td>652</td>
</tr>
<tr>
<td>10th of Ramadan</td>
<td>3,686</td>
</tr>
<tr>
<td>Al-Ubour</td>
<td>2,443</td>
</tr>
</tbody>
</table>

Table 6: Per capita share of water in Cairo and new cities  
Source: JICA, 2008

The website of NUCA provides relatively up to date data regarding some of the new cities, but unfortunately not all. According to the NUCA website (2015), New Cairo’s share of water is 360,000 cubic meters per day, which would mean an average consumption of approximately 300 l/p/d if the population size is estimated to be 1,300,000 according to the NUCA website (NUCA, 2015). However, if we use the lower population estimate from the Central Agency for Public Mobilization and Statistics (CAPMAS), which is 138,154, the per capita, consumption goes up to 2,605 l/p/d. The NUCA estimate of New Cairo’s population may be inflated, but the CAPMAS estimate is very likely underestimated since it is from 2006. An average of the two gives a population of 719,077, which would result in a per capita consumption of 500 l/p/d sourced from the Al-Ubour plant. In

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44 For the full details of how this per capita share was calculated see Annex D.
addition, due to the ongoing water crisis in New Cairo (detailed in the next section), a new water plant has been constructed to produce 500,000 cubic meters of water per day, entailing an additional 695 l/p/d and bringing the total per capita share of New Cairo to 1,195 l/p/d, compared to the per capita share of Cairo’s existing urban agglomeration in 2010/2011 of 599 l/p/d.

However, setting aside the inequitable per capita shares of produced water, another dimension of spatial water discrimination is the financial inequity between different areas. According to the NUCA website, the authority invested EGP 212 million in water infrastructure in New Cairo alone in 2014/2015, and EGP 305 million in 2015/2016. In contrast, the sum of money all of Cairo city (population around 7.7 million) was allotted for slum upgrading in the 2015/2016 national budget was EGP 177.27 million. The amount the GCR (Cairo, Giza, Qaliubeya) (population around 20 million) received for slum upgrading was EGP 184.312 million, still less than the 305 million allotted to water in New Cairo (population estimates vary between 1.5 million and 138,000). The total amount spent on slum upgrading country-wide was EGP 685,840,000 (less than 700 million). This means that only one sector (water) in one city (New Cairo) received a higher budget than slum upgrading in the entire GCR, which includes three cities. In 2015/16 the targeted amount to be spent on water from the public treasury was EGP 25.8 billion.

According to the Ministry of Economic Development (2008), NUCA had built 29 water stations for the 5 million citizens living in new cities and extended 10,000 km of water infrastructure network, with a new station underway to keep up with demand. The station has not yet been completed, and its cost has been thus far an incredibly expensive 2.64 billion EGP, considering that the government budget during that financial year allocated a total 7 billion EGP for all water and wastewater projects across Egypt (AbdelAzim, 2014).
All of this points to one important fact: when it comes to spatial prioritization, the resources of the Egyptian state (whether natural or financial) have consistently favoured the new cities over informal areas.

5.5 Urban water crisis

Despite national statistics that boast near universal water coverage rates, if one were to follow the news media related to protests against water shortages, particularly within the second half of the 2000s, it would be quite easy to get the impression that Egypt is in the throes of a water crisis.

In the late 2000s, protests relating to lack of water access were taking place at an almost annual rate. Protests occurred in 2007 in areas on the Nile Delta (Aljazeera, 2007), and in 2008 around 500 people blocked the Cairo-Suez road to protests two months of water outages in the city of Suez (Williams, 2008). In general, there were several ongoing protests throughout 2007, 2008, 2009, and 2010. In 2013 there were protests against water outages in Suez again and North Sinai. By 2014 the protests had expanded to Minia and Alexandria, and to Fayoum, Asiat, and Gharbeya.

Although many of the protests that took place were outside of Cairo, water shortages were not absent from the capital. Frequent water cuts occurred even in the heart of the city, in neighbourhoods such as Madinat Nasr and the upscale, newly-built New Cairo.

Official data gives quite the opposite impression, citing that 97% of the country and 99.5% of Cairo is covered by the public water network. The gaps in such one-dimensional methods of measuring water scarcity have been well documented in academic literature (Ioris, 2011), and even within Cairo itself other statistics can give a more accurate impression. For example, one report states that 40% of Cairenes do can access water for only three hours a day (UCLG and CES, 2010), while the aforementioned study by the Cairo Governorate documented several informal areas that
have varying forms of inadequate water supply (Cairo Governorate, 2013).

For the past several years, Nasr City has suffered regularly from water outages almost every summer. In 2008 there was a water outage in Nasr City that lasted for over four days. On the fourth day of the outage, the head of the Cairo Water Company stated that the frequent water cuts in Greater Cairo were due to deteriorated networks, which the company was repairing, but he claimed the main cause was a problem with electricity that caused the pumps to stop working (Khater, 2008). Experiencing a water crisis in Nasr City has been an almost annual summer event. In October 2014 there was a break in one of the main water pipes, causing certain parts of southern Cairo to be cut off from water (Elbadil, 2014b). In August of that year, the GCWWC announced that water would be cut off from various areas in eastern and southern Cairo, including Nasr City and Haggana, due to a sudden break in one of the connections at the Al-Fustat water station, which serves all these areas (Mostafa, 2014a). Also in August, there were complaints from Nasr City residents that water was cut off for over 12 hours and in some cases even a full 24 hours. In September 2014 there was a malfunction in the Maadi water pump, causing water to be cut off from Nasr City, Haggana, Muqattam, and other areas. The prime minister blamed the malfunction on negligence on the part of the employees at the water station (Elbadil, 2014a). In January 2015 water outages occurred yet again in Nasr City and Haggana, and these lasted for 12 hours in order to conduct maintenance (Hasan, 2015).

Official statements blamed these outages on the deteriorated nature of the network, but this does not explain outages in new areas where the network is relatively much newer. In New Cairo, arguably one of the most upscale and prestigious new cities, the spatial water discrimination and resultant inequitable distribution between the new cities and existing cities has not actually entailed better access to water by its residents. The GCWWC and NUCA have been struggling to keep pace with New Cairo’s ever-growing consumption demands, despite the city’s relatively low
population levels. There were very few complaints about water from New Cairo before the late 2000s, possibly because population levels were very low at that time. From 2010 to 2012, water outages were still described by the media and government officials as individual occurrences resulting from random malfunctions or maintenance/expansion needs.

However, when I spoke with a senior official within the New Cairo City Authority, he used the term “New Cairo water crisis” for the first time to describe the situation (Interview 46, New Cairo Authority Official, 2015). The official blamed the water shortages in New Cairo on ongoing construction throughout the city that placed heavy stress on the water supply, and said that New Cairo at that time was consuming 410,000 cubic meters of water per day, 360,000 cubic meters of which it received from the Ubour station, and the rest from a nearby Qattamiya water pump. He cited plans by the GCWWC to build a new water station that would supply 500,000 cubic meters per day to New Cairo, out of a daily total of 2 million produced by the station (Interview 46, New Cairo Authority Official, 2015).

By 2014, nothing had changed, and even the Minister of Housing was prompted to speak of “the New Cairo water crisis” (Al-Ahram, 2014). The head of the GCWWC highlighted the delays in the completion of the new water station and warned New Cairo residents of an impending water crisis that summer (El-Gohary, 2014). In fact, he later announced that water would be cut off from 11 areas in New Cairo “indefinitely” due to one of the involved construction companies damaging a main water pipe (El-Manzalawy, 2014).

By the time the water station was finally built in late 2014, it had taken seven years and had cost five times as much as originally planned, from EGP 500 million to 2.6 billion funded by NUCA (Interview 15, NUCA official, 2014). NUCA immediately announced that it would call for tenders from private sector companies to operate the station for three years, rather than the usual process of the GCWWW controlling operation. By August 2014 the station had still not be opened, and the president had requested a full
report detailing what exactly had gone wrong. The Minister of Housing, Utilities, and Urban Development was making countless statements to the media about the corruption of past regimes as resulting in this chaotic situation (Mostafa, 2014b), and finally announced that the new station would begin operating in September, thereby solving New Cairo’s water crisis once and for all (Al-Ahram, 2014). However, from throughout 2015 to today, water shortages and outages in New Cairo have continued regularly (Al-Obeidy, 2015; Amin, 2015; Hasan, 2016a; Hasan, 2016b, Mohamed, 2018).

It is interesting that the water shortages in New Cairo are blamed on the continuous expansion of construction, which is increasing water demand. In Cairo and Giza (particularly when referring to the *ashwa’eyat*), shortages are blamed on “illegal” construction and resultant tapping into the network (Salama, 2016). The word “illegal” is never used when referring to New Cairo, but if we assume that all buildings in New Cairo are licensed, then the City Authority has the full ability to control the rate of construction (through licensing quotas for example) to ensure that water demand does not exceed supply. The extent of the problem has been such that a former high-level official within NUCA recently accused the HCWW of purposely sabotaging water service in New Cairo to fulfill a particular political agenda (Interview 15, NUCA official, 2014). Behind all this is an intense inter-governmental dispute between NUCA and the HCWW (Al-Borsa, 2012). NUCA has claimed that it is best suited to manage water in the new cities since it is most familiar with running the affairs of new cities (Negeila, 2016). The HCWW claims that part of its raison d’etre is to streamline the management of water distribution and maintenance and ensure that one entity is responsible for overseeing water access in all parts of the country (Interview 8, GCWWC official, 2014).

The water crises in Nasr City and New Cairo have many parallels, helping to draw several conclusions. In essence, Madinat Nasr is to the 1960s what New Cairo is to the present. As detailed elsewhere in this thesis, Nasser
presented Madinat Nasr as a nationalistic mega-project, where past urban planning and governance failures would be atoned for. Instead, what we see today is that Madinat Nasr does not constitute a separate city but has rather been completely subsumed into the existing city. In fact, it is one of the most reviled neighbourhoods among Cairenes, perceived as the locus of planning and governance failures. Today, New Cairo appears to be following the same path. Even though the system of governance is different, as detailed in Chapter 4, the same problematic aspects of urban governance are being replicated. The crisis in water governance in no exception, as it has been merely transferred from the existing city to the new. This has manifested not only in frequent water shortages, but also in inter-governmental disputes around the governance of water. Ultimately, despite centrally-level priorities of where natural and financial resources flow, governance failures have repeated themselves. Furthermore, governance failures are clearly not exclusive to informal areas, and they are repeated in formal areas of the existing city and even in new cities.

5.6 Conclusion

This chapter focused on the existence of water scarcity in Cairo and argued that this scarcity is not due to natural causes but rather is artificially produced. In regards to the different factors producing urban water scarcity, I highlighted the spatially uneven distribution of water and unsound water governance practices, and made two central arguments. The first argument is that the distribution of water in Egypt in general and Cairo specifically is spatially biased towards newer urban areas at the expense of the older, more deteriorated (and informal) urban areas. I linked this bias with a state obsession with modernizing the country and building new cities that are marketed as cities that meet global standards. The second argument is that despite this spatial bias, poor governance practices are ensuring that the same water issues facing existing cities are being replicated within the new cities, resulting in more water scarcity, despite forms of contained abundance that exist in gated communities.
Chapter 6 – Neoliberal reforms and Egypt’s water sector

6.1. Introduction

“Why is there is no water coming out of the shower?”
“The water is cut off from the entire neighbourhood.”
“No big deal, it will probably come back in a bit as it does every time.”
“No, it won’t! Haven’t you heard? They sold the water company, and the new owner is preventing home delivery!”

The above is a scene from the 2011 film Sarkhet Namla (The Scream of an Ant) that dramatizes the public reaction to the announcements made in 2004 that the public water authority was being converted into a company. In the film, after learning of this development, the characters go to the company premises to determine how they can obtain water. They are told they have to use prepaid scratch cards and charge their water meters the same way they charge their mobile phones. At the time this film was made, the notion of scratch cards to charge water meters may have seemed far-fetched or even comical, but as Egypt’s electricity company today is slowly adopting the use of prepaid meters, this scene seems more foreboding than humorous.

In this chapter I focus on the history of water governance in Egypt. I am especially interested in the narrative that drinking water in Egypt has been, and is continuing to be, neoliberalized. I question two dimensions of this narrative. The first is how neoliberal ideas take hold in practice, which some literature traces to the hegemonic nature of neoliberal discourse and the interaction of neoliberal ideas with existing legacies to produce a path dependent “actually-existing neoliberalism” (Brenner and Theodore, 2002). The second dimension I question is the impact of neoliberal reforms, which some literature has described in terms of the erosion of welfare (Brown, 2015) and state-rollback (Lockie and Higgins, 2007).

45 For example, Harvey (2005) states that “Neoliberalism has, in short, become hegemonic as a mode of discourse” that has “pervasive effects on ways of thought”.

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By tracing the history of water governance reforms and sectorial restructuring I uncover the process through which reforms went from being ideas and discourses to practices implemented “on the ground”. I then look into the impact these reforms have had on actual access to water by residents in informal areas, particularly in recent years.

My findings and arguments in this chapter draw from arguments around the link between the implementation of neoliberal reforms and illiberal governance techniques (von Schnitzler, 2008). Such reforms have not necessarily resulted in state-rollback but rather in a reworking of political concepts such as the role of the state in planning and in social welfare (Collier, 2011). I connect these ideas to what I describe as an unbundling of rights that has been taking place through the separation of water services from broader questions about the right to adequate housing. I also argue that neoliberal discourse was not sufficient to ensure the implementation of neoliberal reforms. Rather, despite the fact that neoliberal discourse was adopted within central institutions, executive institutions did not implement these policies until decades later. I contend that neoliberalism was enabled by the emergence of a discourse of patience for the sake of national reconstruction. This discourse ensured that the tendency of state institutions towards risk-avoidance was bypassed, enabling them to carry out unpopular reforms.

I begin this chapter by tracing the changes in the main policies within the potable water sector after 1952 to the reforms and tariff restructuring taking place today. I focus on the adoption of neoliberal ideas and discourses within official and donor-driven documents and projects. I find that while discourses of cost recovery and tariff increases were adopted within official documents as early as the 1970s, noticeable measures in this regard were not implemented until after 2012. I link this timing with state usage of a discourse of nationalism and fear of instability that further demobilized a public already exhausted from continuous political instability in the preceding years. It is this discourse, I argue, that enabled neoliberal
reforms to take hold, rather than discourses traditionally linked with neoliberalism such as citizen responsibility, economic efficiency, and scarcity of resources.

I then turn to the actual impacts neoliberal reforms have been having on access to water in informal areas. I highlight the expected impact of more people being dispossessed of their capital through the profit-seeking practices of water provision institutions, but I also find that overall access to water in informal areas has increased, and that governance institutions are finally acknowledging the complex forms of water scarcity that still exist in such areas. In other words, I find that rather than resulting in an erosion of state welfare measures (particularly the provision of public services such as water), state provision of services has increased. However, this has taken place within a process of unbundling, and water services have become divorced from the broader bundle of rights generally believed to fall under the broader right to adequate housing. The right to adequate housing, promised in the national constitution, guarantees adequate access to services in addition to adequate living conditions and secure tenure. I argue in this chapter that one of the more insidious impacts of neoliberal reforms has been the dismantling of this bundle of rights.

6.2. Reforming the water sector

Egypt’s first modern water supply was created during the 1860s during Egypt’s “Khedival” era. This took the form of water companies in Cairo and Alexandria created by European private investors, while the French-British Suez Canal Company operated the water supply for the Canal cities (Port Said, Suez, and Ismailia).

The period between the 1860s and the 1952 Free Officers revolution was characterized by agricultural expansion and irrigation projects, as well as by the signing of the 1929 Nile Waters Agreement with Ethiopia, both of which had the impact of increasing the water supply. Urbanization had
been increasing since the beginning of the 20th century in Egypt, and the urban fabric of Egyptian cities had been slowly transforming since the middle of the 19th century from palaces and mansions to apartment buildings (El-Shahed, 2016).

However, during the interwar period, urban planning and municipal development were not prioritized, and in the wake of WWII, building material prices soared and construction practically came to a halt (El-Shahed, 2016). Population growth, however, continued unabated and by the end of the war the country’s population had increased by 400,000 inhabitants. Egypt’s housing crisis, which endures today, had officially begun.

As described in Chapter 4, under Nasser’s rule, the state became more heavy-handed in his nationalization of enterprises in almost all sectors. The potable water sector was no exception. By 1956 the British companies responsible for the provision of water in Cairo and Alexandria had both been nationalized and converted into state agencies. The Cairo and Alexandria water companies were nationalized in 1956, as was the water supply for the three Canal cities.

Two national state agencies were subsequently established to oversee water supply and sanitation respectively: the General Organization for Potable Water (GOPW) and the General Organization for Sewerage and Sanitary Drainage (GOSSD). However, these two central-level organizations mainly oversaw the water supply and sanitation outside Egypt’s two main cities: Cairo and Alexandria. Within Cairo and Alexandria the water and sanitation infrastructure was owned and operated by the General Organization for Greater Cairo Water Supply (GOGCWS) and the Alexandria Water General Authority (AWGA), respectively. Within the larger provincial towns, water supply and sanitation was run by the municipalities and the governorate-level housing directorates. Thus, the planning for water and wastewater infrastructure was done separately, each by its own
organization, and as such, some areas were provided with water supply without being connected to the wastewater network. This problematic institutional fragmentation would later be highlighted by donors as the main motivation behind pushing for institutional reform, particularly given the deteriorating health and hygiene situation resulting from mismatched water and wastewater investments.

The proliferation of new dwelling styles in informal Cairo and the resultant increase in urban densities resulted in significantly higher, and unplanned for, pressure on existing public utility networks. In the words of the World Bank (WB): “Development, although rapid, became increasingly piecemeal, unplanned, and out of pace with the provision of urban infrastructure” (World Bank, 1986, p.5).

When Sadat came to power in 1970 and turned his attention to the country’s capital, he took notice in particular of its ailing infrastructure, which was struggling to keep up with the steady and rapid population increase. The 1976 census reported that around 34% of buildings in Cairo city were not connected to the public water network, but this percentage includes villas that were fully connected at the time (CAPMAS, 1978). When excluding villas and focusing only on dwellings classified as “houses” (manazil) and “buildings” (umarat), the percentage of unconnected structures rises to 65%. This percentage rises even more if we include the entire Greater Cairo metropolitan area, which includes Giza city and Shubra Al-Khaima city in addition to Cairo city.

When the 1977 bread riots erupted, the relationship between the Egyptian state and informal areas was arguably forever changed. However, these riots also had a more indirect impact on the Egyptian state, affecting the Egyptian government’s subsequent willingness to enact unpopular economic policies. After the riots, the Egyptian government was “extremely cautious of provoking popular protest and political unrest through the introduction of drastic austerity measures” (Seddon, 1990,
Ready to solidify their new alliance with Egypt, western donors were quick to offer their assistance in addressing the plight of urban services and infrastructure in Cairo. Thus, in 1978-1979, the WB and USAID commissioned a series of reports to assess the condition of water and wastewater in Greater Cairo. In line with its previous recommendations for Sadat to end subsidies, the WB project blamed the gaps in services for the urban poor on the government’s policies of rent control and service subsidization. The WB was at the time implementing its first pilot project to upgrade Manshiyyit Nasser in Cairo, which included promoting non-subsidized utility pricing among the relevant utility agencies. It thus aimed to demonstrate to the government the viability of providing non-subsidized services and guided institutional reform in this direction. It aimed to introduce technological solutions for “slum-dwellers” to access urban services at a low cost and therefore removing any need for direct subsidies (World Bank, 1986).

The water sector reports highlighted the poor condition of the public networks, large gaps in coverage levels, a lack of proper and regular maintenance, low water pressure, and frequent water outages. Based on these reports, there was substantial international donor interest in physical rehabilitation and expansion of water and wastewater infrastructure, particularly in Cairo. The WB, USAID, and JICA all invested millions of dollars into upgrading the water and sewerage networks in Egypt’s main cities.

The entities responsible for the governance of water and informal areas at the time were the Cairo governorate, the Cairo Potable Water Organization (CPWO), the GOSSD and the GOPW. As the WB was trying to present a pilot of its in-situ upgrading approach in Cairo’s largest informal area, it also invested USD 2 million in a project to present a pilot for institutional reform in the potable water sector in the same year. This project, which
began in 1978, was implemented in Beheira and Kafr El Sheikh governorates, and focused on conducting studies that established the need for sectorial decentralization and reform. The project’s recommendations in the Beheira governorate centered on converting the public utility service into a public company that would provide non-subsidized water services so as to be financially self-sufficient and eliminate the need for public funding. These recommendations led to the establishment of the Beheira Water Company (BWC), which was meant to serve as a model in setting up other such companies in the rest of Egypt’s governorates.

The WB, as it had done in its urban development project, once again blamed gaps in network coverage across the country on excessive intervention by the state. According to a 1982 WB report, converting water provision facilities from local units following their respective governorates into autonomous public companies would create the needed decentralization and ensure that water provision operated efficiently and effectively.

