

Overview:

This research investigates how communal water infrastructures serve as sites of cooperation or conflict between refugees and citizens living in protracted, shared residence. Based in Lebanon's Bekaa valley, this project compares a rural locale (Qob Elias) which is marked by cooperation between Lebanese citizen and Syrian refugee residents, and an urban setting (Zahle) that is characterized by escalating tensions between the populations. In both locales, Lebanese and Syrian residents are dependent on similar communal water infrastructure, such as public water taps, water delivery trucks, and unregulated wells. To better understand water infrastructure as central sites of citizen-refugee interaction, this project explores the social worlds that inform residents' encounters, including class, gender, and sectarian affiliations. Additionally, this research considers (non-)governmental authority which oversees the water sites, and its impact on citizen-refugee relations between the urban and rural locales. Finally, the project examines how acute moments of infrastructure breakdown or repair reconfigure existing social relations over time. To explore these questions, this study centrally employs participant observation at key water sites and interviews with NGO workers, Lebanese citizens, and Syrian refugees in the rural and urban locales. Document analysis of NGO and governmental reports provides additional textual data to this project. This multi-dimensional comparative project therefore seeks to reveal the social, political, and temporal dynamics that variously promote cooperation or conflict between citizens and refugees who are dependent on the same life-sustaining infrastructures.

Intellectual Merit:

By examining communal water infrastructure as sites of political governance and social formation affecting refugees and citizens alike, this research broadens scholarship regarding forced migration and refugee studies; humanitarianism and the state; and the anthropologies of infrastructure and water. This project challenges a theoretical privileging of forced migrant and refugee life as operating in distinct spaces from host communities, instead offering insight in underexamined dynamics of joint citizen-refugee residence. This project also extends knowledge regarding different forms of formal and informal infrastructure and their impact on residents' social relations. While the boundaries of (in)formality are often elusive (Anand 2017; Little 2014), this project examines how the presence or absence of governing authorities in maintaining a range (in)formal communal sites configures relations between citizen-refugee residents and (non-)governmental actors in ways that encourage or prevent social harmony. Finally, this project provides novel insight on the temporal dimensions of communities' engagement with infrastructure, both in mundane, daily dependence on communal water systems, and in acute moments of breakdown or repair. Precisely how changes to infrastructure produce affective responses that configure social bonds will be a point of inquiry. While most anthropological studies of infrastructure examine dense urban locales or vast geographies, this original research compares how similar water systems in rural and urban areas serve as sites of cooperation or conflict.

Broader Impacts:

This project will be useful to policymakers, development practitioners, and humanitarian workers. This research will produce an ethnographically informed analysis of how communal water infrastructures serve as sites of social harmony—or conflict—between citizens and refugees, thereby informing potential policy recommendations to be shared across geography in similar social and political contexts. Additionally, by examining different forms of water infrastructures from public water taps to water delivery trucks overseen by NGOs, this project will speak to development practitioners' questions of dependency versus sustainability, and reveal how public and non-profit sectors can function holistically to address water needs in both rural and urban contexts. Finally, in light of rising anti-migrant policies and rhetoric on a global level, this project proves relevant to humanitarian workers by examining efforts, like communal water infrastructures, that target both disadvantaged citizen and forced migrant communities alike. Rather than a cause of burden and tension, this project examines how conditions set by an influx of displaced peoples can be addressed to promote social harmony through shared infrastructural dependence.

Communing at the Water Tank: Cooperation, Conflict, and Water Infrastructure in Lebanon's Bekaa Valley

As nearly 80 million people around the world have been forcefully displaced from their homes, host countries are increasingly faced with major dilemmas. Often bordering the countries of those displaced, host countries are frequently hard-pressed to provide life-giving and potentially scarce resources like food, water, and shelter to all who need them, both citizen and newcomer alike (UNHCR 2020). While the management of these essential resources is understood as a cause of tension between host communities and displaced peoples, less is known about the factors that promote cooperation and social harmony. This proposed dissertation research is concerned with uncovering such factors. **By focusing on communal water infrastructure in Lebanon's Bekaa Valley, this project seeks to shed light on the forces that variously generate social and political cooperation or conflict in the context of resource scarcity and large-scale population displacement.**