When Mubarak came to power in 1981, housing and infrastructure were both high on the agenda, inferred from his policy announcements and speeches (ABT Associates & GOHBPR, 1981). One of Mubarak’s first decisions was to lend official support to the WB’s recommendation of creating autonomous water and wastewater companies in the governorates. Thus, the first provincial autonomous water company (the BWC) was formally established by Decree 198/1981. Also that year, the Egyptian government initiated reforms in the sector by merging the GOPW water agency with the GOSSD sanitation agency, creating the NOPWASD through Presidential Decree 197/1981.

Based on the government support it had received, the WB increased its investment in the Beheira governorate where it had piloted its recommendations in establishing the BWC. While in the 1970s Beheira

46 Contrary to the WB, other donors such as USAID and JICA focused on physical rehabilitation of the network.
shared only USD 2 million with two other governorates, in the 1980s Beheira received USD 56 million alone, in addition to another USD 4 million that it shared with two other governorates. These projects focused on providing technical support to the nascent BWC by conducting some infrastructure building coupled with capacity building and organizational development. These modes of technical support were then implemented in Daqahliya and Damietta governorates through the smaller USD 4 million project that focused purely on institutional reform. This project and similar reforms tested in the Kafr El-Sheikh governorate financed by Germany were used to promote the model of autonomous water companies country-wide (World Bank, 1995). By the late 1980s, two more water companies had been established in Damietta (supported by the WB) and Kafr El-Sheikh (supported by Germany), respectively. The WB had so far failed in creating a similar water company in Daqahliya due to resistance from the governor (ibid.).

Meanwhile, in 1985 the state adopted a National Water Pricing Policy with the objective of reaching full cost recovery for water by 1991 (World Bank, 1995). It also introduced a sewerage surcharge set at 10% of the household’s water bill. In 1987 it issued a new tariff schedule that called for a gradual doubling of rates paid for water consumption over a period of five years (USAID, 1993). In 1989 the government also announced that governorates were allowed to increase tariffs by as much as 200%. However, any increases were subject to the approval of the governorate LPCs, and the governorates could not control or retain revenues locally; they therefore had very little incentive to actually raise rates (ibid.). As a result, tariffs were not increased as foreseen by the policy.

As Egypt entered the 1990s, donors’ policy-oriented initiatives increased at the expense of technical and physical support. The push for institutional reforms increased in conjunction with the Structural Adjustment Policies. Egypt’s first Structural Adjustment Loan Project from the WB cost a massive USD 300 million, and saw a noticeable weakening in the focus on
“hardware” sectors (including agriculture and power), and a strengthening of the focus on “software” social sectors with 11 out of 28 projects in education, population, health, and social protection. Much of the Structural Adjustment Loan projects focused on privatization, and USAID’s 1992 ERSAP Cash Transfer Program was no different, as it provided about USD 1.8 billion in economic assistance to the Egyptian government for completing structural adjustment activities, such as privatizing state-owned companies (United States GAO, 2005).

The water sector mimicked this shift from hardware to software orientation. Though the WB had been focusing on institutional and sectorial reform since the 1980s, other major donors such as USAID had continued to focus on physical rehabilitation well into the 1990s. Similarly, the Dutch Advisory Panel Project (APP), which had been established in 1976 to provide technical assistance for the operation of the Aswan High Dam, had continued to provide purely technical support well into the 1990s. However, by the late 1990s, many donors had, in the words of USAID, “shifted focus from water construction activities to institutional and policy reforms, with cost recovery efforts as the centerpiece”. The need for cost recovery and private sector participation in the water supply sector became the main mission of donor intervention in the sector.

USAID began looking to past efforts in sectorial institutional reform, specifically the Beheira, Damietta and Kafr El-Sheikh water companies that had been established by the WB and German Organisation for Technical Cooperation (GTZ) during the late 1980s. Those projects were less successful than they were expected to be. A 1991 USAID report found that the goals of the projects, namely the development of autonomous water companies that generate enough revenues to cover their costs, had not been met by any of the three companies, and they remained neither independent nor decentralized (NOPWASD, 1991). USAID concluded, together with the WB, that the lack of success was because these new entities were continuing to operate with the mentality of public authorities
rather than that of economic enterprises. Thus, they pushed for a further “economization” of these entities, and in 1994 President Mubarak issued Decree 95/1994 approving that public authorities, such as the water authority, should function as public sector companies.

This was followed by Presidential Decree 281/1995, which transformed the governorate-level authorities for drinking water and sanitation into economic authorities. Thus, by 1995 there were three modes of water supply service delivery in Egypt: the model of the water company used in Beheira, Damietta, and Kafr El-Sheikh; the nascent public economic authorities model used in seven governorates (Aswan, El-Minia, Beni Sueif, El-Fayoum, Daqahleya, El-Gharbeya, and El-Sharqeya); and the General Organizations that were responsible for water supply in Cairo and Alexandria.

Shortly after the issuance of this decree, water tariffs were raised in Cairo for the first time in decades. Since the 1970s, the WB and USAID had been advocating for tariff increases as part of their push to eliminate subsidies and ensure cost recovery for the sector. The president had resisted, particularly in the wake of the 1977 riots. In 1996 President Mubarak finally agreed to increase the water tariff in Cairo from EGP 0.115 to EGP 0.12. As mentioned above, at this time governors had the authority to increase water prices to as much as EGP 0.23, but most governors did not make use of this allowance (World Bank, 2005). According to a statement by the head of the GCWWC, the Cairo governor had tried to increase the tariff after 1996 but was met with objection from the LPCs whose approval he needed in order to pass the increase (2004).

Shortly thereafter, the water tariff was unified in all governorates across the country to be consistent with the Cairo tariff at EGP 0.12 as part of the state’s strategy to unify the sector. This higher rate of EGP 0.12 was still grossly insufficient for water provision institutions to cover their costs, but the tariff remained constant at this rate for almost 10 years, until it was
raised again in 2004.

6.3. Attempts at neoliberalization

The WB and USAID, continued to push for the water company to be the dominant model country-wide, as it was the model with the most financial and managerial autonomy (World Bank, 2005). A report by NOPWASD about the water company during the late 1990s highlighted overstaffing, low salaries, poor maintenance, weak bill collection, and virtually no customer service, which provided donors a platform to push even harder for reform (EU Water Initiative, 2006). Gaps in network coverage were also repeatedly used to underscore the need for reform, particularly after the publicization of the 1996 census which found that only 69.5% of Cairo residents were connected to the water network while 20% were either connected using “other” means or had no connection at all.

The NOPWASD study also found that institutional capacity and cost recovery in the sector remained low. Infrastructure continued to fall into disrepair, while the entities responsible for water supply and sewerage systems ran large deficits that were only partly covered through subsidies. The study was presented to the ministerial cabinet in 1998, and in response the cabinet requested the MoHUUD to elaborate a decree on the reorganization of the water and wastewater sector, as well as several other relevant decrees. These decrees continued to circulate and be modified for several years until they were finally approved and issued in 2004, thereby decreeing that water supply be provided through a national holding company.

A month prior to the approval of the decree establishing the HCWW, USAID issued a report entitled “The cost of not privatizing: An Assessment for Egypt”. In this report, USAID recommended the necessity of completely privatizing all government-run enterprises, including water supply. The report states that: “There are very few developing country governments left whose economic growth policies do not incorporate privatization of
state-owned businesses, in many cases all the way through to major utilities such as water and electricity” (King, MacQueen, and Ott, 2004, p.1). The report argued against even a gradual approach to privatization and insisted that privatization was not only necessary but that it must be enacted quickly and aggressively. It argued that, “any form of private ownership is preferable to state ownership, ...[and] that political unpopularity and the short-term costs of privatization must be suffered in order to realize the benefits” (ibid., p.3). It quotes a statement by the Egyptian Ministry of Economy and Foreign Trade which says that “Egypt’s privatization program has adhered to rational, well-studied steps ... despite the international community’s constant pressures to privatize with speed and vigour” (Ministry of Economy and Foreign Trade, 2001; quoted in King, MacQueen, and Ott, 2004, p.3). The study refers to the water authority as an entity that is “potentially commercial” and states that “privatizing is the only feasible means of raising the needed investment capital” to cover the capital needs over the next two decades for water, telecommunications, and electricity (King, MacQueen, and Ott, 2004, p.8). It estimated the cost of not privatizing these three authorities to be around EGP 50 billion (ibid.).

In April of 2004, President Mubarak issued Decree 135/2004 to convert the national public water authority into the HCWW. The existing governorate-level water supply institutions (whether companies, general organizations, or public economic authorities) were all converted into subsidiary companies of the HCWW. The HCWW was not in charge of investment, as this continued to be under the purview of the Ministry of Finance and the MoH, but it was responsible for procuring equipment and training the staff of its subsidiary companies. It also became a key interlocutor for foreign donors. A few months later, Decree 136/2004 was issued establishing the EWRA, the body charged with overseeing the overall performance of the sector. The EWRA was also mandated with reviewing all requests from subsidiary companies for tariff increases and passing on its own recommendations to the ministerial cabinet for approval. However, the
decree stopped short of giving EWRA the authority to set tariffs itself without ministerial approval, which was criticized by donors (USAID, 2012).

Soon after the issuance of both decrees, tariffs in Cairo, which had remained constant at EGP 0.12 since 1996, were raised to EGP 0.23. Furthermore, as the newly formed water companies underwent significant restructuring and reform, this diverted the companies’ attention from ongoing projects. Though the Cairo water authority had finally begun developing plans to connect several informal areas to the water network, including Haggana, the restructuring further slowed the pace of connecting informal areas.

The restructuring of 2004 and the subsequent tariff increase signalled to international donors the seriousness of the Egyptian government in reforming the sector, and an influx of more aid ensued. In 2005, the EU’s National Indicative Program (EU-NIP) invested 80 million Euros from its sector budget support program to promote further reforms in Egypt’s water sector (EU-NIP, 2009). One of the program’s objectives included ensuring that the regulatory framework was “favourable” (EU-NIP, 2009) towards private sector participation in the water sector. The WB, though pleased with the reforms of 2004, demanded even more tariff increases (International Bank for Reconstruction and Development and World Bank, 2005) with the goal of all subsidiary companies eventually achieving “financial autonomy” (World Bank, 2005, p.4).

The subsidiary water companies followed the Public Enterprise Sector Companies Law, enforced by the Minister of Housing, which meant that the companies’ economic performance was no longer under the control and supervision of the People’s Assembly. Only the boards of directors, formed every three years by a General Assembly formed by the Housing Minister, has authority over the companies’ economic performance (Ismail, 2007). In 2005, Housing Ministerial Decree 14/2005 was issued detailing the regulatory functioning of the HCWW. The holding company thus gained
the right to take any actions that would help it achieve its goals, such as increasing the capital of the subsidiary companies, liquidating or merging its subsidiaries, and guaranteeing the companies’ economic efficiency (Ismail, 2007). In 2006, presidential Decree 249/2006 was issued to transfer the capital of all local water utilities to the HCWW, of which they would become subsidiaries. In tandem, a PPP Central Unit was created within the Ministry of Finance to promote private sector participation in various sectors. Within the water sector this was restricted to BOT projects for new wastewater treatment plants in Cairo and Alexandria (MoF PPP Central Unit, 2010).

Although the reforms finally addressed certain issues and implemented some of the recommendations given by donors over the past two decades, they were not sufficient to tackle some of the underlying problems facing the sector. In particular, the water companies continued to function as overstaffed government entities filled with underpaid employees, and the sector itself continued to consist of multiple organizations with overlapping responsibilities (Hassanein and Khalifa, 2006). Thus, it became clear that the reforms introduced into the water sector were not enough to rescue Egypt’s water supply.

A 2007 report for USAID’s Water and Wastewater Sector Reform Project (WWSRP) states that the EU’s conditions for its sector budget support appeared feasible if the relevant stakeholders involved the private sector, and that such involvement of the private sector in the delivery of water and wastewater “is a clear indication that sustainable future supplies are high on the agenda” (WWSRP, 2007, p.3). It also states outright: “The privatisation of water delivery through the creation of the HCWW, more targeted subsidies by the GoE and the institutional strengthening of the ministries involved, should all ensure the equitable pricing and delivery of water” (WWSRP, 2007, p.3). The report, however, describes the tariff increases thus far as insignificant, and indicates that “increasing tariffs for water and waste water collection is a very sensitive issue, still to be dealt
with politically, although public awareness campaigns are being mounted” (WWSRP, 2007, p.4).

A study in 2008 by the GOPP in cooperation with JICA states that the HCWW does not only aim to achieve self-sufficiency by covering operation and maintenance costs, but also to cover capital costs and even generate profit (GOPP and JICA, 2009). Similarly, the Dutch APP, which by that time had shifted its focus from technical support for irrigation projects to a self-described “think tank” (Netherlands Embassy, n.d.) for the water sector, also issued a study that vociferously promoted further tariff increases. A 2008 report by the APP claims that a top priority for averting impending water scarcity is ensuring that the full costs of water and wastewater services are borne by the service user (Van Beek and Hansen, 2008). It argued that the notion that increased water tariffs will hurt the poor is a myth, since the poorest Egyptian citizens are not connected to the network at all, and thus never benefited from water subsidies (Van Beek and Hansen, 2008).

The report strongly advocated against the use of water supply subsidies, claiming that when users bear the real cost of their water use, they will have a natural incentive to reduce any unnecessary waste of water. The report argues that even the poorest slum-dwellers have the willingness and ability to pay the real cost of water, and that achieving 100% coverage is not financially feasible as long as water costs are subsidized. Thus, the report argues, all water subsidies must be completely removed.

Also according to the report, removing water subsidies alone is not enough, as there are many other household inputs such as fuel and power that are also subsidized, and in order to achieve “economic efficiency” all subsidies must be removed (ibid.).

6.4. Enabling neoliberalism

The above sections illustrate that neoliberal ideas were being propagated by the WB and USAID in Egypt’s potable water sector from the late 1970s,
and more heavily during the 1980s and 1990s. These ideas made use of
multiple discourses that have been highlighted in the literature on
neoliberalism (e.g. Harvey, 2005) as integral to its adoption by
governments, including discourses of economic efficiency and rationing
scarce natural resources.

Within political economy literature, neoliberalism is an ideology, presented
as an eternal truth that is part of the false consciousness propagated by
capitalist logic (Goldman, 2007). The origins of power are material, but its
effects can extend from the purely material to the ideological. From the
historical-materialist sense, neoliberalism is a new mode of production that
has displaced the former ideal of the welfare state and universal service
provision with the logic of capitalist fundamentalism and a rigid ideological
project (privatization of the commons, calculative choice, etc.). David
Harvey, for example, describes neoliberalism as a “system of justification
and legitimation to re-establish the conditions for capital accumulation and
to restore the power of economic elites” (2005, p.19). Other scholars have
drawn on the work of Gramsci to conceptualize neoliberalism as a
hegemonic ideology. Goldman (2007) and Ranganathan (2013) use a
similar approach to shed light on the global hegemonic discourse regarding
the efficacy of market-oriented water reforms and private sector
participation in water service delivery. This is related to a trend in the
literature on neoliberalism that portrays it as a global hegemonic ideology,
something I interrogate in this research.

In the above sections, I found that neoliberal ideas had an impact on the
water supply model evidenced by the fact that the model of water
companies was piloted with official government support, which was later
applied to the entire water provision institutional framework. Neoliberal
ideas also had an impact on pricing because as early as 1985 the
government adopted a new national water pricing policy that aimed at full
cost recovery by 1991 through the gradual increase in water tariffs and
wastewater surcharges. However, tariffs remained constant, despite
allowances for increases, until they were slightly raised by presidential decree in 1996. In 2004 they were raised by roughly 50% to EGP 0.23. This was the last increase in water tariffs until 2012, when residents began complaining of (and officials began admitting in the media to) unofficial increases in the tariff. It follows from the above that the Egyptian state’s tendency towards risk avoidance after the 1977 riots has factored into the reluctance of institutions to implement unpopular reforms heavy-handedly. Along these lines, Dorman (2007) argues that

“regardless of the despotic powers at their disposal, authoritarian rulers fear the societies they rule” and thereby may “refrain from action – retreating from apparent challenges to their authority – so as to avoid the risk of creating issues around which bottom-up mobilization may occur” (p.36).

I find here that the threat of bottom-up mobilization was greatly reduced after the near continuous protests between 2011 and 2013. By the time Egypt reached the end of 2013, Egyptians were so exhausted from political uncertainty and unpredictability that “stability” became one of the catchphrases of President Al-Sisi’s campaign and proponents during and after the presidential campaign. As reported by the New York Times in 2014:

“In the first hundred days since he formally assumed the title of president, Mr. Sisi has already tread where previous leaders hardly dared. He rolled back fuel subsidies that were long considered all but untouchable. And perhaps more surprising, he did it all without facing significant public dissent or protests. At home and abroad, Mr. Sisi has capitalized on fears of the chaos that has engulfed surrounding countries. … A catchphrase has become popular here: ‘At least we are not Syria or Iraq.’ … Egyptian rulers have acknowledged for decades that the subsidies were increasingly unsustainable, but always avoided the cuts for fear of unrest” (Kirkpatrick, 2014).
Perhaps the unforeseen government success in lifting previously “untouchable” fuel subsidies is related to repeated presidential statements linking these subsidy rollbacks to “stability and development” (Aljazeera, 2014), a rhetoric that has been used countless times by the mainstream media. For example, in a speech in September 2014, the president mentioned the reform of Egypt’s utility sectors and “achieving stability” multiple times, asking Egyptians to be patient as Egypt faces an “existential battle” (BBC, 2014).

The achievement of unthinkable reforms in previously-untouchable sectors includes not only fuel and electricity, but also water, which has always been a sensitive political issue. In light of this, I argue that neoliberal reforms were not primarily enabled through neoliberal discourse and ideology, but rather only after the Egyptian state promoted a powerful mass de-mobilization discourse of nationalism and fear of instability. The fear of riots has been consistent for the Egyptian state since 1977; it effectively prevented the state from implementing austerity measures demanded by the IMF (Seddon, 1990), and remained a powerful spectre throughout the 1990s and 2000s to such a degree that subsidies were considered to be “untouchable” (Kirkpatrick, 2014). The adoption of neoliberal discourse within official policies was not enough to ensure their implementation in practice. It was only in post-2011 Egypt when neoliberal reforms were combined with a discourse of patience and stoicism for the sake of national rebuilding that these untouchable issues were tackled by the state.

6.5. The many avenues of capital accumulation in Egypt’s water sector

In this section and the following two sections I move from a focus on how the process of neoliberal reform was enabled towards the impact of this process in informal areas.
The intimate link between water and electricity is made evident in the previous section, as reforms that touch one sector usually tend to affect the other. In this section I look specifically at tariff increases in the water and electricity sectors before and after 2013. As previously mentioned, when discussing the neoliberalization of Egypt’s water sector, reference is most often made to the early 2000s when the HCWW was created by Law no. 135/2004, and subsequently all governorate-level water authorities became subsidiaries of the national HCWW. This trend was not unique to the water sector, as a similar action had already taken place in the electricity sector when the Egyptian Electricity Authority was converted into a holding company by Law no. 164/2000. The newly formed water and electricity companies became mandated to cover their costs and generate profit. Thus, in the wake of these reforms, both companies became pressured to raise tariffs and pay more attention to bill collection.

Soon after the issuance of both laws, water tariffs in Cairo jumped to EGP 0.23. As previously mentioned, prior to the 2004 tariff increase the last tariff increase had been in 1994 (set by Decree 421/1994) stipulating two consumption strata: below 30 cubic meters (EGP 0.10), and above 30 cubic meters (EGP 0.13). In a statement to the media in October 2004, the head of the GCWWC stated that the reason for the sudden tariff increase from EGP 0.12 to EGP 0.23 was that under its new mandate it became necessary for the company to generate a profit, and that Cairo had the lowest water tariffs country-wide (El-Basel, 2004). The HCWW also started a program to replace 800,000 non-functioning meters to ensure that all users are properly metered (EU Water Initiative, 2006). However, tariffs remained largely constant for the lowest stratum, and increased only slightly for the higher one.

By 2010 the water sector was under immense pressure from international donors to consider tariff increases. The pressure from donors to raise tariffs had been consistent since the late 1970s, but during the period between 1970 and 2011, the Egyptian state had raised water tariffs only
twice: once setting them at EGP 0.12, and later raising them to EGP 0.23. By 2010, the HCWW announced to the media that it had prepared a proposal to increase the tariff for all strata above 10 cubic meters by 10% each year, and that it would soon submit the proposal to the People’s Assembly for approval (Bakry, 2010).

The process was stalled when millions of Egyptians took to the streets on January 25, 2011, eventually pushing President Mubarak to step down on February 11th. In the ensuing security vacuum, bill collection rates fell as bill collectors feared risking their personal safety, and strikes by civil servants led to a boost in wages within almost all government institutions. Meanwhile, the national economy was reeling and inflation was exerting added pressure on the public budget. These conditions only served as a platform for donors to highlight the need for more cost recovery measures and further involvement of the private sector in order for the central government to be able to lower its subsidy budget.

Thus, almost immediately after the political situation had begun to settle, reports and complaints about unofficial tariff increases began circulating in the media. This trend took place simultaneously for both the water and electricity sectors. In the words of one Haggana resident:

“they treat Haggana as if we are Garden City [an upscale neighbourhood]! We are very poor people, and yet we get the bill every two months for no less than EGP 1000 distributed over eight apartments. Before the revolution we used to pay only EGP 10, now we pay sometimes over EGP 100” (Interview 12, Haggana female resident, 2015).

<table>
<thead>
<tr>
<th>Location in Haggana</th>
<th>Near 4.5 entrance</th>
<th>High voltage cables</th>
<th>Near Hagg Shihata Mosque</th>
<th>Near El-Tabba entrance</th>
<th>Near Caritas NGO</th>
<th>Near El-Tabba entrance</th>
</tr>
</thead>
</table>

See table 7 for a sample of sums paid for last water bill by Haggana residents.
Thus far, no official decrees have been issued regarding increasing the water tariff. According to Law 135/2004, EWRA is obligated to review any requests for tariff increases made by the HCWW or its subsidiaries and to send its recommendations to the Ministerial cabinet for approval. Upon approval, a decree should be issued stipulating the increases and timeline. Within the electricity sector, after two years of speculation that began in 2012, the decree was finally issued in 2014\textsuperscript{48}. But no such decree was ever issued for water. USAID claims that the government began increasing water tariffs in 2012 for all but the lowest (under 10 cubic meters) strata by EGP 0.02 every billing period. Although the MoH at the time stated that the government had no intentions of raising the price of water (Bakry, 2012), official water company spokespersons later made various statements to the media confirming that prices have increased. As USAID stated in a 2013 report, all tariff increases thus far have been unannounced increases (USAID, 2013), and the water company has no legal backing for its increases.

By late 2012, the head of the HCWW announced intentions to raise the water tariff for the lowest stratum from EGP 0.23 to EGP 0.30, and that they were preparing to present the proposal to the cabinet of ministers (Hosam 2012). By December 2012 there were reports in the media that the ministerial cabinet was studying the proposals to raise the water tariff gradually over the following five years, beginning in January 2013 (Al-Borsa, 2012).

Despite these actions donors continued to press for further increases. For example, a European Neighbourhood Policy progress report blamed

\textsuperscript{48} The ministerial cabinet issued Decree no.1257/2014 stipulating that the electricity tariff would be increased annually until 2018. The tariffs would increase gradually from between EGP 0.075-0.74 spread over seven consumption strata in 2014 to between EGP 0.12-0.86 spread over five strata in 2018 (Al-Garida Al-Rasmeya, 2014).
Egypt’s difficult economic situation on “market distortions caused by a decades-long heavily subsidized system (energy, fuel and water)” (ENP, 2014, p.3). The WB complained in 2015 that the water supply companies were heavily subsidized by the central government and had no independent authority to raise the nationally set tariffs (World Bank, 2015). By the end of 2015 there were various statements made by the head of the HCWW, Mamdouh Raslan, that in June 2016 tariffs would be raised for the strata above 10 cubic meters progressively until 2020 to cover the losses facing the sector and to encourage citizens to be more frugal in their use of water. In 2016, the HCWW spokesperson announced a new set of tariffs, which are in effect at present, for five consumption strata at EGP 0.30, 0.70, 1.05, 1.35, and 1.55, respectively (Hona Al-‘Asema, 2016). These increases are widely expected to continue until both the water and electricity sectors cover their own costs and start generating profit, particularly in light of a new USD 12 billion loan from the IMF signed by the Egyptian government in August 2016 (The Economist, 2016).

Despite the fact that there is no official confirmation of the tariff increases, citizens have felt the increases so strongly that one MP has decided to submit a formal motion to the Prime Minister demanding to know why water prices have increased by so much (Arafa, 2015). In the words of one GCWWC official, “we have increased the prices and the cabinet will issue a decree soon” (Interview 8, GCWWC official, 2014).

A number of additional practices serve to increase the final sum eventually paid by users. Part of this is related to the tariff structure, which is standardized throughout the country and is based on a simple ratchet increasing block tariff with multiple consumption strata. The user gets charged for the entire consumption at the tariff rate that applies to final volume consumed (USAID, 2013). For example, if the user consumes 35 cubic meters, they would be charged the 35 cubic meters multiplied by the rate that applies to the “0-40” block (USAID, 2013), rather than being charged at the 0-10 rate for the first 10 meters, and the 10-20 rate for the
second ten meters, and so on. This is, in itself, significant, but its increased significance lies in the fact that most buildings in Cairo have one meter for the whole building, rather than one for each apartment. Some buildings can contain numerous apartments, meaning that the final amount consumed is quite large. This means that even if a household consumed water quantities within one of the lower strata, the chances of the entire building’s consumption being in a lower stratum are close to zero. Although provisions have been recently introduced for individual households to apply for their own meters separately from their building, it is still very uncommon to find individual household meters.

According to the official spokesperson for the HCWW, the company has not been dividing the building consumption by the number of apartments to get the average consumption per apartment, but has rather been multiplying the total consumption by the highest tariff rate (Hona Al-ʿAsma, 2015). As explained to me by one GCWWC official, “the meter reader writes down the water volume, and we multiply this by the appropriate tariff, and issue the bill based on that amount” (Interview 42, GCWWC official, 2015). Furthermore, as described above, the company multiples the total consumption level by the tariff rate of the highest cubic meter rather than dividing the consumption and multiplying each level by the appropriate tariff (Hona Al-ʿAsma, 2015).

In addition, users are charged a percentage of the final amount as a wastewater surcharge, as well as other fixed costs. USAID has been pushing for a reform of this tariff structure, consisting of cancelling the charge for the lowest block (0-10 cubic meters per month) to encourage people to limit their consumption, and increasing the surcharge for wastewater “to at least 100% of the water rate” (USAID, 2013). In 2012 the wastewater surcharge was around 30%, while by 2016 it reached 57% of the water charge (Personal communication, GCWWC, 2016). In 2017, Decree 1730/2017 was finally issued mandating the increase of the water tariff and the sanitation surcharge, increasing the latter to 63% (Al-Garida Al-
Rasmiya, 2017) (see Table 8). The decree also states that for housing units in urban areas that do not have a water meter installed, the bill should be calculated according to 30 $m^3$.

<table>
<thead>
<tr>
<th>Stratum</th>
<th>Tariff (EGP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10 $m^3$</td>
<td>0.45</td>
</tr>
<tr>
<td>11-20 $m^3$</td>
<td>1.20</td>
</tr>
<tr>
<td>21-30 $m^3$</td>
<td>1.65</td>
</tr>
<tr>
<td>31-40 $m^3$</td>
<td>2.00</td>
</tr>
<tr>
<td>Above 40 $m^3$</td>
<td>2.15</td>
</tr>
</tbody>
</table>

Table 8: Water strata and tariffs according to latest decree (2017)

This all points to a new era of utility governance for Egypt where infrastructure such as pipes and meters are used a way for the state to accumulate capital from its citizens.

Residents complain that the water meter reader does not come to Haggana regularly, and the bills they receive are arbitrary charges for consumption far higher than what is measured by the meter:

“We never see the meter reader. He comes once every four or six months. Who knows how they calculate the bills. Last month the bill was for EGP 1,850 and we are 14 apartments. I had to pay over EGP 100!” (Interview 34, Haggana male resident, 2015).

“They don’t come to read the meter, they count how many apartments are in the building and estimate a number of cubic meters per apartment, but I don’t know why every bill they send us a different amount! It’s all based on arbitrary estimations [taqdeerat guzafeya]” (Interview 40, Haggana male resident, 2015).

One meter reader confirmed the above accounts, stating that the reason
they sometimes engage in these practices is the belief that “most of the meters in informal areas aren’t working properly” (Interview 45, Water meter reader, 2015), and thus they estimate a different amount calculated based on the number of apartments/rooms in the building. This is corroborated by media reports that a local official in 2009 blamed high water and electricity bills on the fact that some residents damaged their meters making it impossible for the companies to know the actual consumed amount, forcing them to raise the rates they charge as a result (Al-Dimrany, 2009). This was also confirmed to me by a senior GCWWC official who informed me that there are multiple ways of calculating the bill, depending on whether or not there is a meter and whether or not it is functioning properly. If the meter is not functioning or there is no meter, they “count the number of rooms in the building, and estimate eight cubic meters of water usage per room” (Interview 8, GCWWC official, 2014). In fact, the issue of arbitrary charges has become so problematic that one MP has filed a briefing request to the Prime Minister and the Minister of Housing regarding them (Isamuldin, 2017).

Residents are also charged high arrears when they apply for a meter. The water company today sometimes charges residents arrears going decades back because they believe that residents have been stealing water since the 1970s. One GCWWC official informed me that the water company charges around EGP 1,000 per floor, which is spread over installments onto future bills, because residents of informal areas have been “stealing water for years” (Interview 8, GCWWC official, 2014). According to residents, this sometimes results in charges for additional floors from before they were even built or inhabited. Due to these arrears, residents receive fees that are often in the realm of thousands of pounds:

“The bill collector told us that we have overdue past payments so I went to the company and found that they are charging us EGP 35,000 in arrears even though the building is still under construction” (Interview 41, Haggana male resident, 2015).
This is in spite of the fact that many residents were not actually stealing water but were purchasing it from informal vendors, meaning that they are being asked to pay twice for the same water.

Another strategy endured by informal dwellers is the long periods of time that often elapse between meter readings, which causes the amount of consumption to accumulate, eventually placing them in a higher tariff stratum (Community workshop 1, Haggana, 2014). Furthermore, many residential buildings are charged as commercial buildings simply because there is one shop on the ground floor, so all those living in the building have to pay the higher commercial rate (ibid.).

Generally, it seems there is no shortage of mechanisms through which to extract additional payments from informal dwellers. The water company seems to be moving from a position of rigidity in refusing to even acknowledge informal areas, to one of flexibility in its willingness to engage in informal practices and institute formal mechanisms through which to financially incorporate informal areas.

6.6. Accommodating informality through meters

“We have lost so much money to illegal connections in the ashwa’eyat we cannot afford to ignore them anymore” (Interview 8, GCWWC official, 2014).

In this section I examine what I describe as a growing trend of turning away from neglecting or resisting informal areas towards trying to institutionally accommodate them. In this section, I highlight some of the more overt efforts by the Cairo Water Company to incorporate informal areas into their institutional mechanisms.

As mentioned previously, the water company and municipal authorities have, for decades, been resisting the idea of connecting informal areas to the public network. According to many NGOs working in informal areas, state institutions such as the utility companies and the municipalities often
resisted connecting informal areas to utility networks because they tended to perceive informal dwellers as thieves. For this reason, even when there was a legal mandate to connect informal areas to public networks, such decisions took years to implement due to resistance on the part of responsible executive agencies. For example, even though the Cairo governor issued Decree 925 in 2000 mandating that Haggana be upgraded and connected to public utility networks, of all the residents I spoke with dated the earliest connection to 2008 (Interview 23, Haggana male resident, 2015). In fact, an official within the GCWWC confirmed that many of the company staff continue to believe informal areas should not be connected to the water network, even though they understand this is now the new policy (Interview 42, GCWWC official, 2015).

During the early 2000s, the Cairo governorate had issued decrees to connect some informal areas to basic utilities. For example, Decree no. 925/2000 was issued to mandate the physical upgrading of Haggana and its connection to utility networks. A local NGO in Haggana claims that the water company began installing the mains at the borders of the area in late 2002, but that by mid-2003 this had ceased and the water company announced it would not construct pipes inside the area (Interview 1, Haggana-based NGO manager, 2014). A GCWWC official explained to me that this was due to resistance not only from staff within the company, but also from the municipality, which refused (and continues at present to refuse) to issue permits for the connection of informal area homes to the public network (Interview 42, GCWWC official, 2015). This is further confirmed by a media report published during the same time (Ali, 2003). By 2007, the media was still reporting that Haggana lacked water and electricity (Masoud and Muawwad, 2007).

The company today is changing its strategy by looking at ways to collect payments from the many illegal connections that exist in informal areas. The water company has adopted various mechanisms to charge non-metered users who have illegally tapped into the network, such as charging
arbitrary sums and introducing temporary meters that depend on prepaid scratch cards. As shown in the quotation at the beginning of this section, many GCWWC officials have repeatedly complained about the toll that illegal water connections in the *ashwa’eyat* have taken on the company’s finances. It is within this context that we can understand why one senior official of the GCWWC stated in 2011 that the company’s priority was to focus on the *ashwa’eyat* (Mounir, 2011). In doing this, the water company is taking a cue from the electricity company, which is responsible for pioneering such mechanisms. In this section I examine both the water and electricity companies, as their histories in this aspect in particular are intertwined.

As utility companies connected informal areas to public networks, their spokespersons continued to complain about water and electricity theft and the cost these incurred for the companies. In 2009 a spokesperson for the North Cairo Electricity Distribution Company claimed that 15% of all the *ashwa’eyat* his company serves engage in electricity theft. His solution was an intensive campaign in cooperation with the Ministry of Interior to file police reports against homes illegally tapped into the network and impose fines, which “are transferred to the prosecutor’s office for either payment or jail time” (Yousif, 2009). He also blamed “*sha’abi*” (popular) areas for the spread of electricity theft, and said that within the *ashwa’eyat*, it is well known that there is a decree by the prime minister allowing electricity to be connected to the *ashwa’eyat*, but that residents prefer to steal it (Yousif, 2009). Such sentiment, that informal area residents are aware of how to legalize their situation but prefer to live illegally, was reiterated by two of the GCWWC officials I spoke with. With one official I interviewed, I asked about Haggana specifically, and his response was that, “Haggana and areas like it are all stealing water; and even though we have a plan to connect these areas, and we have made it possible for them to pay for their usage, they still steal water” (Interview 8, GCWWC official, 2014).

In reality, during the community workshop and interviews I conducted with
residents in Haggana, residents informed me that they prefer to legalize their connections, install meters, and pay for their consumption, because they perceive this as another strategy by which to prove their right to tenure and other services. In the words of one respondent, “we went to the company to try to get a meter, but they asked for so many papers and we are still trying to get it. If we have meters nobody can call us ashwa’eyat” (Interview 9, Haggana female resident, 2015).

The benefits of paying for services is especially clear when it comes to electricity. Having an electricity bill provides an entry point to many other services that request such a bill in lieu of proof of one’s address. Even in the water company, one official informed me that to encourage residents of informal areas to apply, those who cannot provide a contract for their housing unit can submit an electricity bill instead (Interview 42, GCWWC, 2015).

According to residents, the main obstacle preventing them from legalizing their connection is that the municipality refuses to provide them with the necessary letter of permission because their buildings are unlicensed (Community workshop 1, Haggana, 2014). As media coverage of water and electricity theft by informal areas continued to proliferate, rumours began circulating about the introduction of temporary prepaid meters. These meters would allow residents to bypass the municipality and to apply directly to utility companies to obtain a meter, which would not come with a formal contract stipulating the user’s name as is normally the case, but would only include a numerical code. These meters became known is the media as “coded meters” or ‘addad cody in Arabic (Kheira, 2010). In 2010 the head of the South Cairo Company for Electricity Distribution (SCCED) denied the existence of temporary meters and said that anyone caught with a temporary meter would be charged with electricity theft (Al-Isawy, 2010). He insisted that the only entity with the authority to allow or prevent the connection of electricity to any building continues to be the municipality.
Instead, the commonly used method for the electricity company to deal with non-metered users was a process it calls “mumarsa” (literally: practice), which allows users who do not have a meter to pay arbitrary sums estimated by the company:

“For electricity I pay using something called mumarsa, that means the amount is not based on a meter because I don’t have one installed; instead, the company decides the amount based on the size of my house” (Interview 5, Haggana male resident, 2014).

It is because of this process that most of the residents I spoke with complained about the unreasonably high arbitrary sums they have to pay for electricity as part of mumarsa. Residents also complained about similar arbitrary sums paid for water as detailed in the previous section, but the use of mumarsa has never been officially confirmed by the water company. The mumarsa process came to light in the media in 2010 when then-prime minister Ahmed Nazif stated that he would issue a decree allowing units operating under the mumarsa practice to apply for temporary meters, something that had been denied by the SCCED only months earlier.

After the surge in informal housing after the 2011 revolution, the water and electricity companies complained of unforeseen strain being placed on the networks that were not built to serve the population sizes that were using them. They also complained of a surge in theft costing the companies millions of pounds. In the words of one official, “we have suffered a lot at the hands of the ashwa’eyat who cost the company millions because of the water they steal” (Interview 8, GCWWC official, 2014).

In 2014, the head of the HCWW stated that there were over 800,000 illegal connections nation-wide, costing the company over EGP 4.2 million every month (Al-Gumhuriya, 2014). To address this, the water company has introduced provisions within its application procedures to regularize informal connections, labelled as “wasalat khelsa” which literally translates to stealth connections. The paperwork for regularization is similar to that
required for applying for a new connection, which is a copy of the building ownership contract, a copy of the national ID, and a copy of the building license. In the words of one GCWWC official “if someone is unable to provide a building license or official contract for the housing unit, we accept in their place an electricity bill for the previous month” (Interview 42, GCWWC official, 2015). That same official also informed me that the company has also sent trucks to several informal areas to encourage people on the spot to apply for meters, and the company is now simplifying its procedures even further to require less paperwork, to make it easier for anyone to apply (Interview 42, GCWWC official, 2015).

Figure 13: Instructions at GCWWC premises
Source: Author

The residents with whom I spoke indicated that many are now in the process of obtaining formal contracts with the water company to be fully metered and charged for their consumption. As described by two neighbours I spoke with together, “we went together along with our
neighbours to the water company to see how we can get a meter (Interview 30, two Haggana female residents, 2015). An official within the Cairo Water Company told me that it was necessary for the company to do this because there were millions of people living in these areas stealing water and they needed to find a way to charge them (Interview 8, GCWWC official, 2014).

The electricity companies have made similar complaints about the increase in illegal connections since 2011. Thus, they have formally institutionalized the temporary prepaid meter known as *addad cody*. The company has stated that such meters are to be used by illegal buildings that cannot apply for a formal connection but should in no way be considered a form of proof of tenure (Ramadan, 2016).

The water company has stated that it will follow the model of the electricity company and purchase 6.2 million temporary prepaid meters to contribute towards their cost recovery efforts, as this was a necessary measure to recover these costs until the state decides to deal with these “transgressors”. The spokesperson affirmed that these meters are given a number and not any name or contract, that they are not to be considered proof of ownership or tenure, and that if the municipality decides to demolish these homes they should demolish the meters along with them (Al-Gumhuriya, 2014).

However, by 2015, the electricity company had only been able to install 163,000 coded meters (out of over 800,000 applicants) due largely to the municipal authorities’ refusing to install them because they worried the meters would be used as proof of tenure (Al-Gumhuriya, 2014). To ameliorate this municipal resistance, in March 2016 the Prime Minister issued Decree 886/2016 mandating the water and electricity companies and “all other entities involved in utility connections” to take all measures necessary to prevent water and electricity theft, including the installation of temporary meters in “illegal buildings” (Al-Garida Al-Rasmeya, 2016). By
June, the water and electricity companies had received thousands of applications for temporary meters (Ramadan, 2016).

As the mechanisms for the water company to contend with informality are made formal, the company continues to engage in a number of other informal practices when dealing with such areas.

Not coincidentally, the increased flexibility by the water company in dealing with informal areas has occurred simultaneously with a rising focus on bill collection rates as a measure of the company’s success. The HCWW has recently been supported by the EU to measure its coverage benchmarks based on number of billing points rather than number of people served (EU WSRP, 2011). Within informal areas, increasing the number of billing points has been receiving much attention. For example, the aforementioned Strategy for the Provision of Water and Wastewater in Informal Areas, published by the Cairo Governorate in 2013, reported on access to water in informal Cairo using indicators such as the number of collectors and amount of money collected per area (Cairo Governorate, 2013). The report states that the rate of bill collection within informal areas is low relative to their formal counterparts, and thus suggests that residents should themselves set up tariff collection Small and Medium Enterprises (SMEs) that utility companies can then subcontract as private entities tasked with collecting all bills from their surrounding areas (ibid.).

In the words of a Cairo governorate official speaking about this strategy,

“We spoke with the HCWW to organize the youth in informal areas to form neighbourhood-based bill collection companies. Each company in each neighbourhood will consist only of youth from that area, and it will be outsourced by the HCWW as a bill collection company. This way, the water company’s revenue will increase, and the youth will get a small revenue. There will be a contract with the HCWW, and they will be the subcontractors for bill collection in those areas. It will be a normal for-profit company. A real company” (Interview 44,
Cairo governorate official, 2015).

Within this context, one can understand why Haggana has been witnessing such a change in the way the Cairo Water Company interacts with them. After spending years trying to obtain water in their areas, and facing resistance and accusations of illegality from officials, Haggana’s residents are today finding encouragement from the water company to apply for meters and legalize their connections (Community workshop 1, Haggana, 2014).