Lebanon's Bekaa Valley is well-suited to the examination of conflict and cooperation between citizens and refugees over water infrastructure. Lebanon itself hosts the most refugees per capita out of any country in the world, the majority of whom are Syrians who reside in shared neighborhoods, streets, and apartment buildings alongside Lebanese citizens. My preliminary research (summers 2019, 2020) in two locations in Lebanon's Bekaa Valley shows that in one of the two sites (a predominantly rural setting), displaced Syrians and long-time Lebanese residents have forged strong bonds with one another, despite limited resources and employment opportunities. In the second of the two locales (a predominantly urban setting), displaced groups and long-time residents have been involved in escalating tensions. The urban locale is characterized by xenophobia, mistrust, and several forced evictions of Syrians by municipal authorities, who regard refugees as burdens on already strained economic and infrastructural systems. In the rural locale however, Syrians and Lebanese have worked together to petition governmental and non-governmental organizations to assist them in their efforts to strengthen local infrastructures—in particular, access to adequate water. Both sites lack a public water system that consistently and uniformly distributes water to private homes and apartments. Many residents are therefore required to gather both potable and non-potable water from communal sources such as public water taps, water delivery trucks administered by NGOs, or unregulated wells (Machayekhi et al. 2017). Because Lebanese citizens and Syrian refugees live alongside each other in these rural and urban residential districts, and both groups depend on shared water infrastructures, communal water systems serve as important sites to examine citizen-refugee cooperation—and tension—in the context of protracted displacement.

RESEARCH QUESTIONS AND HYPOTHESES: This project centrally asks: **How do efforts of accessing and maintaining communal water infrastructure variously promote cooperation or conflict between refugees and citizens living in shared residence?** By examining two sites in Lebanon's Bekaa Valley (one marked by citizen-refugee cooperation, and the other by increased tension), this project examines how communal interactions—and frustrations—with water infrastructure facilitate alliances or exacerbate tensions between citizens and refugees. To further explore this central question, this project addresses three subsidiary questions:

1. What social and political affiliations allow or prevent citizen and refugee populations from accessing communal water infrastructures? In particular, I am concerned with how class, gender, and sectarian affiliations affect individuals' access to communal water infrastructures.
2. What is the role of governmental and non-governmental actors in providing and maintaining communal water infrastructures, and how does this affect citizen and refugee relations? Many communal water sites are overseen by governmental or non-governmental organizations, while others, such as unregulated wells, exist beyond the formal scope of these political actors. Precisely how (non-)governmental regulation functions, and whether it promotes or discourages refugee-citizen interaction in both formal and informal water sites, will be a point of inquiry.
3. How do acute moments of infrastructure breakdown or development reinforce or reconfigure preexisting social relations at communal water sites? In addition to the daily dependence on

communal water infrastructure, I will explore how incidents such as burst pipes, delayed water deliveries, or newly constructed facilities alter how residents interact with each other.

In sum, these questions will address the political and social dimensions of citizen-refugee relations at sites of communal water infrastructure. Exploring how class, gender, and sectarian affiliations impact social relations will uncover features of social life beyond the simple categorizations of “citizen” and “refugee.” Additionally, investigating how NGO and governmental actors organize or restrict access to these communal water sites will reveal the forms of governance and authority that oversee this infrastructure and its maintenance. I expect that these political dynamics structure and limit residents’ ability to demand change at communal water sites, such as petitioning for the maintenance or repair of certain water systems. Finally, by examining acute moments of breakdown or development, this study will explore infrastructure’s evolving nature which is prone to expected and unexpected change. Infrastructure in flux, I hypothesize, will impact how citizens and refugees interact. For example, in response to a recently defunct public water tap, citizens and refugees may bond together to successfully petition for repair or development: the presence of refugees may grant access to humanitarian funds that would otherwise be closed to citizens, and citizens could stake claims to public water sources that would normally be inaccessible to refugees. Yet, after the public tap is repaired, refugees could be banned from accessing the water source as they could be viewed as an added burden straining the fragile system. These examples show how moments of infrastructural change allow for social networks to develop and evolve, variously promoting cooperation or conflict at certain moments in time. Examining acute moments of infrastructure change, and its impact on social relations, will therefore provide a temporal dimension to my analysis, examining how change occurs over time. Taken together, this project examines communal water infrastructures as important nexuses of citizen-refugee interaction and political governance which facilitate social alliance or tension among residents.