6.7. The impacts of neoliberal reform: statization and the unbundling of rights

The developments described above are taking place within a broader context of increased state attention given to informal areas with the renewed presidential interest in making a mark on the “ashwa’eyat problem” ⁴⁹, especially ashwa’eyat in Cairo. There are several manifestations of this increased state attention towards informal areas. The 2014 national constitution was the first constitution in Egyptian history to stipulate the commitment of the state to develop a national plan to address “the problem of the ashwa’eyat”. The same year (2014) saw the establishment of a new ministry for informal settlements, although this ministry lasted just over a year. Since then, in cooperation with the Cairo governorate the ISDF has been implementing upgrading and relocation projects in unplanned areas at an unforeseen pace. The water company has been quickening the process of installing pipes in the remaining unconnected informal areas and has been trying to simplify its procedures to allow applicants to receive meters even if they cannot provide the necessary paperwork. The electricity network is focusing its energies less on filing police reports against non-metered connections and more on creating institutional mechanisms to incorporate such connections. The natural gas company has, for the first time, begun installing its network in informal areas.

⁴⁹ As stated in the national constitution of 2014.
Such developments have led to what can be described as an increased “statization” (Painter, 2006) of informal areas. Drawing on Mitchell’s (1999) research depicting the state as an effect produced by very real practices with very corporeal consequences – practices that include, among many other things, the “meticulous organization of space” (Mitchell, 1991, p.92) – Painter (2006) argues that everyday life is permeated by the effect of the state (which he refers to using the term “stateness”) through “prosaic” manifestations, including the mundane bureaucratic requirements of daily life such as filing papers, or paying for services. Mitchell (1999) made a similar argument when he described how modern state-making relies on the internalization of regulatory practices into daily life, with the curious result that the public imaginary of the state increasingly turns into a mythical external structure. This internalization takes place through quotidian practices such as “the organized partitioning of space, the regular distribution of bodies, exact timing, [and] the coordination of movement” (Mitchell, 1991, p.82). In other words, the apparent distinction between state and society is a product of certain practices and processes of regulation. The modern nation-state functions largely through creating the appearance that it is a structure external to and encompassing of society.

In the context of urban governance, the mundane practices of socio-spatial regulation, such as urban plans, zoning laws, land use regulations, allocation of basic services, administrative spatial divisions and boundaries, or essentially anything determining what citizens can and cannot do in a given urban area, correspond to the state effect that Mitchell (1999) describes. Indeed, as Scott (1998) illustrates, states invest a great deal of time and effort into developing rules, regulations, and procedures, and together these ensure that states are “imagined in some ways rather than others” (Ferguson and Gupta, 2002, p.984).

The process of the infiltration of such state-effecting practices into everyday life is what Painter (2006) describes as the process of
“statization”. The degree to which state practices of order and regulation infiltrate people’s daily lives reflects the degree to which they are “statized”.

Such a conception combined with the case described in this chapter challenges scholars of neoliberalism who have argued that neoliberal reforms entail a roll-back of the state. One would expect, in such a case, that neighbourhoods in general, informal areas among them, would see a lesser presence of state institutions and a weaker infiltration of “prosaic” (Painter, 2006) state practice in their daily lives. However, I have shown above that the exact opposite has been happening, with informal areas contrarily witnessing heightened processes of “statization”. This process has tended to take place in insidious ways through the provision of infrastructure and services. Alongside processes of globalization and neoliberalization, the everyday lives of people are becoming more intensely “statized”.

In a certain strand of academic literature, neoliberalism is not portrayed as an ideology or coherent system as political economy literature describes it, but rather as a combination of certain techniques of government, or, as Collier (2011) defines neoliberalism following Foucault, “a form of critical reflection on governmental practice distinguished by an attempt to reanimate the principles of classical liberalism in light of new circumstances”. In light of the latter perspective, the beliefs and practices of individual neoliberal thinkers are just as important as the global neoliberal discourse and the material effects this discourse has. Neoliberalism is therefore not a “system” (Harvey, 2005), but a process.

Thus, the variegated shapes that neoliberalism has taken in practice, as shown by literature on actually-existing neoliberalism (e.g. Brenner and Theodore, 2002) is not merely a result of the path-dependent nature of neoliberalism, which maps onto existing forms of governance and maintains some elements while reshaping others as necessary for
expanded capitalist accumulation. Rather, it is a result of the diverging views of individual thinkers (such as policy makers) and those within government who are tasked with actually implementing certain measures deemed neoliberal. These individuals themselves often hold conflicting views about social justice and the welfare state, and would be more inclined to compromise with existing governance forms than to totally overhaul them. It is for this reason that neoliberalism is seen by Collier (2011) as a process of thinking and reflection on existing governance rather than a totalizing ideological project. It is a “technical” (Collier, 2005) project in addition to a political one.

Such a conception is consistent with the patterns detailed in this chapter, which show that although neoliberal ideals were adopted by the state in the form of policy, they were not immediately adopted by executive agencies and officials tasked with implementing the resultant policy changes. This conception also allows us to view the increased state presence in informal areas as due in part to the fact that neoliberalism does not simply happen, it is a technical process that must be implemented by people and institutions.

Scholars have also linked neoliberalism to the erosion of the traditional social contract that binds citizen and state and to the dismantling of welfare policies and the placement of citizens at the mercy of the market (Brown, 2015). Others, such as Collier (2011) have found that neoliberal reforms did not lead to a dismantling of welfare policies but rather a compromise between existing welfare mechanisms and the more market-oriented policies promoted by international discourse. Reflecting on this and the situation I outlined in this chapter, I find that the “traditional social contract” was not eroded as a result of neoliberal reforms. Quite the contrary, as residents are now provided with public services they were previously excluded from. However, what has taken place is a process of unbundling that involves converting a single bundle of property right into set of separate instruments that are portrayed as pursuing different
objectives (Young, 2015). In other words, unbundling involves separating sets of rights so that each component right can then be managed independently without affecting the other (ibid.). I argue that this has taken place such that access to water has become unbundled from the right to secure housing tenure as part of an overall bundle of rights that constitute the right to adequate housing.

The 2014 Egyptian constitution guarantees the right to adequate housing for all citizens. This right encompasses the right to water, sanitation, electricity, and secure tenure, among other things. While residents of informal areas continue to link metered utility connections with proof of tenure, utility companies have stated that the temporary coded meters\footnote{The negative aspects of prepaid meters discussed in this section should not negate some of the benefits of prepayment as shown by Baptista (2016).} are to be used by illegal buildings that cannot apply for a formal connection, and should in no way be considered a form of proof of tenure (Ramadan, 2016).

The water company spokesperson confirmed that these meters are given a number, not a name tied to a formal contract with the company, that they should not be utilized as proof of tenure, and that local governance bodies should eventually demolish these homes and the meters along with them (Al-Gumhuriya, 2014). Both companies have stated repeatedly that the incorporation of non-metered connections, whether through mumarsa or temporary meters, should not be misconstrued by residents as a sign of legality or proof of tenure. Furthermore, by 2015, the electricity company had only been able to install 163,000 coded meters out of 800,000 applicants because of municipal refusal to install these meters out of fear that they would be used as proof of tenure.

I interpret these statements by the utility companies as efforts to unbundle access to water from broader questions of secure tenure and adequate housing that are constitutionally promised to all citizens. Such efforts by the utility companies are thereby eroding the traditional promise linking...
the citizen to a bundle of rights.

6.8. Conclusion

In this chapter I examined the neoliberal reforms implemented in Egypt’s water sector and focused particularly on the impacts they have had in Cairo’s informal areas. I make three main arguments in this regard. First, the implementation of neoliberal ideas was not enabled through hegemonic neoliberal discourses, but rather through a discourse of mass de-mobilization combined with illiberal governance techniques. A second, but related, argument is that rather than being a totalizing ideology or system, neoliberalism can rather be seen as a process of reorganizing certain aspects of the state-society relationship. In light of this, neoliberal reforms did not actually lead to state roll-back in informal areas but rather to an increased presence of state institutions. Third, neoliberal reforms had the positive impact of increasing access in informal areas, but also led to increasingly dispossessing residents of their wealth, as well as to the unbundling of the right to water from the broader right to adequate housing.

The increased access that residents of such areas have today to formal metered utility connections is often interpreted by donors and state agencies through a developmentalist narrative (e.g. USAID, 2012; UN, 2013). It is true that coverage of informal areas by the public utility networks has increased over the past several years, however, this development has been driven largely by neoliberal reforms and has led to the curious situation where informal areas are incorporated financially, but not legally.

The analysis presented above illustrates that utility companies are turning towards ways to accommodate unplanned areas, such that the mechanism for dealing with informality is made ironically formal. However, while said mechanisms are formal, the neighbourhoods themselves remain in a state of ambiguous – if not ambivalent – legality. Residents of informal areas are,
on the one hand, treated as clients who must pay for services just as all other citizens do. On the other hand, they continue to be portrayed as illegal occupants who have encroached upon state land and have a natural proclivity towards theft and crime.

This strange “flexibility” (Desai, 2012) in governing informal areas allows the state to benefit from informality without having to address the many systemic issues supporting it. In light of this, the formal-informal binary becomes obsolete and meaningless, as the flexibility of the formal-informal divide mirrors the flexibility of state practices.

I have therefore suggested that neoliberal reforms implemented in Egypt’s water sector have had the dual effect in informal areas of increasing the presence of state institutions and creating “unbundled” infrastructure that is extracted from the right to adequate housing. This, I argue, is emblematic of several things. First, it is indicative of the unique vantage point offered by infrastructure from which to study neoliberalism and power. Neoliberalism should not be seen as an all-encompassing force that erodes all rights, but rather, neoliberal technologies have repeatedly unbundled sets of rights such that they have promoted certain rights while hindering others. Second, as will be shown in the following chapters, the presence of this dual effect underscores the need to understand informality not as something that occurs outside the state but rather something produced by the state to effect its power in urban space. Rather than see informal connections to public utility networks as a fixed category such as “illegal”, the above analysis demonstrates that a more processual analysis is warranted that considers informality as a process of transformation created just as much by the state as it is by informal dwellers. Infrastructure within Cairo’s ashwa’eyat is thus simultaneously reproduced as a manifestation of the “illegality” of these unplanned neighbourhoods, while also being reproduced as a terrain through which to create new geographies of capital accumulation. Third, it highlights the need to move beyond traditional conceptions of neoliberalism as a
paradigm that prescribes state roll-back and reinterpret it as a political rationality that seeks to reshape the effect of the state by producing new forms of citizenship.
Chapter 7 – Drinking water in Haggana

7.1. Introduction

“We [the GCWWC] are in charge of everything related to drinking water in Cairo. Nobody can get water without going through us first. As for those in the ashwa’eyat who steal water, they have only two options: either payment or incarceration” (Interview 8, GCWWC official, 2014).

“A few years ago some of us tried approaching the water company but they would just say insha’allah [English: God willing] and not do anything. So we figured out other ways to get water. It was only after the Caritas organization got involved that the water company actually began connecting us” (Interview 5, Haggana male resident, 2014).

The above two quotations describe two very different perspectives on water provision. The first is from a department head within the GCWWC, and the second is from a resident of Haggana. When the water company official made these comments to me, he also explained that although the GCWWC is a company, it is still a state institution and thus has the means to retrieve money owed by “thieves in the ashwa’eyat”. The second quotation illustrates the reality of water provision on the ground: that although the GCWWC is the main provider of water, it is only after residents mobilized local organizations that the water company took action. The quotations contrast the image of state institutions that believe they are in control of urban planning and governance with the reality of day-to-day governing of urban affairs, which is much more ad hoc.

In this chapter, I inquire more directly about what the state has actually achieved in terms of governing infrastructure. Continuing this thesis’ dual perspective of “top-down” 51 neoliberal governance and “bottom-up”

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51 I utilize the terms “top-down” and “bottom-up” with caution, maintaining an awareness of what Ferguson and Gupta (2002) highlight as certain state practices that lead to its spatialization.
assemblage of services as a fragmented, almost accidental process, this chapter steps away from the previous chapter’s examination of governance through policies, plans, and legal decrees and moves towards the daily reality of informal areas and how their residents experience services. I thus focus less on the development of policy and more on government actors and institutions that are involved in the execution of actions “on the ground”. I am especially interested in this chapter in exposing the inaccuracy of the mainstream narrative in Egypt regarding the nature of urban change. This narrative is propagated by the Egyptian state and mainstream media and puts forth the image of a developmental state and a recipient society.

I therefore focus specifically on access to water infrastructure in Haggana, while situating the analysis within the governance of informal areas more broadly. I am also interested in the claim by Desai (2012) that the Indian state governs its informal areas “flexibly” by employing practices that contradict official discourse, as well as the claim by Mahadevia (2011) that such contradictions are part of a broader, deliberate plan to confuse citizens, and the application of such an idea to the Egyptian case.

In doing this, I am curious about the contrast between the more “spectacular” forms of infrastructure described in Chapter 4, and the uneven actually-existing outcomes experienced by residents in regards to water infrastructure. According to Ghannam (2002, p.39), drawing on Berman (1983), such a contrast is emblematic of many “pseudo-Faustian” leaders in developing nations who are quite adept at creating imaginaries of progress and development, but almost equally inept at generating actual progress and real improvements in the living conditions of people. I take a slightly different perspective by tracing such a disconnect between powerful discourses and weak actions not to the nature of pseudo-Faustian leaders, but rather to the nature of the way power itself functions in urban

52 For example, Cairo governorate reports mention only government spending and achievements (e.g. Cairo Governorate, 2010).
governance in Egypt. I adopt here a broad understanding of governance as the different ways in which government actors – whether individuals or institutions – try to intervene in urban affairs with the purported aim of changing or improving conditions.

My interest in this relates to wider debates about the nature of power in governance and calls for moving beyond theorizations and imaginaries of power towards examining power in practice. In the words of Griffin (2012, p.209),

“examining power is not just a theoretical diversion intended to enhance conceptual thinking; understanding how power operates in actual governing arrangements clearly has important implications for appreciating the limits to democratic and successful policy making”

In dealing with these issues I draw on discussions of power in governance by Collier (2009), Griffin (2012), and Allen (2016), particularly their conceptualization of power in governance as topological and contingent.

I relate this notion to infrastructure by arguing that we need to distinguish between our analyses of infrastructure as a subject or instrument of power, and of infrastructure as an object of power through governance interventions or development efforts. By doing this we remove any conceptual contradiction between depicting infrastructure as an effective instrument of state power (as I did in Chapter 4), and an object of government interventions that can exhibit the truly contingent nature of power in governance, as I do in this chapter.

I begin this chapter in section 7.2 by introducing the case study area, providing an overview of the area’s history, living conditions, and the institutions involved in its governance. Following this, I provide in section 7.3 a brief historical account of the development of Haggana’s access to water and the different infrastructures used. I continue the rest of the chapter exposing the rich details of the development of water
infrastructure in Haggana, and situate this within the broader status of informal areas in Egypt and Cairo and their relationship with the Egyptian state historically and today,

7.2. Situating Ezbet El-Haggana

As mentioned earlier in this thesis, one of the factors that drew me to study Cairo’s informal areas was the narrative of frozenness I heard from the mainstream media compared with the narrative of change I heard from residents.

Many homes that had not previously had access to water, wastewater, or electricity, were now connected to the public utility networks, in some cases even including natural gas connections, which have been slow in coming even to Cairo’s formal areas. Although there was hardship, stigmatization, and marginalization from services, there was also a strong narrative of development and improvement among the residents.

“\textit{I came here in 1995 and it was like a desert. It had a very bad reputation. I never left the house alone, and even with my husband I wouldn’t walk outside after dark. It was almost empty, there were very few people here, the only area that was a bit lively was around the 4.5 entrance. There was no water or electricity, we had to fill jerry cans from a standpipe and carry them home, and we had to use gas lamps to light our homes. It wasn’t safe at all, I was scared to walk out of my home alone, there were many thieves, they could break into your home. 4.5 was known as the place where all the thieves in Egypt lived. Today it is so much better, it is almost like a normal neighbourhood now. The area today is well-inhabited, and there are many good people living here. I can walk around and feel safe because the people around here know me. There are good buildings now which attracted decent people. Now you find rich people and poor people and all different backgrounds in Haggana}” (Interview 17, Haggana female resident, 2015).
My interest was piqued regarding why and how such dramatic changes had taken place when much of the academic literature on informal Cairo seems to indicate a perpetual neglect or absence of the state.

I was particularly drawn to the inner-city settlements on state-owned desert land that tend to receive the most attention in the media because the rhetoric of pessimism and frozenness that pervaded popular reports seemed incongruous with the narrative of change described by residents. This narrative challenged official government accounts of the state’s own efforts and successes in improving various aspects of living in informal Cairo.

Ezbet El-Haggana is one such area. Also known by the name “Kilo 4.5”, Ezbet El-Haggana is in the eastern part of Cairo governorate, constituting a sub-district (shiaakha) of the East Madinat Nasr municipality.

Figure 14: Haggana within within Cairo.
Source: Google Earth
The neighbourhood developed on a piece of vacant state-owned desert land in Eastern Cairo in the 1960s. The name “Kilo 4.5” emerged because the main entrance to Haggana lies on the Cairo-Suez highway at a point that was formerly exactly 4.5 kilometers from the borders of Heliopolis district. The name “Ezbet El-Haggana” derived from the original function of the area as a settlement for the families of the Egyptian army’s camel corps, which is the translation of the word *Haggana*. Because of this, the area today is known by both names, Kilo 4.5 and Ezbet El-Haggana, and is listed under both names in the national census and on the Cairo governorate website. The below map depicts Haggana’s administrative boundaries as per the Cairo governorate’s delineation of the sub-district (*shiaakha*), compared with the borders of Ezbet El-Haggana informal area. The remaining built-up area that is outside the Haggana informal area but inside the administrative boundaries are formal housing, some for military officers and their families.

![Map of Haggana's borders](image)

*Figure 15: Haggana’s borders.*

*Source: Google earth*

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53 The term “Ezba” – which roughly translates to “estate” – is in the names of many informal areas across Egypt. In Cairo alone there exists Ezbet El-Haggana, Ezbet Khairallah, Ezbet El-Nakhil, to name only a few.
When conducting fieldwork in Haggana, I learned a number of important things about the neighbourhood and the various communities that inhabit it. Although Haggana is almost always referred to as a single neighbourhood by the media and in much academic literature, it is actually composed of multiple smaller neighbourhoods, and residents rarely refer to it as a single community. These smaller communities include the 4.5 entrance area, the Caritas area, the Hagg Shihata area, the Madaris area, the Masakin El-Shorouk area, the Tabba area, and the Daght Al-Aaly area. The Daght Al-Aaly area is the cluster of homes situated under the high-voltage cables and it is arguably the poorest and most stigmatized part of Haggana, since it suffers from internal stigma as well as the external stigma that Haggana as a whole suffers from.

“My area is a good area with good people, but further up you will find the area has attracted strange people, especially under the electricity cables, that is the worst part of 4.5. And I hear that if you go up near the Tabba area you will find the place with lots of refugees, but I have never been there” (Interview 3, Haggana female resident, 2015).

![Figure 16: Haggana’s main landmarks](Source: Tadamun, 2015 (CC))
Residents must still hide that they are from Haggana when applying for jobs or when applying for their children to enter schools outside of Haggana. If they mention their true place of residence they face a high risk that employers will refuse to hire them, which is particularly true for domestic workers who find that people are generally reluctant to have someone from Haggana enter their home on a daily basis. Similarly, it is necessary to lie and pay bribes in order for children from Haggana to be admitted to schools outside of the neighbourhood.

“It was very difficult to get my kids in a school outside 4.5. I had to find a connection inside the school when I was applying for one of my kids so they wouldn’t say anything about the fact that he’s from 4.5, and I had to pay many bribes, which they call donations”. (Interview 19, Haggana female resident, 2015).

“In my school nobody can say they are from 4.5. Every kid has memorized a different place they say they are from. One time a boy in my class forgot and when the teacher asked him where he is from he said 4.5. That teacher really hates 4.5, so he made him stand facing the wall for the rest of the day. After that none of the kids ever forgot again” (Interview 4, Haggana male child, 2015).

Many residents use the address of Madinat Nasr on their national ID cards rather than Haggana to avoid dealing with such issues. In the words of one resident, “Having 4.5 on our ID is the worst! My ID and my family’s IDs all say Madinat Nasr not 4.5” (Interview 5, Haggana female resident, 2015).

Ezbet El-Haggana is one of the 14 informal areas that have full water network service, and the neighbourhood also has a wastewater network. Haggana constitutes 58% of the total number of people in East Madinat Nasr (EMN) district who are outside the public water network, 14% of those in EMN who rely on a tap outside their building, and 27% of those in EMN who rely on a tap inside their building but outside their housing unit.
The residents I interviewed and the Greater Cairo Wastewater Company indicate that septic tanks are a thing of the past, and all homes are connected to the wastewater network. It is, however, a shallow and poorly constructed network that suffers from repeated blockages and breakages. In fact, during two years of fieldwork there was not a single instance in which I visited Haggana and did not encounter muddy streets due to a burst wastewater pipe.

“As for the sewage system, it has always been horrible and is still horrible today, the pipes are always clogged, if you come to the Ezba on any day you’ll find the streets are muddy because there is a problem with the sewage pipes” (Interview 6, Haggana male resident, 2015).

Regarding natural gas, Haggana’s residents depended for decades on purchasing government subsidized butane gas cylinders, which have been at the center of a black market controversy leading to a dearth of subsidized cylinders and soaring prices of cylinders on the black market. In March 2015, Egypt’s Ministry of Petroleum stated that the Egyptian public holding company for natural gases (EG-GAS) had started connecting Ezbat El-Haggana to the natural gas network. I conducted follow-up interviews in January 2015 in different parts of Haggana, and residents confirmed that the company had announced that residents could begin applying for connections, and many have indeed been connected to the network. The implementation is still ongoing, and the entire area has not yet been covered.

“My first and second apartment had water and electricity meters, but the third one didn’t initially. But now it has water, electricity, and even natural gas. They started installing natural gas in the area around 6-months or a year ago, they started at 4.5 and now have made it up to Sheikh Shehata mosque. They took EGP 1800 in cash, and the rest you can pay in instalments” (Interview 7, Haggana male resident, 2015)
Regarding transportation, according to the Cairo governorate website, there are seven mini-bus lines serving Haggana with a total of around 60 vehicles connecting Haggana to all parts of Cairo and Giza. Haggana has a major bus stop outside the 4.5 entrance, and another at the El-Tabba entrance at the area’s south-western border. By most standards Haggana is well-served by bus lines, but internally, because of the fractured, narrow winding streets, it is very difficult for cars to navigate, so the only way to move around the neighbourhood is via the informal motorized rickshaws that have flooded the area (and Cairo in general) over the past decade.

Figure 17: The streets of Haggana
Source: Takween ICD (CC)

In the remainder of this section, I provide an overview of the government institutions responsible for governing Haggana, as I repeatedly mention them throughout the remainder of this thesis.

The Cairo governorate played a direct role in Haggana during the 1970s when it took part in a dispute between the armed forces and the semi-public company Madinat Nasr for Housing and Development (MNHD) over who held ownership/authority over the land. Eventually, the governorate pulled out of this dispute and allowed the remaining two parties to resolve
this issue. Today, the governorate’s role in the area is much less direct. The Cairo governorate, through its UUU is taking part in an upgrading plan for Ezbet El-Haggana that is currently still under discussion and has not yet received final approval. Administratively, Haggana falls under the responsibility of the Cairo governorate, within the municipality of East Madinat Nasr.

The MNHD owns part of Haggana’s land and in the past had a relationship with residents that could be at best described as antagonistic. During the 1960s, the MNHD became responsible for all lands falling within the boundaries of the nascent Madinat Nasr district. Its first step was to offer to sell residents their land for a fixed price of EGP 500/meter for plots under 500 meters, and EGP 1000/meter for larger plots. It stipulated that the amount must be paid in one single payment with no allowances for down-payments or instalments. It also said that the residents would not be able to certify their contracts, and the ownership was non-transferrable, so they could never sell their homes. The residents objected that the prices were too high and the conditions unfair. Following this announcement, the military announced that it would sell its lands to the residents for prices between EGP 50-200 per meter, and they could pay 25% down-payment and pay the rest over instalments, and though the contracts would be non-certifiable they would be able to transfer ownership to others.

This initiated a major dispute between residents and the MNHD, which was exacerbated a few years later with the issuance of Decree no.506/1984. This decree formally announced which parts of Haggana belong to the MNHD, and following the decree the MNHD sent bulldozers to demolish the homes on its lands. A violent confrontation with the residents ensued, with women and children at the forefront of the standoff with the bulldozers, and the residents eventually emerged victorious. Following this, five families filed a court case against the MNHD and won, after which MNHD renewed its offer to sell the residents the land at a cheaper price of EGP 20/meter. However, the residents had lost faith in the MNHD and
many refused, saying that they had historical ownership over the land. Today, the MNHD does not directly intervene in Haggana, and has not been present there for several years. However, it is involved in the aforementioned upgrading plan being developed by the Cairo governorate, particularly in the Daght Al-Aly area under the high-voltage cables.

Egypt’s ISDF, established in 2008 in the wake of the Duweiqa rockslide disaster, has been tasked with identifying “unsafe” areas across Egypt. Its intervention in Haggana is quite indirect as it has not implemented any activities in the area thus far. However, in its reports, it lists Haggana’s Daght Al-Aly area as an unsafe area that has a “Degree 3” level of “unsafety”, meaning that it poses a threat to the public health of its residents. This is due to the high-voltage cables that have resulted in many illnesses for residents according to the residents themselves and to the ISDF’s analysis. Its policy for dealing with such areas is to provide technical (and sometimes financial) support to the responsible governorate, in this case the Cairo governorate, to implement any measures necessary to resolve the health threat. The ISDF has not officially announced any plans for Haggana, but I was unofficially informed through personal interviews with ISDF employees that they are also involved in the aforementioned plan for upgrading Haggana and have been awaiting final approval for it for over a year.

The armed forces own part of the land and have been described by one interviewee as showing sympathy to the residents in Haggana’s early days, particularly when the military announced that it would sell its lands to residents for the low price of EGP 50-200 per meter, with a 25% down-payment and instalment option and transferrable ownership. In 2012 there had been demands by several residents to use an adjacent piece of vacant land belonging to the armed forces to build a much-needed third school in the area. This was announced in 2013, but no school has yet been built. Today the armed forces are building a cluster of buildings directly outside Haggana’s eastern border, and some local NGOs are worried that this may
fuel attempts by the ISDF and the governorate to evict a larger number of Haggana residents than any upgrading plans would actually necessitate.

Figure 18: New military buildings adjacent to Haggana.
Source: Google earth.

Many residents I interviewed, however, displayed positive feelings towards the army buildings, and showed excitement that these buildings would raise the status of Haggana and would surely result in the building of shopping malls and centers that Haggana residents could use. One local NGO worker informed me that she expects the army buildings will be surrounded by a fence upon completion, thereby converting it into a gated community, and that Haggana residents would, as usual, be excluded from this new development (H.M., personal communication, 2014).

“I can show you the new army buildings, they are being built by the military and will be put up for rent, but I heard they will be very expensive so they will only attract decent people. They will make 4.5 a fancy place” (Interview 34, Haggana male resident, 2015).
Since Haggana became a “shiaakha” (the lowest urban spatial division in Egypt) in the 1990s, there has been a member on the LPC representing Haggana. The LPC is the only form of elected local government, and the representatives of Haggana often engaged in aggressive campaigning and vote buying. Members of parliament (MPs) have also played an important role in the area, mostly in past elections, especially during the late 1990s and early 2000s when NDP campaigning was particularly aggressive and largely revolved around bettering access to services. The role of the NDP through MPs and LPC representatives is explored in more depth at a later stage in this thesis.

Finally, although utility companies did not formerly play a central role within Haggana this is now changing. Today they are changing the standard of living in Haggana by extending services and legalizing hitherto informal connections. However, this also has indirect effects on the area. First, many of the informal clientelistic power networks functioned around improving access to services, and thus the provision of these services by utility companies has disrupted many of these power relationships. Second, many of the interviewees stated that Haggana can no longer be considered a slum because it now has access to services, and they now perceive their area to be like any other popular (shaabi) area in Cairo. This highlights the indirect impact service provision has had on the self-stigmatization and self-perception of Haggana residents.

7.3. The development of Haggana’s water infrastructural landscape

When Ezbet El-Haggana was first settled by the camel corps soldiers before the 1950s, water was delivered on a daily basis via trucks sent by the armed forces to fill water tanks inside homes. This constituted Haggana’s first form of water infrastructure (Community workshop 1, Haggana residents, 2015; Interview 1, Haggana-based NGO manager, 2014).

Through the information I gathered from the oral history accounts of residents, I managed to construct a history of the process Haggana
underwent to reach the water infrastructural landscape it has today.

Although the armed forces discontinued its delivery of water during the 1960s, they had already allowed the camel corps soldiers to build homes for their families in Haggana. Therefore, knowing that there were already several families living in the area, the armed forces built two public standpipes at the northern and southern edges of Haggana. These standpipes constituted Haggana’s second form of water infrastructure.

Arguments and physical altercations between residents around the water standpipes became a regular occurrence, and as overcrowding and long lines became characteristic of residents’ daily journeys to retrieve water, informal water vendors appeared in the area, selling water door to door at high prices, knowing that many residents would be willing to pay to avoid the standpipe journey. Over time, these water vendors came to represent a type of mafia of water. Local strongmen established control over the public standpipes and were charging people a fee to use them. As one resident explained, “Initially we would get water through individual efforts, and we had to pay a monthly fee to the baltagy [strongman] who had control over the valve” (Interview 2, Haggana female resident, 2014). This water mafia made up yet another piece of the infrastructural landscape of water in Haggana, but rather than being a facilitative network (as infrastructure is often depicted), they impeded the circulation of water.

As many residents realized that the water vendors “were not a much better option than the standpipes” (Community workshop 1, Haggana residents, 2014), wealthier residents hired independent plumbers to dig and install pipes connecting their homes to the standpipes. Some even installed taps inside their homes, so that they would have in-home access to the standpipe water.

Meanwhile, the MNHD and the water authority had been installing water mains around the Madinat Nasr district adjacent to Haggana, but they did not extend the pipes to connect to Haggana (Interview 1, Haggana-based
Thus, a combination of public standpipes, informal in-home connections, and water vendors were the forms of infrastructure that constituted Haggana’s waterscape until roughly the mid-1990s.

During the 1990s (a period I describe as the era of the clientelization of informality) as the community of Haggana’s residents grew, certain residents gained influence through their financial prowess but also through their wide social networks both inside and outside the neighbourhood. Politicians vying to become MPs representing Madinat Nasr, or members of Madinat Nasr’s LPC, campaigned heavily in certain parts of Haggana.

“I had to purchase water and the barrel cost EGP 1.5 and lasted me 1-2 hours, and it wasn’t even clean water; then around 15 years ago there was a parliament member called Thuraya Lubna who started connecting parts of the area to the water network during election times” (Interview 5, Haggana male resident, 2014).

Despite the fact that the Cairo governorate had issued a decree in 1991 highlighting Madinat Nasr’s water shortages and decreeing that no new buildings should be built without the approval of the water utility, these politicians routinely promised (and delivered) connections to the water network in exchange for votes. Between the 1990s and mid-2000s, Haggana officially became an administrative sub-district of Madinat Nasr, which entailed a representative in the LPC and voting influence for the Madinat Nasr parliament member. After this, large portions of Haggana’s residents were able to connect to the water network and receive in-home connections through the process of vote selling (Community workshop 1, Haggana residents, 2014). Thus, local politicians and their clientelistic vote buying politics constitute a central part of Haggana’s infrastructural water landscape during the 1990s and 2000s.

In 2000, thanks to pressure from the local politicians representing
Haggana, the Cairo governorate issued a decree mandating that Haggana be upgraded, including officially connecting the area to the public utility networks (Decree 925/2000). Thus, in 2002 the Cairo water authority finally announced it was developing a plan to connect Haggana to the water network in five stages (Interview 8, GCWWC official, 2014). They began at the area’s northern edge and proceeded inward, installing piping that was connected to the nearby water mains. At a certain point, the water authority ceased digging and moved to the area’s southern edge and proceeded inward from there (Interview 1, Haggana-based NGO manager, 2014). Thus, huge areas in the middle of Haggana fell through the cracks and did not receive water access for years. In addition, the process proceeded incredibly slowly, as many of the employees of the water authority remained resistant to the idea of connecting an informal area to water (Interview 42, GCWWC official, 2015) and the Madinat Nasr municipality halted the process by issuing its own orders to stop installing water pipes (Interview 43, East Madinat Nasr municipal official, 2015).

“The governor visited the area once around 2000 and said water would be installed everywhere, but when we went to the municipality we were told that 4.5 is illegal and doesn’t even appear on their map” (Interview 4, Haggana male resident, 2014).

Another obstacle to Haggana residents receiving formal access to the public water network is that there were no provisions at the time allowing residents without proof of tenure to legally apply for a water connection. Furthermore, residents also had to pay for their in-home connections, which many could not afford, and thus many continued to rely on informal water sources.

The implementation by the water authority took place at such an incredibly slow pace that many residents could not wait until the water company’s plan reached them and pooled their financial resources to construct informal connections to their streets and homes (Community workshop 1,
Haggana residents, 2014). Ultimately, despite the fact that public utilities were officially connected to Haggana in the early 2000s, the reality is that most people continue to lack access because of the high cost of installing a home connection, the widespread poverty in the area, and the lack of proof of tenure (Interview 1, Haggana-based NGO manager, 2014).

Throughout 2005, several local Community Based Organizations (CBOs), especially in Haggana’s southern region, implemented projects to collect money from residents and hire plumbers to illegally tap into the nearest water mains. They hired plumbers to install 4-inch asbestos pipes down certain main streets in Haggana connecting them to the water main and to install smaller pipes connecting the side streets (Interview 6, Haggana-based CBO staff, 2014). Usually these projects tended to encompass the offices of the CBO along with the homes within the vicinity of the CBO, thereby spreading the cost of the plumber and pipes. To ensure that government officials did not interfere with the process, the project leaders bribed security and municipal authorities (Interview 6, Haggana-based CBO staff, 2014). One such initiative, documented by Bremer and Bhuiyan (2014) and Wahby (2013), show that the CBO members also bribed a parliamentary member who wanted to claim that the project was his own, as well as the local strongmen who had taken control of the standpipes and did not want to lose their opportunity for profit (Bremer and Bhuiyan, 2014).

The slow process of connecting Haggana to the water network continued to be stalled due to multiple conflicts between the residents and the company over the company’s desire to charge high arrears for the water residents had been “stealing” (Interview 8, GCWWC official, 2014) over the years. The standoff was finally resolved when a local NGO received a grant from the Japanese International Cooperation Agency (JICA) to cooperate with another NGO (Caritas) and organize local water committees from Haggana’s residents to advocate for their right to water through meetings with the water company and local officials. The committee was also
responsible for negotiating with the local strongmen (who were known locally as the water mafia) controlling the standpipes and obstructing the installation of infrastructure. The NGOs and JICA also mobilized funds to cover some of the costs of the branch connections, home connections, and water meters for residents who could not afford them (Interview 1, Haggana-based NGO manager, 2014).

Thus, by 2010, some parts of Haggana had formal access to the public water network while some had informal access. Others had a mix of informal self-installed pipes that tapped into mains, and still others relied on a combination of neighbours’ connections and making the arduous journey to collect water from the public standpipe. This is still the case today in many informal areas, as explained by a Cairo governorate official discussing the situation of water in Cairo’s informal areas:

“The situation in informal areas is very complicated. One of the issues we are dealing with is that when we ask the question: ‘What is the service level in this area?’, there is no straightforward answer. There are some areas with water in the middle, some areas with a network, some areas with an informal network, some areas with a public main at the edge, and some areas with no water at all” (Interview 44, Cairo governorate official, 2015).

When the Egyptian uprising erupted in January 2011, all installation of the public water network in Haggana halted and by the time I conducted my preliminary fieldwork in 2013 there were still areas in the south of Haggana that had not been connected to the formal network and were still dependent on informal means. Many residents shared home-based water taps, such that every two neighbours would purchase a single connection together to ease the financial burden, and some of those who obtained a home connection also installed a public standpipe in front of their home to help those less fortunate. Even among those who had been connected by the water company, many continued to rely on their old self-built informal
systems (Community workshop 1, Haggana residents, 2014). According to Bremer and Bhuiyan (2014), the water company did not remove the informal system when it installed its own pipes, and for many years residents used the informal piping as a backup measure for when the formal system suffered outages, or as a way to bypass the exorbitant arrears charged by the water company. This was also confirmed through my own observations and discussions with residents.

The combination of plumbers, pipes, CBOs, resident cooperation, and clientelistic state-society relations, created a mix of social and physical infrastructure not entirely different from what AbdouMaliq Simone describes in his “people as infrastructure” thesis (2004). Haggana’s waterscape was an “archipelago” (Bakker, 2003) of various combinations across the formality-informality spectrum.

As soon as I would ask how access to water has changed between when they first moved to Haggana and today, many of the residents I spoke to would immediately begin by remembering the days when they had to walk for hours to fill their jerry cans with water from the standpipe because they could not afford to pay the vendor. These residents were not referring to the 1980s or earlier, they were speaking of the early 2000s.

“Water entered my home in 2009, before that we used to purchase jerry cans. Some other people would buy a water tank which was around 35 pounds, but only a few people could afford that. We had to carry the water long distances. My girls had to leave school to help me with that” (Interview 3, Haggana female resident, 2014).

These residents (and there are many) happened to live neither in the path of local politicians’ vote buying efforts, nor in the vicinity of a local CBO’s water project. During the community workshop I conducted in Haggana, several residents stated that they did not get in-home water from the public network until the late 2000s, and some still did not have it. In fact, in 2012, residents in Haggana’s south staged a road sit-in to demand water
because they had still not been connected to the public network (Wahby, 2013). When I visited Haggana again in 2014 the southernmost part of Haggana was still waiting for the water company to connect them. This variegated water landscape comprised of multiple overlapping forms of infrastructure, some formal and some informal, persisted until late into the 2000s.

By 2016, when I conducted additional fieldwork across Haggana’s various neighbourhoods during which I spoke with residents, I could not find anyone who did not have in-home access to water from the public network, and most of those I spoke with had water meters, meaning that their access was considered formal by the water company. However, every single one of the residents I spoke with informed me that they were embroiled in constant disputes with the company over alleged arbitrary charges and arrears.

The historical examination of Haggana’s access to water highlights a highly variegated and complex water infrastructural landscape. Government statements to the media frame this complicated process in terms that make it seem as though the water authorities simply realized a need for water and filled it. It neglects to mention the multiple methods that residents had to resort to in order to obtain water, including vote selling to local politicians, taking part in self-help projects, and participating in donor-driven NGO projects. It also neglects the almost tug-of-war nature of the relationship between the residents and the authorities responsible for providing water, one that involved lawsuits, sit-ins, and resistance constantly exhibited by officials despite higher-level decrees establishing Haggana’s right to water.
7.4. Governing water in Haggana and the clientelization of informality

As mentioned previously, the approach of upgrading informal areas in situ did not result in the success donors had expected, and thus was not replicated, and informal Cairo was left to its own devices when it came to accessing water. As mentioned above, in Haggana, the soldiers originally stationed there were provided water via trucks sent by the armed forces to fill tanks inside their homes, and after this residents obtained water through public standpipes. As Haggana’s population surged throughout the 1970s and as its area expanded, it became a common occurrence to see physical altercations around the water standpipes due to overcrowding and long lines (Interview 1, Haggana-based NGO researcher, 2015; Interviews 25 & 26, Haggana female residents, 2015). It was not long before some enterprising individuals saw the opportunity to make money, and informal water vendors appeared in the area. According to the interviewees, the choice between walking long distances carrying heavy jerry cans of water or purchasing overpriced water from a vendor was not always an easy decision. In the words of one respondent:

“The water vendor was expensive, so most days I would try to get water from the standpipe, but it was far from my house and always crowded, and my back would hurt from carrying the jerry can, so some days I would just buy from the vendor” (Interview 16, Haggana female resident, 2015).

The vendors took advantage of the fact that most residents were located far from the standpipes, and regularly increased their prices. To avoid the need to rely on vendors, some of the better-off residents installed taps within their homes, which were illegally connected to the standpipes. Those who did this were mostly clustered in the 4.5 entrance area, partly because of their closer proximity to the standpipes, and partly because many of the wealthier residents resided in this area (Interview 1, Haggana-based NGO researcher, 2015).
In 1984, Presidential Decree 506/1984 was issued officially giving the MNHD authority over most of Haggana’s land. Following the issuance of the decree, the MNHD sent bulldozers to demolish the homes of the residents on its land, but when the women and children of Haggana blocked the path of the bulldozers they eventually retreated (Interview 1, Haggana-based NGO researcher, 2015; Interviews 25 & 26, Haggana female residents, 2015). Meanwhile, the president issued a decree stating of the legality of all informal settlers in Cairo to buy their plots (El-Batran and Arandel, 1998). After the events of 1984, the MNHD renewed its offer to sell plots to the residents of Haggana at a lower price and some residents took this offer, although many refused citing mistrust of the MNHD and historical ownership of the land (Interview 1, Haggana-based NGO researcher, 2015; Interviews 25 & 26, Haggana female residents, 2015).

The residents I interviewed blamed the dispute with the MNHD on the fact that it did not try to increase the number of standpipes or connect Haggana to the water network, despite the fact that it was already installing the network in the adjacent Nasr City district, and so would not require much additional cost to connect Haggana (Interviews 25 & 26, Haggana female residents, 2015). Some residents informed me that they collectively approached the MNHD, the municipality, and the Cairo water authority to ask that the pipes adjacent to Haggana be extended to its main streets. The response from all three entities was that not only were they ineligible to receive services due to their illegal occupation of the land, but that the area did not even exist on the government maps (Interviews 4, Haggana male resident, 2014; Interview 6, Haggana male resident, 2015). Thus, Haggana remained dependent on standpipes and water vendors.