LITERATURE REVIEW: This project draws on and contributes to four bodies of social science literature. The central research question (**How do efforts of accessing and maintaining communal water infrastructure variously promote cooperation or conflict between citizens and refugees?**) builds on critical scholarship regarding forced migration and refugee studies; humanitarianism and the state; the anthropology of infrastructure, and the anthropology of water. It brings these literatures into conversation by examining how a shared dependence on communal forms of water infrastructure serve as sites of political governance and social formation affecting refugees and citizens alike.

Forced Migration and Refugee Studies: By examining communal water infrastructure as sites of joint citizen-refugee dependence and interaction, this project extends critical scholarship that interrogates the inherent distinctions embedded in the traditional category of “refugee.” Despite the presumed demarcations of “migrant” and “refugee,” whereby the latter exists under the conditions of the 1951 Refugee Convention, recent scholarship has revealed the inadequacy of such distinctions when explored in the context of forced migration (Alexander-Nathani 2020; De Genova 2002; De Genova and Peutz 2010). While certain studies highlight the exceptional vulnerability of migrants who are subject to violence and death by state and sovereign authorities (Agamben 1998, 2005; De León 2015), other work emphasizes the heterogenous experiences of refugees, exploring how individuals establish agency and resist domination in ways that are irreducible to a singular shared “refugee status” (Besteman 2016; Ong 2003). Therefore, while the label “refugee” remains an important analytical category, its exceptional status is subject to critique (Allen et al. 2018). In particular, this project contributes to current scholarship by examining how communal infrastructure, and acute moments of breakdown and development, serve as sites of potential dispossession and belonging for both citizen and non-citizen alike. This research will therefore examine precarity as a shared experience that manifests along a range of considerations including class and sect, in addition to formal citizenship (Çaglar and Glick Schiller 2018; Khosravi 2017; Ramsay 2019; Tsing 2015). This project also develops influential spatial and temporal frameworks in forced migration and refugee studies. Spatially, current scholarship is often focused on refugee camps, or exceptional spaces of refugee residence often regulated by an institutional body outside the purview of host governments (Gabiam 2016; Hanafi and Long 2010; Peteet 2005). Temporally, recent work has

departed from traditional understandings of refugee life as short-term, instead exploring protracted displacement marked by liminality, or an in-between transitory state, which constrains political possibility while nevertheless establishing novel social relations in displacement (Brun 2016; El-Shaarwari 2015; Janmyr 2016; Malkki 1995). Temporal and spatial examinations within this literature are therefore largely concerned with refugee life as distinct from non-migrant communities, rather than preferencing shared spaces of residence and belonging, particularly in examinations of the Middle East. This project advances these analyses by examining shared citizen and protracted refugee life along class, gender, and sectarian affiliations, as explored through infrastructure access in both urban and rural localities.

Humanitarianism and the State: By examining how the maintenance of shared water infrastructure by governmental and non-governmental actors variously promotes citizen-refugee cooperation or conflict, this study advances critical scholarship on humanitarianism and the state. This project contributes to scholarship that challenges rigid distinctions between state and non-state organizations (Abrams 1989; Allen and Cochrane 2010; Gupta 2012; Mitchell 1991; Ong and Collier 2005). Humanitarian efforts possess state-like qualities, through efforts of identifying, registering, and assisting displaced and needy populations (Feldman 2007, 2018a; Ferguson and Gupta 2002; Ticktin 2014; Trouillot 2001), especially in contexts of government inaction (Nassar and Stel 2019). Recent scholarship has challenged humanitarianism's perceived exceptionalism and political neutrality (Benton and Atshan 2016; Redfield 2013; Ticktin 2011), viewing it instead as a governance apparatus involved in the control and maintenance of populations (Barnett 2013). The effort of humanitarianism to secure the welfare of a population mirrors the paternal expectations of the state to provide for its population (Foucault 1991), often rooted in a logic of shared humanity based in moral sentiments (Fassin 2012). Humanitarianism and the state thereby produce certain affective attachments, on which people adhere their hopes, desires, and expectations (Krupa and Nugent 2015; Nugent 2019), while leveling criticisms of corruption and inefficiency (Feldman 2018a; Gupta 1995). This project similarly examines how the political governance of communal water infrastructures produces affective attachments among residents in ways that vary between urban and rural locales, including how such variation relates to refugee-citizen solidarity.