By the mid-1980s coverage by the water network increased significantly in Cairo, as 73% of buildings had become connected to the public water network, with a rate of 63% in Madinat Nasr (CAPMAS, 1986). However, in 1981 one study reported that informal housing was poorly connected to infrastructure networks, especially in comparison to formal areas (ABT
Associates and GOHBPR, 1981). The study notes that although levels of access in Cairo as a whole were quite high at the time, access in some areas where fieldwork was conducted was found to be “surprisingly low” (ibid.). In the words of the authors, “this suggests that political considerations affect decisions to extend infrastructure to informal areas, and that classifying an area as informal and thus not deserving of infrastructure lines may simply be a convenient rationale for rationing scarce infrastructure resources” (ibid.).

It is important to keep in mind that at this time, Haggana was not yet incorporated as an administrative sub-district of Nasr City district, and thus was not included in the census. If Haggana had been included in the census figures for Madinat Nasr, the percentage of water network coverage would likely have been much lower. In lieu of information regarding connection levels in informal areas, we can look to Manshiyyit Nasser, which had become an administrative district by that time and thus was included in the census. In Manshiyyit Nasser, Cairo’s largest informal area in which the WB pilot project had been implemented to connect its residents to the water network, only 30% were connected and almost 70% remained with no connection (CAPMAS, 1986).

As Egypt entered the 1990s, much activity was taking place in reforming the water sector and ensuring its cost recovery, as detailed in the previous chapter, but very little was happening in regards to increasing coverage within informal areas. Within Haggana, accessing basic services like water and electricity had begun to depart from the chaos of the preceding decade, characterized by repeated physical altercations between residents and individual ad hoc solutions, and instead was moving towards a more systematized approach (Interview 1, Haggana-based NGO researcher, 2015). This service provision system revolved around the emergence of certain prominent figures from among the residents known locally as kebeer el-mantiqa (English: neighbourhood elders) (Community workshop 1, Haggana, 2014). These people derived their power and influence over
other residents through their wide social networks in the area, as well as their connection to local government through their involvement in politics.

The connection of neighbourhood elders to local government was secured when Haggana officially became a sub-district ("sheyaakha") of Nasr City in 1990 according to Interior Ministerial Decree 4117/1990, thereby gaining it a seat in Nasr City’s LPC\textsuperscript{54}. It also meant that anyone running for parliament on behalf of Nasr City now considered Haggana’s voting capacity. The neighbourhood elders, almost always male and wealthy, were heavily involved in both forms of politics, whether through campaigning to be LPC members themselves, or by campaigning for prospective MPs.

Many of these individuals solidified their engagement in Haggana’s internal affairs and development by establishing CBOs or Community Development Associations (CDAs) that offered a range of social services to residents, such as monthly financial stipends for female heads of households (Interview 1, Haggana-based NGO researcher, 2015). In the words of one resident regarding one of the neighbourhood elders in her part of Haggana,

"Yes he is very well known around here. He has a charity and they let women register to take a small payment every month to help with household expenses. I applied several years ago and thank God they accepted my papers because I am divorced with three kids" (Interview 8, Haggana female resident, 2015).

As external development organizations (including both national and international NGOs) began trying to establish activities in Haggana, and as the international trend of community participation became a stipulation in most development projects, those organizations turned to such individuals to mobilize residents and local officials (Interview 1, Haggana-based NGO manager, 2014).

\textsuperscript{54} There are two forms of elected government in Egypt that rely on neighbourhood-based votes: the parliament and the LPCs. The LPCs are elected by residents within each municipality to act as a body of popular oversight for the municipality’s activities.
Through their involvement in local politics and their relationships with governmental authorities and development organizations, these individuals became one of the main channels through which residents obtained water and electricity infrastructure in Haggana (Community workshop 1, Haggana, 2014). As one resident stated when speaking about Mostafa El-Sallab, an MP for Madinat Nasr district,

“When I moved here in 1998 there wasn’t any water and we purchased jerry cans for 50 piasters, and we suffered a lot in carrying the water. Now the water is good and we don’t have to purchase, thanks to El-Sallab. El-Sallab did a lot of work in connecting parts of the Ezba to water, he helped us get government pipes” (Interview 3, Haggana female resident, 2014).

After Haggana’s conversion into an administrative sub-district, residents were required to elect a representative on Nasr City’s LPC. This became a vehicle for vote buying, clientelism, and corruption. Similarly, MPs running to for the Madinat Nasr seat became notorious during the 1990s and 2000s for trying to obtain votes in exchange for community services (Interview 1, Haggana-based NGO manager, 2014). The services they relied on the most to achieve this vote buying were water and electricity.

At this time, the Nasr City district was already feeling the pressure of increasing demand on the water network and was struggling to keep pace with it. In fact, in 1991 the Cairo governorate issued Decree 132/1991 that no new buildings or residential agglomerations should be built in Madinat Nasr without the approval of the Cairo Water and Wastewater utility due to the limited amount of water available in Madinat Nasr. Nevertheless, Thuraya Labna, a member of the ruling party NDP and an MP representing Madinat Nasr in the 1987-1990 and 1995-2000 parliaments, promised residents that despite the district’s water situation, she would ensure they all gained access to water, sanitation, and electricity, if they voted for her (Community workshop 1, Haggana, 2014). As part of her campaign, she
began installing informal connections to connect some homes to the public network. Several of the residents I interviewed recalled that the first time they had in-home running water was through the connections installed by Labna’s campaign. For example, according to one respondent,

“Thuraya Labna was a good woman, she would walk all around Haggana asking people to vote for her, and she is the one who helped me get water in my house, before that my wife would have to walk every day to the standpipe” (Interview 7, Haggana male resident, 2015).

Another MP in the 1994-1998 parliament, Abdul-Meneim Umara, focused on electricity infrastructure and street lamps during his election campaign (Interview 1, Haggana-based NGO researcher, 2015; Community workshop 1, Haggana, 2014). Shortly after Umara was elected in 1994, the Cairo Governorate issued Decree 409/1994 to allocate a piece of land inside Haggana for the Greater Cairo Sanitation Utility to construct a pumping station that would manage Haggana’s wastewater. According to one respondent, Umara’s campaign “helped with the installation of electricity in certain parts of Haggana, but the process halted abruptly as soon as elections were over” (Interview 1, Haggana-based NGO manager, 2014).

This situation was not unique to Haggana but became rather symptomatic of state-society relations in informal Cairo during the 1990s and early 2000s. This process was replicated by Mostafa El-Sallab, another parliamentary candidate, when he ran for parliament in the 2002 and 2005 elections, also representing the NDP (Community workshop 1, Haggana, 2014). As was the case with Labna, throughout both of his campaigns El-Sallab connected certain parts of Haggana to the water network. When in 2008 water still had not reached the south of Haggana, El-Sallab, along with a municipal official, held a community meeting in a local CBO, and together they promised that within weeks residents would be able to open the taps in their homes and find water at any time during the day or night.
(Al-Hufy, 2009). When he was campaigning in 2005, El-Sallab made a similar promise to connect all homes to electricity during the elections, and even distributed application forms to residents (Masoud and Muawwad, 2007; Haggana residents, personal communication, 2014).

Clear from the actions of every MP that has run for the Madinat Nasr seat is that informality was exploited by ruling party politicians as a way to gain votes “exchanged for money or for unfulfilled promises” (Fahmy, 2004, p.610), thus leading to a so-called “clientelization of society” (Dorman, 2007). In the words of Dorman (2009a, p.430):

“While officials did rebuff bottom-up demands for servicing, the long-term trend has been for areas to receive local connections eventually – usually the result of a clientelistic micropolitics whereby informal communities cultivate ties to state officials and the latter use services (or at least the promise thereof) as means of cultivating support”.

It is also clear that when residents demanded access to water in the late 1990s and the Cairo Water and Wastewater Authority told them they were not on the city map, the Authority was already engaged in planning a wastewater station there. According to a local NGO, the first wastewater-pumping station for Haggana was constructed in 1995, prior to which residents relied on septic tanks. However, the network suffered from many technical problems because it did not account for the hilly nature of the area’s topography. A second station was constructed in 1997, but it also failed for the same reasons, and many residents continued to use septic tanks (Community workshop 1, Haggana, 2014). The Cairo Water and Wastewater Utility’s insistence on refusing to connect Haggana to the public water network was so strong that a local NGO took the matter to court. In 2002 the NGO filed a lawsuit against the utility for refusing to connect Haggana, winning the case (Interview 1, Haggana-based NGO manager). Shortly thereafter, a five-stage plan was announced to extend the public water network into Haggana.
7.5. Quenching Haggana’s thirst: The era of people as infrastructure

In 2002 the Cairo water authority finally developed a plan to connect Haggana to infrastructure, dividing the area into five stages (Interview 8, GCWWC official, 2014). They began by constructing water mains around the 4.5 entrance area at Haggana’s north, but the plan had two caveats: 1) residents had to pay for an in-home connection so again, only the better-off residents managed to obtain a connection; and 2) because most residents could not provide formal proof of tenure or a building license, their in-home water connections would remain informal (Interview 1, Haggana-based NGO manager, 2014; Community workshop 1, Haggana, 2014). In late 2002 the municipality issued orders to the water and wastewater authorities to stop connecting Haggana to the infrastructure networks (Ali, 2003; Al-Dimrani, 2009), despite the fact that months before, Decree 925/2000 was issued declaring that Haggana should be upgraded and obligating the municipality to connect the area to infrastructure. Despite the impetus to connect informal areas to infrastructure within central-level state institutions, there continued to be resistance towards this from municipal officials.

To prevent any other objections from municipal authorities, the Cairo governorate issued a decree in September 2003 that all informal areas in Cairo should be upgraded (Interview 44, Cairo governorate official, 2015). Thus, water and wastewater authorities continued to extend infrastructure networks to Haggana, but since residents had to pay for their in-home connections many continued to rely on informal water sources. Furthermore, the implementation took place at a very slow pace and residents, rather than wait, together constructed informal connections to their streets and homes. In the words of one respondent,

“We kept waiting for the water company to install pipes in our street but it didn’t happen, so my neighbours and I hired a plumber to connect our street to the water main, and we each paid to connect our homes” (Interview 14, Haggana female resident, 2015).
Thus, despite the fact that public utilities were officially connected to Haggana in the early 2000s, the reality was that most people continued to lack access for years because of the slow pace of installing the network, along with the high cost of installing a home connection (Interview 1, Haggana-based NGO manager, 2014; Community workshop 1, Haggana, 2014).

By 2005, a large percentage of Haggana’s residents continued to rely on informal water vendors (Community workshop 1, Haggana, 2014), and the area’s water infrastructural landscape could be characterized as quite variegated. Some households had a formal in-home connection to the water network (mainly in the 4.5 entrance area), while other households were in close proximity to the sub-mains but could not afford an in-home connection and so relied on water from their neighbours. Yet other residents were on streets where no sub-mains had been installed, and thus relied on informal water vendors. Furthermore, the vendors began to realize that the installation of the network would put them out of business and thus organized into what can be loosely described as a mafia to prevent people from installing individual connections (Interview 1, Haggana-based NGO manager, 2014; Community workshop 1, Haggana, 2014). Not only water vendors made life difficult for residents – there were also local strongmen who established control of the public standpipes and charged for their use (Bremer and Bhuyian, 2014; Interview 1, Haggana-based NGO manager, 2014; Community workshop 1, Haggana, 2014). This is not unique to informal areas in Cairo, as the phenomenon of “water mafias” has been documented by scholars in other countries, including India (Ranganathan, 2014) and Tanzania (Nganyanyuka et al., 2013).

Throughout 2005 several local CBOs, especially in Haggana’s southern region, implemented projects to collect money from residents and hire plumbers to illegally tap into the nearest water mains. For example, the Fadiyya Cooperative water project took advantage of a building complex that was being constructed just outside Haggana’s western border and
paid the building contractors to allow them access to the water mains. They then hired a plumber to install a 4-inch asbestos pipe down a main street in Haggana, connecting it to that water main, and to install smaller pipes connecting the side streets (Bremer and Bhuiyan, 2014). A similar project was carried out by Nur Al-Mashriq Cooperative (NMC) to connect its own headquarters and the cluster of homes within the office’s vicinity, and as the project continued more households in different areas requested to join (Wahby, 2013).

According to Bremer and Bhuiyan (2014), the NMC claims its project served around 24,000 people, but a more realistic estimate based on the number of buildings connected is likely around 15,000. The cost incurred by each family to connect to this “self-help piping” (Wahby, 2013) was much lower than what residents had to pay the water company for an in-home connection. As mentioned above, the south of Haggana was not connected until 2012-2015, so the households in those areas continued to rely on this informal system until the water company finally arrived to connect them. The water company did not remove the informal system when it installed its own pipes, and for many years residents used the informal piping as a backup measure for when the formal system suffered from outages (Transect walk, Haggana, 2013; Interview 1, Haggana-based NGO manager, 2014; Community workshop 1, Haggana, 2014).

Similar projects were carried out by other CBOs, such as the Al-Muiz CBO run by the locally well-known figure Samir Anwar, known for his active campaigning for NDP candidates during parliamentary and LPC elections (Interview 1, Haggana-based NGO manager, 2014; Community workshop 1, Haggana, 2014). The national census conducted in 2006 states that 91% of residents in Haggana relied on an in-home tap as their main water source. This figure, however, does not distinguish between those connected by the water company and those relying on self-help informal infrastructure. The 9% relying on out-of-home access to water were most likely clustered in the southern half of Haggana, although it is impossible to be certain of this.
since census data is not available below the level of the shiyaakha.

In 2006 a presidential decree was issued to extend utilities to illegal buildings, although it explicitly states that this is not a sign of legality, tenure, or acceptance of the status quo. In other words, the higher levels of state authority were sending repeated messages that informal areas should receive basic services, while insisting that they are illegal. Despite ongoing installation of network services by the water company, a series of focus groups conducted by a local NGO across Haggana in 2007 revealed that every group listed water as the highest priority problem. The participants indicated that even those who had managed to obtain home connections suffered from repeated water outages, and that some had paid for an in-home connection months, or even years earlier but had still not received it. A 2008 report by the same NGO states that they contacted a high-level official in the Cairo Water Company to inquire about the slow process of connecting water to Haggana, and he informed them that the company was connecting Haggana to infrastructure despite the area’s illegality because residents were stealing water and the company had to find a way to collect the money it was owed. He indicated, however, that before residents could apply for an in-home connection, they must pay their overdue payments for the water they had been “stealing” in the past, which is why so many residents had applied for a connection and had been receiving bills but no water.

This resulted in a type of standoff with the residents insisting that they would not pay until they received their home connections, and the company insisting that it would not connect residents until they repaid the money they were alleged to owe. A representative of the water company contacted by a local NGO indicated that everyone must sign a contract with the company and pay their overdue payments, after which the company would connect water to the area (Community workshop, Haggana
residents, 2014). A local CBO owner and “community leader”\textsuperscript{55} called on his fellow Haggana residents not to pay for water until the network was extended.

This standoff culminated in late 2008 when a local NGO received a grant from JICA to cooperate with Caritas NGO and organize a local water committee from among Haggana’s residents to advocate for their right to water. The project also covered the costs of some home connections for those who could not afford them. The water committee was comprised of local male and female community leaders and held meetings with municipal officials and the strongmen monopolizing the standpipes and obstructing the installation of infrastructure.

An analysis by this local NGO in 2008 in preparation for the water advocacy campaign describes the Cairo Water Company as an “opposing force” standing in the way of the installation of water connections. It similarly described the municipal head and the local strongmen trying to monopolize existing water resources. Residents claim that during their encounters with water company officials at the time they would describe Haggana as a slum with no official connections or meters whose residents were stealing water (Community workshop, Haggana residents, 2014). The water company continued to refuse to provide home connections to residents until they paid exorbitant amounts purported as exchange for water the residents had stolen.

In September 2009 the Cairo governorate published a report on its efforts to upgrade its \textit{ashwa’eyat}, in which it stated that Haggana’s upgrading was still being planned – without providing any details. The report also stated that connecting such areas to services and infrastructure networks is a core strategy for addressing the phenomenon. However, despite the apparent political will to provide Haggana with basic services, the water company refused to install infrastructure unless residents paid arrears, and

\textsuperscript{55} This term is used by developmental NGOs who rely on popular and influential figures in local communities to allow them access to a large network of residents.
continued to send high monthly bills without pumping any water through the pipes (Al-Dimrany, 2009; Community workshop, Haggana residents, 2014).

The historical examination of Haggana’s access to water reveals a highly variegated and complex waterscape. Government statements to the media frame this complicated process in terms that make it seem as though the water authorities simply saw a need for water and met it. Official statements neglect to mention the multiple methods that residents had to resort to in order to obtain water, including vote selling to local politicians, taking part in self-help projects, and participating in donor-driven NGO projects. Such statements also neglect the almost tug-of-war nature of the relationship between the residents and the authorities responsible for providing water, one that involved lawsuits, sit-ins, and resistance constantly exhibited by officials despite higher-level decrees establishing Haggana’s right to water.

7.6. The flexible governance of infrastructure in Haggana

During the 2010 parliamentary elections widespread corruption was overtly displayed, and within Haggana, vote buying was once again offered in exchange for water and electricity services. Long-time MP Mostafa El-Sallab was campaigning again in 2010 and promised to connect the rest of Haggana to the water network, ensure that water was actually pumped through the pipes, end the oppression of the water mafia, and help families receiving high water bills who did not actually have in-home water.

By 2009-2010 a building boom was occurring in Haggana akin to its original expansion during the 1970s, although this time the expansion was vertical rather than horizontal. The traditional two-storey brick houses known as “sueisy” homes were being torn down and replaced with concrete high-rises. According to the residents I spoke to, these new high-rises belong to the building contractors who would make agreements with the owners of the sueisy homes to provide them with new, large apartments in exchange
for allowing them to tear down their house and replace it with a high-rise. Oftentimes the contractors would seek out external partners to assist with the building finances. Many of the external financiers of these buildings happened to be influential businessmen who had strong connections with government officials. Thus, many of these buildings easily received access to water and sanitation. This put a strain on the existing infrastructure.

This process had been taking place since roughly 2005. The 2006 census data shows that around 73% of Haggana residents lived in an apartment, while 16% lived in a stand-alone house, 9% lived in a room or more (whether independent rooms or rooms that are part of shared housing units), 2% lived in more than one apartment, 0.1% lived in a shack or tent, and only 0.006% lived in a yard or tomb. This shows that by 2006, the dominant dwelling was an apartment and no longer a sueisy home. Many of these buildings were connected (mostly unofficially) to utility networks, placing great pressure on the already strained water network. Despite this, no action was taken by state officials until 2009. In December 2009, Cairo governor Abdul-Azim Wazir issued a decree to demolish these new buildings, and bulldozers were sent into Haggana to carry out this task.

However, because many of the apartments had already been sold and some were even inhabited, when the governorate sent bulldozers to demolish the buildings the residents blocked them. Member of Parliament (MP) Mostafa Al-Sallab had co-financed a large number of these buildings (Interview 1, Haggana-based NGO manager, 2014; Interview 4, Haggana male resident, 2014; Community workshop, Haggana residents, 2014), and he raised the issue in parliament. A bitter dispute between Al-Sallab and Wazir ensued, in which Al-Sallab eventually emerged victorious. In order to understand the context of this dispute, it is important to understand the political clout of the Al-Sallab family.

The Al-Sallab family are widely involved in politics and business, own a ceramics and home furnishings empire, and have a wide network of
political connections. Not only was Al-Sallab an investor in scores of buildings in Haggana, but many other building contractors in Haggana had agreed that all home furnishings would be purchased from Al-Sallab’s stores. It is therefore not surprising that Al-Sallab not only objected to the governor’s decree, but also claimed that the governor was acting based on personal qualms he had with the Al-Sallab family. At that time, most of Haggana’s residents were still waiting for the water company’s implementation plan to reach them. These buildings, however, had been connected to water and electricity incredibly quickly.

Al-Sallab set a meeting with the prime minister, Ahmed Nazif. Prime Minister Nazif sided with Al-Sallab and issued a decree to halt all demolition activities in Haggana, repealing the previous decree issued by the governor. When the governor objected, the head of parliament established a committee to investigate the cases presented by the governor and Al-Sallab and issue a final decision that would be legally binding for both parties (Interview 1, Haggana-based NGO researcher, 2015). In February 2010, the governor of Cairo sent the committee documents claiming that the Al-Sallab family owed the governorate large sums of money in fines for building violations dating back to 2004 (Interview 1, Haggana-based NGO researcher, 2015). The head of parliament and the prime minister requested the Authority for Technical Oversight of Construction Works to prepare an independent study of the buildings and whether they should be demolished. The Authority’s report confirmed that there are several building violations exist with regard to the Haggana buildings, but recommended halting all demolition activity and instead charging the appropriate fines to the building owners (Interview 1, Haggana-based NGO researcher, 2015).

The above incident has some interesting implications for how we understand the Egyptian state and its relation to informality. The Cairo governor’s decree to demolish the newly-built high-rises is not in itself noteworthy, as it was in keeping with building regulations. However, it
raises two questions. The first is why those buildings were targeted with demolition decrees, since the entirety of Haggana is built without building licenses. The second is why this incident occurred at this particular point in time, since the governorate had turned a blind eye for years when the buildings were being built and sold, and even when some people had moved into the apartments. This demonstrates that in incentivising executive government to implement the law, personal conflict and agendas were more powerful than high-level political will or decrees coming from the central state. This challenges multi-level governance theories that depict power as flowing from the central state “down” to local authorities. The implications this has for how we can understand power in governance is discussed later in this chapter.

7.7. Governing water in informal areas

What can the above account of the governance of water infrastructure in Cairo and in Ezbet El-Haggana tell us about power?

Griffin (2012) provides an overview of the different theorizations of power in governance, ranging from the multi-level perspective of power as hierarchically nested within different tiers of the state, to the pluralistic conceptions of network governance theorists, to the more dialectical theories of relational power through structurally-determined resources and finally governmentality-inspired perspectives that power is felt “immanently and everywhere” and is determined by different definitions of truth.

The most common theorization of the nature of power in governance theory has been a conception of power as locatable in the central state and extended outwards over a specific territory or downwards throughout a governmental hierarchy. The account I presented above creates a very different picture, where the state had immense power in terms of resources and decision-making authority and manipulated these quite well, as illustrated in the previous chapter. However, the extent to which it was
able to diffuse this power to the executive levels of government produced far more uneven outcomes. This strongly relates to arguments by Griffin (2012), drawing on Allen (2009, 2011, 2016), that “the mere existence of a located concentration of resources or decision-making authority ... does not guarantee that its deployment will be successful or go un-resisted” (Griffin, 2012, p.214). A distinction must be made between “latent” power (ibid.) and actual ability to effect change.

Drawing on Allen’s (2016) “topological” approach to power, I view power as spatially contingent, and a relational effect of the practices and interactions of actors, rather than a pre-existing locatable capacity. Allen (2011) argues that actors “make their leverage and presence felt through certain practices of proximity and reach” (p.290). It is the ability of central states to “reach into the politics of local areas” that can translate the type of discursive power described in the previous chapter into the power in governance that was found to be lacking in this chapter. This is similar to what Painter (2006) has argued as the process of spatial “statization”, where states try to infiltrate spaces and lives through mundane practices that generate the effect of it being an external structure and also allow it to exert control in practice. The effects of power, therefore, are “always provisional and there are no guarantees that authority at the centre will prevail” (Griffin, 2012, p.217; citing Allen, 2011). This relates to arguments I made in previous chapters, drawing again on Painter (2006), that because the state is an effect produced through practice, it is necessarily always spatially uneven. Allen (2009) also posits that the actions of central government can also sometimes have the “perhaps unintended consequence of opening that authority to negotiation and displacement” (p.209), which can help us to understand how the internalization of the president’s “slum pathology” discourse by executive agencies caused them to subvert the president’s command to implement interventions that went against this discourse. Meehan (2012) relates to the relationship between the state and infrastructure by stating that infrastructure has the capacity
of delineating and delimiting the power of the state. I build on Meehan’s conception of infrastructure as a producer or delimiter of state power, but further view it as a manifestation of the state itself and its limits.

Desai (2012) argues that the governing of informal areas in India is “flexible”, a term I used earlier in this chapter. She highlights the disconnect between state policies and pronouncements towards the inclusion of informal dwellers as rights-bearing citizens and the actual practices of agencies that continue to exclude residents of informal areas. In this chapter and the previous one, I highlight a similar trend, but while Desai (2012, p.51) traces this to a “politics of deliberate confusion” where it is the state’s goal to contradict itself, I argue that the Egyptian state does this despite itself, because the very nature of its power is effective in some ways but limited in others.

Dorman (2007, p.103) looks at the Egyptian state in informal Cairo particularly and distinguishes between the authoritarian power of the state, which he describes as the range of actions that the elite can carry out without recourse, and “infrastructural capacity”, and argues there is a “pronounced affinity between authoritarianism, non-interventionism, and state incompetence more generally”. He argues that the state’s failure to effectively intervene in informal areas despite having the resources and authority to do so is due to certain features that are characteristic of the post-1952 political order. These are, namely, state-society disengagement, patrimonialism, and risk avoidance. He terms this “neglectful rule”, and although I share many parallels with this perspective, I resist the characterization of the state as “non-interventionist”. As shown in the above accounts, when it comes to water infrastructure and infrastructure in general, the state has been highly interventionist both in “planned” and “unplanned” Cairo.
7.8. Conclusion

The purpose of this chapter was to expose the rich details of what it means to access water infrastructure in an informal area in Cairo, focusing on the neighbourhood of Ezbet El-Haggana. I found that the process of accessing water infrastructure during Haggana’s earlier days began initially as an ad hoc process of fetching water from standpipes and purchasing from water vendors, but later developed into a system of vote selling to local politicians in exchange for the installation of infrastructure. This is a process that officials were fully participant in, yet when it came to installing infrastructure legally and formally, they objected and obstructed the process for many years. Informality, in effect, guaranteed a certain system of benefits for local politicians and Haggana’s elite. Thus, once again despite high-level ministerial decrees and pronouncements, the status quo was maintained by executive agencies for many years. Furthermore, high-level officials within these executive agencies continue today to refer to Haggana’s residents, and residents of informal areas in general, as thieves and undeserving of infrastructure. It is interesting here to note that these officials do not argue that residents are undeserving of water, for they fully understand that water is a basic human right and necessity to survive. Their objection is against providing residents with public water infrastructure, as they link infrastructure to legality and legitimacy.

I then tied this analysis to different conceptualizations of how power works in governance. In particular, I questioned how policies and plans made at the central level of government seem to have so little effect on the daily lives of residents and the reality of how they access water. As Rhodes (2007; cited in Griffin, 2012) argues, “the centre has rubber levers; pulling the central policy lever does not necessarily mean something happens at the bottom”. In other words, political will for the implementation of certain policies at the highest levels is not sufficient to guarantee their implementation, as there must be a high level of buy-in from executive institutions.
Chapter 8 – Conclusion

8.1. Introduction

The purpose of this thesis was to understand if and how neoliberalism has shaped access to water infrastructure in Ezbet El-Haggana, and how this case illustrates water provision in Cairo’s informal areas in general. Through doing this, this thesis also aimed to illuminate a hidden politics of infrastructure in Egypt.

My interest in this research began from observations of the development of access to water and its infrastructure in the informal area of Ezbet El-Haggana in Cairo, and particularly the disjuncture between access to water in Haggana in the present day (when many have connections to the formal network as well as formal contracts with the water company and meters) and their access 10 years ago, when the water company’s refusal to connect Haggana was so non-negotiable that a local NGO had to sue them in court.

I began by asking different parties how they interpreted this change. I discussed my observations with residents of Haggana, with activists/researchers who had been monitoring Egypt’s utilities sectors, with development practitioners who had been involved in the EU’s water sector reform project, and with officials within the GCWWC. The interpretations of the infrastructural changes I witnessed in Haggana by each of these parties were widely variant. However, there were some common themes within the answers. More than one party mentioned the structural reforms undergone by the water sector, particularly since the early 2000s, as well as the widespread existence of illegal water connections in informal areas, placing a burden on the water company which could neither monitor these connections nor financially benefit from them. Several mentioned the current Egyptian president’s vociferous interest in upgrading informal areas and the large amount of state resources dedicated to infrastructure during the past five years. These
points of commonality between the different narratives – the narrative of neoliberal restructuring, the narrative of grassroots activism, and the narrative of state- and donor-driven development – indicated to me that there was a story to be told, but it did not provide me with an answer to the question of timing, i.e. why now? All the factors highlighted by the various parties I questioned were factors that had been in existence for years, some for decades. Yet when I visited Haggana in 2012, there were still parts of the neighbourhood that were unconnected to the public water network, and there were many that relied on non-metered “illegal” connections. This made me wonder if there was something significant about the current historical moment that caused access to water in Haggana to shift suddenly, or if this was simply a case of a technical process that suffered from implementation delays. Together, these insights led me to a crystallization of my research questions.

In this concluding chapter, I aim to draw together the main themes, arguments, and contributions that run throughout this thesis. I review the main arguments of this dissertation, its key findings, and its theoretical contributions. This chapter will connect the main analytical insights from the preceding chapters, and will discuss them along the lines of the research question.

I will summarize my findings regarding this question in the following section, followed by a discussion of the dissertation’s main arguments and contributions. Finally, I will end with a brief reflection on the research and the process of writing this manuscript.

8.2. Reflecting on the research question

In this section I will reflect on the research questions posed at the beginning of this thesis, and the insights that this research provides into answering these questions.
To what extent is infrastructure in Cairo being neoliberalized?

The answer to this question is, of course, not a straightforward one. In the chapters above I showed that although neoliberal ideas, in particular the mandate that utility companies must recover costs and generate profit, were adopted at the level of policy from the 1970s, they were not implemented in practice until the post-2011 era.

By the late 1980s, the Egyptian state had adopted many of the recommendations pushed by donors, such as issuing a tariff increase schedule and water pricing policy, and supporting donor-led institutional reform projects in various governorates. Thus, in terms of policies and institutional reform, the state seemed to be following and adopting neoliberal discourses and recommendations wholeheartedly. However, the riots of 1977 caused the Egyptian state to tread more cautiously when it came to implementing unpopular reforms. Thus, despite the strong neoliberal discourse emerging from international donors (accompanied by massive amounts of capital), in practice tariffs did not actually increase significantly until exceptional political and economic circumstances were created by the 2011 revolt. The post-2011 political crisis spawned a national discourse that promoted unconditional support for the state and painted critical voices in a negative light. In other words, the state had avoided the removal of subsidies for decades, fearing a repeat of the 1977 riots, but in the wake of the post-2011 political crisis, the chances that more protests would take place were minimal as the masses craved stability and had grown tired of the continuous protests over the past years. Only then did the state aggressively implement the policies they had been pressured to introduce since the 1970s. The implementation of neoliberal ideas was not enabled through hegemonic neoliberal discourses, but rather through a discourse of mass de-mobilization and national rebuilding.
What impact has this had on informal areas regarding access to infrastructure and the relationship with the state?

Regarding this second part of the dissertation’s research question, I find that counter-intuitively, it is only after neoliberal reforms became internalized into the modus operandi of the GCWWC that Ezbet El-Haggana began seeing some stability in its access to water. The HCWW, and the GCWWC specifically, have been mandated since 2004 to cover their costs, but did not taken serious measures to achieve this until after the political events of 2011. When cost-recovery became a major priority, connecting the public network to informal areas, and more importantly, installing meters in these areas, took on a renewed importance. Since 2014, this has been combined with vociferous calls by the President regarding the state’s interest in upgrading or removing all informal areas. Infrastructure has enabled the Egyptian state, throughout history and more so in the post-2011 political moment, to assert its control over the mainstream discourse of national development, steering it towards “solving the ashwa’eyat problem” once and for all.

Thus, while water before 2011 was being provided in Haggana through a combination of public, private, formal, and informal means, after 2011 Haggana’s water landscape became more “statized” in that it became more heavily dominated by public infrastructure.

Thus, the analysis in this thesis shows that the implementation of neoliberal reforms has not resulted in state roll-back but rather in increased state presence within informal areas. This challenges scholars of neoliberalism who have argued that neoliberal reforms result in a roll-back of the state. One would expect, in such a case, that neighbourhoods in general, and informal areas in particular, would see a lesser presence of state institutions and a weaker infiltration of “prosaic” (Painter, 2006) state practice in their daily lives. However, what I have shown above is that the exact opposite has occurred, with informal areas witnessing heightened
processes of “statization”. This process has tended to take place in insidious ways through the provision of infrastructure and services. Alongside processes of sectorial neoliberalization, the everyday lives of people are becoming more intensely infiltrated by state institutions.

However, another impact of this is that while in the past water, housing conditions, and tenure were addressed collectively by state institutions such as the Cairo governorate and the municipal administration, water today is increasingly being provided as a stand-alone service, and the GCWWC has repeatedly distanced itself from questions of housing and tenure. This process, is ironic given that the right to adequate housing is promised as a bundle of rights to all citizens for the first time in the 2014 National Constitution.

8.3. Main arguments and contributions

In order to study the impacts that neoliberalization has been having on informal areas’ access to water infrastructure and their relationship with the state required a methodological approach that was equally attuned to grand narratives as it was to the mundane details of everyday life. Using assemblage thinking to extend a traditional political economic approach provided the tools for such an analysis. Such a juxtaposition of the two perspectives is, I argue, very powerful in the development of the narrative of this research, and benefits the research in several ways. Many political economic analyses tend to privilege the state as a unit of analysis. The two-pronged approach I use in this thesis shows that state is not one thing nor is it a uniform body, but is rather made up of individuals and institutions that oftentimes have conflicting interests and agendas. Some assemblage analyses run the risk of losing the forest for the trees. By focusing on the maze of relationships that constitute different networks, they lose sight of structures that invisibly guide how these networks operate and that influence the relationships within them. In this way both perspective benefits from the other. Using such a two-pronged approach to the analysis of infrastructure (a combination of political economy and
assemblage perspectives) is a methodological contribution made by the thesis. However, the thesis’ main contributions are to the theoretical literature. In this regard, the research makes three main contributions:

The first is that neoliberalism led to more state rather than less state, but also led to a dismantling – or “unbundling” – of basic rights, which, I contend, makes it more difficult for citizens to then demand from the state the fulfillment of these rights. This is related to a prominent idea in the literature on neoliberalism, which is the link between neoliberal reforms and the erosion of the traditional social contract that binds citizen and state, and the dismantling of welfare policies and placing citizens instead at the mercy of the market (Brown, 2015). I argue for an alternative conception of neoliberalism not as a totalizing ideology but as a process of reorganizing certain aspects of the state-society relationship. Thus, although the neoliberal reforms in the water sector had the positive impact of increasing access in informal areas, it also had the more insidious impact of “unbundling” the right to water from broader questions of legality and the constitutional right to adequate housing. Thus, what is being dismantled is not the welfare state per se, but rather the connection between citizenship and a certain bundle of rights that all citizens are entitled to. Furthermore, the thesis contributes to debates around the waxing and waning influence of neoliberalism – the literature that claims that neoliberal ideas are the main drivers of infrastructure governance today, and that which claims that we are entering a post-neoliberal era and should, as scholars, focus our attentions elsewhere. Regarding the former, the research shows that neoliberal policy is only one of many factors shaping water infrastructure, and that the centrality of infrastructure as a state political tool has oftentimes been more influential. Regarding the latter, the research shows that recent developments in the restructuring of the water sector indicates that neoliberal ideas continue to hold strong influence within the realms of policy and governance. One could even make the argument that due to its slow start in Egypt’s water sector, it is
today making up for lost time.

The second is that the state’s power, despite hyperbolic and nationalistic shows of force, is in reality limited and ad hoc. This has resulted in an apparent “flexibility” in how the state governs informal areas, and by extension how water infrastructure within these areas is governed. The most common way of theorizing the nature of power within governance theory has been a conception of power as locatable in the central state and extended outwards over a specific territory or downwards throughout a governmental hierarchy. The analysis presented in this thesis, however, showed that although the state has immense power in terms of resources and decision-making authority, and is able to manipulate these resources and the discourses surrounding them, the extent to which it is able to diffuse this power to the executive levels of government has always produced very uneven outcomes. This is due to the fact that power in governance, by its very nature, is not necessarily tied to the concentration of resources within a particular location. I therefore argue that the “flexible” way in which the Egyptian state governs informal areas is not a deliberate act of confusion but is due rather to the limited power that the Egyptian state actually has to effect change on the ground, resorting instead to the manipulation of discourses and symbols of power.

The third is that states are created by inserting themselves through mundane practices and spectacular shows of force – and infrastructure is at the heart of both of these processes. The relationship, therefore, between infrastructure and politics is not one thing but rather takes on different forms. Infrastructure enables the former through its ability to influence and manipulate space, while also creating the effect of state presence in the minute details of everyday life. Infrastructure enables the latter through its ability to project a promise of modernity, progress, and power, and thereby “enchant” the masses. This process of enchantment engenders support for the state and is often combined in mainstream discourses with promises of development in exchange for patience and
stoicism. In general, infrastructure is repeatedly highlighted as an indicator of modernity, especially access to piped water and sewerage. Water infrastructure is deployed by the state through its materiality and also through discourses associating it with modernity, development, and progress. This highlights the dual role of infrastructure as a stage for state power as well as an instrument through which the state tries to exert control over certain populations, particularly those in informal areas. Infrastructure, through this dual role, enables the reification of the state by transforming it from a mere concept or effect into a concrete external structure that can be felt by citizens in their everyday lives.

8.4. Closing reflections: From theory to practice

In order to conclude this thesis, a few closing remarks are in order. When I began this thesis journey just under two years after the revolution, Egypt was in the throes of political unrest, and by 2013 another uprising had taken place. Today, as this thesis nears its end, Egyptians are about to go to the polls to elect a president for the fourth time. Much has changed about the context within which I have conducted this research, and yet much has stayed exactly, frustratingly, the same. Infrastructure and mega-projects continue to play an ever more central role in fostering government support (for example, in the run-up to the elections, Egyptian president El-Sisi recently announced the launch of an Egyptian theme park in the new capital to rival Disneyland).

I began writing this study with the intention of claiming that neoliberalism is not very central when examining the history of urban transformation in Egypt (through the lens of Haggana’s waterscape). Inspired by the call to study African urbanisms beyond the lens of neoliberalism, I had planned to contribute to that project. I end this thesis with very different sentiments. I found that neoliberalism was indeed not the main factor shaping Haggana’s waterscape, and that as I discuss above, it was shaped more by the various politics and political roles that infrastructure plays in Egypt. However, I also found that this was largely due to the fact that, prior to the
2011 revolt, neoliberal ideas had filtered into policy but not into governance practice, and when they did they were not implemented aggressively. This changed substantially in the wake of the revolt. The unrest that past political regimes had feared since 1977 became a reality, and suddenly there was nothing else to fear. The unrest had occurred and the rulers had been removed, but in the game of capitalist accumulation the winners and losers remained, for the most part, unchanged.

What has changed is that the fear of unrest has now been transferred from the ruling regime to the public. Now, the people are so afraid of “becoming like Syria and Iraq” that they seem willing to tolerate virtually anything. In this thesis I argued that the players in the capitalist game took advantage of this, and the discourse of stoic patience for the sake of preserving stability and rebuilding the nation is what has finally enabled neoliberalism to gain enough traction such that people feel its impacts in their daily lives in a more profound way than ever before. Neoliberalization is not only embedded within existing institutional and sociocultural legacies (Brenner and Theodore, 2002) but is also impeded and enabled by these legacies. It quietly encroaches (Bayat, 1997) upon those legacies. It can be a slow and insidious process that spans decades, and can take on forms and produce impacts that are counter-intuitive to the main expectations of neoliberalism (e.g. state roll-back, welfare erosion, and private sector involvement). In examining Haggana’s waterscape, I find that none of these have directly taken place. Private sector participation in water provision is less than it was before56 and levels of public provision of water are higher. Even the type of “backdoor privatization”57 described by Bayat (2012, p.112) in his analysis of neoliberal cities in the Middle East has not taken place in Egypt’s water sector. In fact, in Haggana’s waterscape the exact reverse has happened. However, I argue that this should not lead us to claim that neoliberalism is simply irrelevant to Egyptian cities, but rather

56 Residents used to rely on a variety of private means such as vendors, but today rely almost solely on the public network.
57 This refers to when public services are so deteriorated that users are forced to turn to private channels.
that in studying neoliberalism, and more importantly, in combating it, we must be fully cognizant of the multifarious, insidious, and unexpected forms it can take.

What does all this mean for the reality of accessing water infrastructure in informal areas, and what can residents, practitioners, and activists potentially benefit from this research? I make no pretences that this thesis can provide definitive answers to any of the important questions continuously debated by practitioners in the field of Egypt’s urban transformation. What I do believe this thesis can offer is to highlight a number of points that often become obscured within these debates. Bringing these issues to the fore can, I argue, enrich the ongoing discussions around informality, water infrastructure, and how our cities are being governed in general.

I return here back to the issue of neoliberalism, but begin from the standpoints of ongoing debates about whether or not utilities sectors are being neoliberalized. The lack of private sector involvement in some sectors, such as water has lent credence to arguments that these sectors have not been touched by neoliberalism. This conflates neoliberalism with outright privatization. Contrarily, this thesis has underscored some of the subtleties of the neoliberal project. One such subtlety is how citizen rights are discursively reimagined by neoliberal ideas. This is related to the centrality of water as a form of tenure for informal dwellers and a signifier of their right to the city. Neoliberal policies within Egypt’s water sector may not have succeeded at involving the private sector or significantly raising tariffs, but the reconstruction of the public imagination around citizen rights in general and the rights of informal dwellers in particular is sufficient to be deserving of our attention.

In analysing, interrogating, or resisting this, I argue that it is important to avoid regarding the state as an all-powerful encompassing structure that successfully implements whatever it sets its mind to. The research shows
that the state is not an octopus with long tentacles extending downward and outward across all levels of governance, creating “deliberate confusion” to serve its goals. Rather, despite the central state’s relative monopoly over certain resources, authority, and ability to manipulate the mainstream media and propagate powerful narratives, executive institutions in charge of the day to day management of urban affairs operate in a much more ad hoc way. The value of such a realization lies in understanding the potential value of building allies from within state institutions. As the historical analysis in this research shows, many governance orthodoxies pushed by international donors, and many national policies advocated at central levels of the state, found no traction during implementation because executive institutions refused or failed to implement them. Understanding the state itself as a realm where state policies of urban transformation can be challenged resisted is a potentially powerful idea.