Anthropology of Infrastructure: This project extends current scholarship by examining how infrastructure's evolving nature functions to (re)configure social relations among citizens and refugees alike, in both urban and rural contexts. While studies of infrastructure often analyze tangible objects that enable the movement of matter, such as pipes, wires, roads, and bridges, infrastructure more accurately functions as a system connecting a range of objects and actors, and can therefore be understood as a site of convergence between material objects and social relations (Hansen and Verkaaik 2009; Larkin 2013; Simone 2004). Infrastructure is also understood through social networks, or the ways social relations constitute a system of connections that shapes one's access to resources (Elyachar 2014; Star 1999), which has been explored not only along class lines (Anand 2011), but also in terms of gender (Elyachar 2010; Joseph 1983), nationalism (Allan 2013; Feldman 2018b), and sectarianism (Cammett 2014; Deeb 2006; Deeb and Harb 2013; Nucho 2016). This project builds from these analyses by exploring how class, sect, gender, and national difference converge in sites of citizen-refugee infrastructural dependence. Importantly, it will examine the affective dimensions of these infrastructure sites (Anand et al. 2018), or how residents structure their hopes, aspirations, and frustrations around infrastructure in ways that variously promote cooperation or conflict. Finally, infrastructure scholarship is concerned with ecology (Hetherington 2019; Tsing et al. 2017), often examining the entanglements of capitalist production and access to resources. Such literature reveals infrastructure's unruly and evolving nature, which extends beyond the bounds of human intent (Anand 2017), and yet is often situated along political and social stratification (Graham et al. 2013; Stamatopoulou-Robbins 2020). While these studies are often concerned with dense urban localities or large projects like dams or watersheds (Anand et al. 2018; Carse 2012, 2017; Sneddon 2012), this dissertation project will provide a novel contribution through a comparative analysis of how similar water infrastructures in rural and urban localities serve as key sites of solidarity or tension between refugees and citizen residents.

Anthropology of Water: By examining water as a shared resource that contributes to political and social alliance and tension, the project brings together two literatures in the anthropology of water,

regarding hydropolitics and hydrosocial relations. As commonly used, hydropolitics, or water politics, reflects the ways that water becomes an object of concern for power and authority. Such topics of concern range from transborder water security and ownership (Harris and Alatout 2010), to issues of access, irrigation, and drought in water-scarce environments, often involving joint technological-political solutions (Barnes 2014; Folch 2019; Mitchell 2002). Similarly, for the proposed research, water is understood as a political concern among governmental and non-governmental actors, contributing to dynamics of rural cooperation and urban conflict. Yet while analyses of hydropolitics explores water as an object to be managed through policy or governance, recent work regarding the “hydrosocial cycle” understands water as an ontological force, whereby water and humans are mutually co-constituting, actively shaping each other under social and political contexts (Linton and Budds 2014). Expanding beyond a purely hydrological understanding of the transitory flows of water in various forms and geographies (i.e., the water cycle), hydrosocial analyses recognize that water flows are embedded in social and cultural processes (Mollinga 2008; Swyngedouw 2006), and therefore reflective of broader anthropogenic realities that challenge human/nature divides (Ballesteros 2019a; Krause 2018). Hydrosocial analyses explore a range of phenomena from how social elites secure water access in environments of scarcity (Mustafa and Tillotson, 2019), to the distinctions between water as a right versus a commodity (Ballesteros 2015, 2019b). Similarly, this project investigates water’s hydrosocial cycle through material and social infrastructures in rural and urban sites. For this study, water takes many forms: as a liquid flowing through pipes; as a shared and scarce supply fostering camaraderie or conflict; as a desired life-source promoting health; and as a statistic presented in humanitarian and government reports. In sum, this project examines the multifarious forms and flows of water as both an object of hydropolitical concern shaping the construction of communal infrastructures and governance policies, as well as a societal need that configures relations between Lebanese citizens, Syrian refugees, and (non-)governmental actors.