Finally, an important starting point from which to approach urban change is the recognition of some of the obsolete binaries that practitioners and policy-makers have been working with, such as formal-informal, and public-private. The constructed nature of these categories, as showcased by this research, is a useful realization in and of itself. Understanding the fluid nature of everyday infrastructure governance and access challenges can help practitioners better address persistent injustices. However, another important point made by the thesis is that these binary discourses need to be understood within the broader process of politically manipulating what it means to have access to infrastructure. The manipulation of discourses and imaginaries around infrastructure renders many injustices invisible, and sometimes even denied. This is a side of the conversation that the mainstream narrative in Egypt has made no room for.
## Annex A: Water sector reforms in Egypt

<table>
<thead>
<tr>
<th>Year</th>
<th>Policy instrument</th>
<th>Reform</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>Decree 198/1981</td>
<td>Established the Beheira Water Company, the first local water company in Egypt</td>
</tr>
<tr>
<td>1981</td>
<td>Decree 197/1981</td>
<td>Merged the General Organization for Potable Water (GOPW) with the General Organization for Sewerage and Sanitary Drainage (GOSSD), creating the National Organization for Potable Water and Sanitation Delivery (NOPWASD)</td>
</tr>
<tr>
<td>1985</td>
<td>National Water Pricing Policy</td>
<td>Aimed for the sector to reach full cost recovery for water by 1991</td>
</tr>
<tr>
<td>1994</td>
<td>Decree 95/1994</td>
<td>Approved public authorities, such as the water authority, to function as public sector companies</td>
</tr>
<tr>
<td>1994</td>
<td>Decree 421/1994</td>
<td>Raised water tariffs in Cairo governorate</td>
</tr>
<tr>
<td>1995</td>
<td>Decree 81/1995</td>
<td>Transformed the governorate-level authorities for drinking water and sanitation into economic authorities</td>
</tr>
<tr>
<td>2000</td>
<td>Decree 925/2000</td>
<td>Mandated the physical upgrading of Haggana and that it should be connected to water and electricity networks</td>
</tr>
<tr>
<td>2004</td>
<td>Decree 135/2004</td>
<td>Converted the national public water authority into the Holding company for Water and Wastewater (HCWW)</td>
</tr>
<tr>
<td>2004</td>
<td>Decree 136/2004</td>
<td>Established the Egyptian Water Regulatory Agency (EWRA), the body charged with overseeing the overall performance of the sector</td>
</tr>
<tr>
<td>2005</td>
<td>Decree</td>
<td>Detailed the regulatory functioning of the HCWW</td>
</tr>
<tr>
<td>Year</td>
<td>Action</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>2005</td>
<td>Granting</td>
<td>Rights to take actions to achieve goals, such as guaranteeing economic efficiency.</td>
</tr>
<tr>
<td>2006</td>
<td>Institutional restructuring</td>
<td>A Public-Private Partnerships (PPP) Central Unit was created within the Ministry of Finance to promote private sector participation in various economic sectors.</td>
</tr>
<tr>
<td>2010</td>
<td>Law 67/2010</td>
<td>Regulated partnerships with the private sector in infrastructure and public utilities projects.</td>
</tr>
<tr>
<td>2016</td>
<td>Official statement to the media</td>
<td>The HCWW spokesperson announced a new set of tariff increases.</td>
</tr>
<tr>
<td>2016</td>
<td>Decree 886/2016</td>
<td>Mandated water and electricity companies, and “all other entities involved in utility connections” to take all measures necessary to prevent water and electricity theft, including the installation of temporary meters in “illegal buildings.”</td>
</tr>
<tr>
<td>2017</td>
<td>Decree 1730/2017</td>
<td>Raised the water tariff for all payment strata, as well as the wastewater surcharge.</td>
</tr>
</tbody>
</table>
Annex B: Fieldwork conducted

Fieldwork in 2013
1. Transect walk, Haggana
2. M.H. and N.F. GCWWC officials

Fieldwork in 2014:
Workshops:

Interviews:
1. A.A., Haggana-based NGO manager
2. U.F. Haggana female resident
3. U.A. Haggana female resident
4. A.L. Haggana male resident
5. M.G. Haggana male resident
6. M.S. Haggana CBO
7. H.M. Haggana CBO
8. A.H. GCWWC official
9. N.R. Haggana-based NGO manager
10. M.H. Water and sanitation consultancy
11. M.K. Cairo governorate
12. A.A. ISDF
13. B.F. UN-Habitat
14. A.S. ISDF
15. Y.S. Urban expert
16. K.I. Urban expert
17. N.A. Urban expert
18. H.F. NUCA official

Fieldwork in 2015:
1. I.B. Haggana-based NGO researcher
2. F.Z. Haggana female resident
3. S.S. Haggana female resident
4. M.Z. Haggana male resident
5. N.M. Haggana female resident
6. O.K. Haggana male resident
7. O.H. Haggana male resident
8. O.A. Haggana female resident
9. A.H. Haggana female resident
10. W.M. Haggana female resident
11. H.N. Haggana female resident
12. H.F. Haggana female resident
13. S.I. Haggana female resident
14. S.R. Haggana female resident
15. H.S. Haggana female resident
16. N.A. Haggana female resident
17. H.H. Haggana female resident
18. F.E. Haggana female resident
19. A.E. Haggana female resident
20. T.I. Haggana female resident
21. A.A. Haggana female resident
22. S.A. Haggana female resident
23. F.O. Haggana female resident
24. N.T. Haggana female resident
25. H.M. Haggana female resident
26. A.S. Haggana female resident
27. A.K. Haggana female resident
28. A.M. Haggana female resident
29. R.A. Haggana male resident
30. R.M. and S.I. Haggana residents, husband and wife
31. A.S. Haggana female resident
32. W.I. Haggana female resident
33. H.M. Haggana female resident
34. R.F. Haggana male resident
35. M.R. Haggana male resident
36. S.E. Haggana male resident
37. A.A. Haggana female resident
38. S.B. Haggana male resident
39. H.I. Haggana female resident
40. A.S. Haggana male resident
41. M.M. Haggana male resident
42. N.E. GCWWC official
43. A.S. East Madinat Nasr municipality official
44. K.S. Cairo governorate
45. G.M. GCWWC meter reader
46. F.H. New Cairo Authority official
Annex C: Timeline of Egypt’s urban development

- **1960**: The 1st Masterplan for the Greater Cairo region was completed in 1965.
- **1978**: In 1978 the government launched Egypt’s first slum upgrading project with the World Bank and USAID.
- **2008**: In 2008 the Informal Settlements Development Fund (ISDF) was established in the wake of the Duweiq landslide in October.
- **2010**: ISDF publishes first national map of unsafe areas.
## Annex D: Per capita share of water: Cairo versus new cities

<table>
<thead>
<tr>
<th>City</th>
<th>Station</th>
<th>Volume produced by each station*</th>
<th>Total volume produced*</th>
<th>Fed to other areas*</th>
<th>Actual volume remaining*</th>
<th>Population in 2008</th>
<th>Per capita share**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cairo</td>
<td>Musturud Station</td>
<td>1150</td>
<td>4894</td>
<td>60</td>
<td>4,834</td>
<td>7,629,000</td>
<td>634</td>
</tr>
<tr>
<td></td>
<td>Al-Amiria Station</td>
<td>420</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rud Al-Farag Station</td>
<td>900</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Al-Ruda Station</td>
<td>174</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Al-Fustat Station</td>
<td>1050</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Al-Maadi Station</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Helwan Station</td>
<td>250</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Al-Marg Station</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Al-Tibeen Station</td>
<td>650</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kafr Al-Elow Station</td>
<td>110</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Badr</td>
<td>10th of Ramadan Station</td>
<td>0</td>
<td>0</td>
<td>35</td>
<td>35</td>
<td>18,000</td>
<td>1,944</td>
</tr>
<tr>
<td>Al-Sherouk</td>
<td>10th of Ramadan Station</td>
<td>0</td>
<td>0</td>
<td>30</td>
<td>30</td>
<td>28,000</td>
<td>1,071</td>
</tr>
<tr>
<td>New Cairo</td>
<td>Al-ubour Station</td>
<td>0</td>
<td>0</td>
<td>220</td>
<td>220</td>
<td>125,000</td>
<td>1,760</td>
</tr>
<tr>
<td>15th of May</td>
<td>Helwan and Al-Tibeen stations</td>
<td>0</td>
<td>0</td>
<td>60</td>
<td>60</td>
<td>92,000</td>
<td>652</td>
</tr>
<tr>
<td>10th of Ramadan</td>
<td>10th of Ramadan Station</td>
<td>570</td>
<td>65</td>
<td>0</td>
<td>505</td>
<td>137,000</td>
<td>3,686</td>
</tr>
<tr>
<td>Al-Ubhour</td>
<td>Al-Ubhour Station</td>
<td>660</td>
<td>511</td>
<td>0</td>
<td>149</td>
<td>61,000</td>
<td>2,443</td>
</tr>
</tbody>
</table>

* m³ per day (in thousands)

** Litre per capita per day
References


ABT Associates and GOHBPR. 1981. *Informal Housing in Egypt*. USAID.


Al-Ahram. 2014. Inhaa Azmat Miyah Al-Qahira Al-Gadida. *Al-Ahram*

Al-Ahram. 2018. 86 Mashruu’ Lil Hay’a Al-Handasiya. *Al-Ahram*

Al-Borsa. 2012. Al-Hukuma Tadrus Raf As’aar Al-Miyah. *Al-Borsa.com* [online]. Available at: http://www.alborsanews.com/2012/12/26/%D8%A7%D9%84%D8%AD%D9%83%D9%88%D9%85%D8%A9-%D8%AA%D8%AF%D8%B1%D8%B3-%D8%B1%D9%81%D8%B9-%D8%AA%D8%AD%D8%B3%D8%A3%D8%B3%D8%B9&D8%A7%D8%B1-%D9%85%D9%8A%D8%A7%D9%87-%D8%A7%D9%84%D8%B4%D8%B1%D8%AA-%D9%84%D9%85%D9%86/. Accessed on 1 June 2013.

Al-Dimrany, A., 2009. Baltaga wa Sirqa wa Mukhadarat wa Ashwa’eyat Aydan. *Al-Ahram* Available at:

Al-Garida Al-Rasmiya, 2008. Issue 42. Decree 305 of 2008 regarding establishing the ISDF.


Al-Isawy, M., 2010. Kahrabat Ganub Al-Qahira: Tawseel Al-Tayyar Lil Ashwa’eyat Yahtag Qarar Min Nazeef. Al-Youm Al-Sabea [online]. Available at: http://www.youm7.com/story/2010/12/15/%D9%83%D9%87%D8%B1%D8%A8%D8%A7%D8%A1-%D8%A9%D8%B6%D9%88%D8%A8-%D8%A7%D9%84%D9%82%D8%A7%D9%87%D8%B1%D8%A9-%D8%AA%D9%88%D8%B5%D9%8A%D9%84-%D8%A7%D9%84%D8%AA%D9%8A%D8%A7%D8%B1-%D9%84%D9%82%D8%B4%D9%88%D8%A7%D8%8A%D9%8A%D8%A7%D8%AA-%D9%8A%D8%AD%D8%AA%D8%A7%D8%AC/318968. Accessed on 17 February 2015.

Al-Obeidy, S. 2015. Inqitaa Al-Miyah an Al-qahira Al-gadida. Al-Wafd. Available at:mailto:http://alwafd.org/%D8%A3%D8%AE%D8%A8%D8%A7%D8%B1-%D9%88%D8%AA%D9%82%D8%A7%D8%B1%D9%8A%D8%B1/89248-%D8%A7%D9%85%D9%8A%D9%87-%D8%B9%D9%86-%D8%A8%D8%B6-%D9%85%D9%86%D8%A7%D8%B7%D9%82-%D8%.

Accessed on 18 February 2015.


Ali, I. 2018. Ta’araf ‘Ala Uqbat Al-Tahadiyat ‘Ala Al-Arady Al-Zira’iya. Al-Youm Al-Sabea [online]. Available at: http://www.youm7.com/story/2018/1/10/%D8%AA%D8%B9%D8%B1%D9%81-%D8%B9%D9%84%D9%89-%D8%B9%D9%82%D9%88%D8%A8%D8%A7%D8%AA-
Aljazeera, 2014. Al-Sisi: Zeyadat As’ar Al-Waqud Hadafha Al-Istiqrar. Aljazeera.net [online]. Available at: http://www.aljazeera.net/news/ebusiness/2014/7/7/%D8%A7%D9%84%D8%B9%D8%A7%D8%AA-%D8%B9%D9%89-%D8%A7%D9%84%D8%BA-%D8%AD-%D8%AB-%D8%B9-%D9%85-%D8%A7%D9%8A-%D8%A7%D9%84%D8%B1%D8%A7%D8%B9%D9%8A-%D8%A7%D9%84-%D8%A7%D9%84%D8%B1%D8%A7%D9%84%D9%85%D8%A7%D9%86/3593066. Accessed on: March 6 2018.


Amin, M., 2015. Qat Al-Miyah an Manatiq Bil Qahira Al-Gadida. Al-Wafd. Available at: mailto:http://alwafd.org/%D8%A3%D8%AE%D8%A8%D8%A7%D8%B1-%D9%88%D8%AA%D9%82%D8%A7%D8%B1%998153-%D8%A7%D9%84%D8%A3%D8%AD%D8%AF-%D9%82%D8%B7%D8%B9-%D8%A7%D9%84%95%D9%8A%D8%A7%D9%87-%D8%B9%95-%D8%A8%D8%B9%D8%B6-%D9%85%D9%86%D8%A7%D8%. Accessed on 12 November 2014.


Amnesty International, 2011. We are not dirt: Forced Evictions in Egypt’s Informal Settlements.


Arafa, A., 2015. Adw Maglis Al-Nuwwab: Sauqaddim Talab Ihata. *Al-Youm Al-Sabea*’ [online]. Available at: http://www.youm7.com/story/2015/12/13/%D8%B9%D8%B6%D9%88-%D8%A8%D9%85%D8%AC%D9%84%D8%B3-%D8%A7%D9%84%D9%86%D8%A7%D8%A8-%D8%B3%D8%A3%D9%82%D8%AF%D9%85-%D8%B7%D9%84%D8%A8-%D8%A5%D8%AD%D8%A7%D8%B7%D8%A9-%D9%84%D8%B1%D8%A6%D9%8A%D8%B3-%D8%A7%D9%84%D9%88%D8%B2%D8%B1%D8%A7%D8%A1-%D8%AD%D9%88%D9%84-%D8%B2%D9%8A%D8%AF%D8%A9-%D8%A3%D8%B3%D8%B9%D8%A7%D8%B1/2487783. Accessed on: May 4 2017.


Berman, M., 1983. All that is solid melts into air: The experience of modernity. Penguin Books. USA.


El-Gohary, I., 2014. Miyah Al-Qahira Al-Gadida. Masrawy [Online]. Available at: http://www.masrawy.com/news/news_regions/details/2014/6/19/270714/-%D9%85%D9%8A%D8%A7%D9%87-%D8%A7%D9%84%D9%82%D8%A7%D9%87%D8%B1%D8%A9-%D8%B3%D9%86%D9%88%D8%A7%D8%AC%D9%87-%D9%85%D8%B4%D9%83%D9%84%D8%A7%D8%AA-%D8%A8%D8%A7%D9%84%D9%82%D8%A7%D9%87%D8%B1%D8%A9-


EU-NIP, 2009. Specific Terms of Reference, Water Sector Reform Program Phase II. Cairo, Egypt.


Hasan, A., 2015. Nanshor Asmaa Al-Manatiq Allaty Sayatim Qat Al-Miyah Anha Ghadan. *Al-Yoom Al-Soaba* [Online]. Available at: http://www.youm7.com/story/2015/1/29/%D9%86%D9%86%D8%B4%D8%B1-%D8%A3%D8%B3%D9%85%D8%A7%D8%A1-%D8%A7%D9%84%D9%85%D9%86%D8%A7%D8%B7%D9%82-%D8%A7%D9%84%D8%AA%D9%89-%D8%B3%D9%8A%D8%AA%D9%85-%D9%82%D8%B7%D8%B9-%D8%A7%D9%84%D9%85%D9%8A%D8%A7%D9%87-%D8%B9%D9%86%D9%87%D8%A7-%D8%A8%D9%85%D8%AF%D9%8A%D9%86%D8%A9-%D9%86%D8%B5%D8%B1/2045959. Accessed on: 1 July 2016.

Hasan, Ahmed. 2016a. Inqita Al-Miyah Ab Al-Qahira Al-Gadida Bisabab Tasreeb Fee Ahad Al-Mawaseer. *Al-Yoom Al-Soaba* [Online]. Available at: http://www.youm7.com/story/2016/4/24/%D8%A7%D9%86%D9%82%D8%B7%D8%A7%D8%B9-%D8%A7%D9%84%D9%85%D9%8A%D8%A7%D9%87-%D8%B9%D9%86-%D9%85%D8%AF%D9%8A%D9%86%D8%A9-%D8%A7%D9%84%D9%82%D8%A7%D9%87%D8%B1%D8%A9-%D8%A7%D9%84%D8%AC%D8%AF%D9%8A%D8%AF%D8%A9-%D8%A8%D8%B3%D8%AA%D8%A8-%D8%AA%D8%B3%D8%B1%D8%A8-%D9%81%D9%89-%D8%A3%D8%AD%D8%AF/2690354. Accessed on: 1 July 2016.

Hasan, Ahmed. 2016b. Inqita Al-Miyah An Manatiq Al-Qahira Al-Gadida Wa Al-Rihab Li Moddat 16 Youm. *Al-Yoom Al-Soaba* [Online]. Available at: http://www.youm7.com/story/2016/6/2/%D8%A7%D9%86%D9%82%D8%B7%D8%A7%D8%B9-%D8%A7%D9%84%D9%82%D8%A7%D9%87-%D8%B9%D9%86-%D9%85%D9%86%D8%A7%D8%B7%D9%82-%D8%A7%D9%84%D9%82%D8%A7%D9%87%D8%B1%D8%A9-%D8%A7%D9%84%D8%AC%D8%AF%D9%8A%D8%AF%D8%A9-%D9%88%D9%85%D8%AF%D9%8A%D9%86%D8%A9-%D8%A7%D9%84%D8%B1%D8%AD%D8%A7%D8%A8-%D8%A7%D9%84%D9%8A%D9%88%D9%85-%D9%84%D9%85%D8%AF%D8%A9/2744797. Accessed on: 1 July 2016.


Hussein, Z., 1966. The Housing Minister Speaks to the Magazine about the Housing Crisis. *al-Itthā’a*.


Ismail, S., 2006. *Political life in Cairo’s new quarters: Encountering the everyday state*. University of Minnesota Press. USA.


Ramadan, A. 2013. Al-Mohandisin Al-Askareyn: Mashrouatna Al-Madniya Rad Gameel lil Shab Al-Masyr. *Al-Youm Al-Sabea* [online]. Available at: http://www.youm7.com/story/2013/5/3/%D8%A7%D9%84%D9%85%D9%87%D9%86%D8%A5%D8%B3%D9%8A%D9%86-%D8%A7%D9%84%D8%B6%D8%B3%D9%83%D8%B1%D9%8A%D9%86-%D9%85%D8%B4%D8%B1%D9%88%D8%B9%D8%A7%D8%AA%D9%86%D8%A7-%D8%A7%D9%84%D9%85%D8%AF%D9%86%D9%8A%D9%89-%D8%AC%D9%85%D9%8A%D9%84-%D8%A7%D9%84%D8%B4%D8%B9%D8%A8-%D8%A7%D9%84%D8%B5%D8%B1%D9%89/1048089. Accessed on: March 5 2017.

Ramadan, R., 2016. Al-Kahrubaa Tatalqa 36 Alf Talab Tawseel. *Al-Youm Al-Sabea* [online] Available at: http://www.youm7.com/story/2016/6/28/%D8%A7%D9%84%D9%83%D9%87%D8%B1%D8%A8%D8%A7%D8%A1-%D8%AA%D9%84%D9%82%D9%89-%D8%A7%D9%84%D9%81-%D8%B7%D9%84%D8%A8-%D8%A9%88%D8%B5%D9%8A%D9%84-%D8%AA%D9%8A%D8%A7%D8%B1-%D9%84%D9%84%D8%B9%D8%B4%D9%88%D8%A7%D8%A6%D9%8A%D8%A7%D8%AA-%D8%AE%D9%84%D8%A7%D9%84-%D8%A3%D8%B3%D8%A8%D9%88%D8%B9%D9%8A%D9%86/2779293. Accessed on: March 5 2017.


Scott, J.C., 1998. Seeing like a state: How certain schemes to improve the human condition have failed. Yale University Press. USA.


WWSRP, 2007. *Background Conclusion Sheet for SP and SPSP Water Sector Reform Program (WWSRP)*. USAID. Egypt.