INTELLECTUAL MERIT: By exploring **how efforts to access and maintain communal water infrastructures facilitate cooperation and conflict between refugee and citizen populations**, this research advances anthropological theory in three ways. First, this project re-frames a theoretical privileging of forced migrant and refugee life as operating in distinct and separated spaces from host communities, thus offering insight into underexamined conditions of joint citizen-refugee resident experience. These dynamics will further be explored by examining how a shared dependence on communal infrastructure facilitates political and social solidarity and/or conflict.

Second, this project advances scholarship examining how infrastructure navigates boundaries of formality (and even legality), and informality (illegality) by exploring a range of communal avenues of water access. Similar to research examining informal settlements or slum spaces, the study of (in)formal infrastructures necessary for everyday survival challenges distinctions regarding legality/illegality (Anand 2011; Ghertner 2017). This is because the uneven distribution of functioning infrastructure throughout a given space reflects the dynamics of power and access made available through class, race, gender, sect, and formal citizenship (Schnitzler 2016). Many communal water sites in my proposed locales remain visible and easily accessible, such as public water taps or water truck deliveries. Other forms, such as unregulated wells, can exist in the interstices of urban neighborhoods or hidden in rural landscapes. Residents gaining access to infrastructures that extend beyond the bounds of formality or legality reveals both the needs for daily survival (De Genova 2005), and efforts of everyday, mundane resistance against unjust structures (Allan 2018; Scott 1985). This project therefore investigates how the entanglements of (in)formality (Little 2014) and (il)legality (Comaroff and Comaroff 2016) serve to foster or prevent cooperation and conflict between citizens and refugees at a variety of communal infrastructures.

Finally, this dissertation project provides a novel exploration of the affective dimensions of communities’ engagement with infrastructure in a number of ways. As a source of daily dependence, this project will examine how residents structure their hopes, dreams, frustrations and dilemmas in relation to water infrastructure (Anand et al. 2018; Harvey and Knox 2012, 2015; Knox 2017). Through ethnographic methods, it will seek to uncover the affective dimensions of cooperation and conflict between residents at communal water sites by comparing two locales. How do citizens and refugees form

strong affective bonds or intense frustrations, and how is this related to a shared dependence on infrastructure? This examination of affect will be supplemented by a consideration of temporality—in particular, how the communal sites themselves change over time. This study understands infrastructure as evolving through expected and unexpected changes, such as moments of infrastructure breakdown or development. This project will therefore examine how residents’ affective encounters with infrastructure, and with each other, evolve in light of infrastructure’s unstable nature.

RESEARCH SETTING: Lebanon’s Bekaa Valley is an excellent site to explore questions related to communal water infrastructure and conflict and cooperation among refugees and citizens. Not only does Lebanon hold more refugees per capita than any country in the world, amounting to one quarter of the population, but the Bekaa Valley hold the highest concentration of Syrian refugees in Lebanon, the majority of whom reside in residential housing or informal tent settlements throughout the valley, often relying on shared infrastructure systems with Lebanese residents. Before the Syrian conflict erupted in 2011, Bekaa was home to thousands of Syrian seasonal workers who contributed to the extensive agricultural economy and later brought extended family from Syria to seek safety from on-going conflicts in the country. While Lebanon’s government prevented the construction of formal refugee camps overseen by the UNHCR, Lebanon’s porous border with Syria allowed for the unhindered migration of refugees until the 2014 Lebanon Crisis Response Plan (LCRP), which halted the registration of Syrians with UNHCR and restricted the formal admittance of additional migrants. The LCRP also outlined directives for humanitarian organizations operating in Lebanon, insisting that humanitarian and development projects contain a shared focus of both Lebanese and Syrian “vulnerable” populations. These proposed projects address water need, which has contributed to the construction and maintenance of communal water infrastructures, including water tanks and water truck deliveries accessible to needy Lebanese and Syrians alike (UNHCR et al. 2014, 2020). Given this targeted effort of humanitarianism and development in a context of shared refugee and citizen residence, Lebanon’s Bekaa Valley proves ideal to explore this project’s research questions asking **how efforts to access and maintain communal water infrastructures variously promote conflict or cooperation between citizens and refugees.**

Over the course of twelve consecutive months (January 2022 – December 2022), this study will focus on two localities in the Zahle district of the Bekaa Valley: Zahle, the capital city of the Bekaa Valley, and Qob Elias, a mixed rural and peri-urban municipality located fifteen kilometers southwest of Zahle. These sites were chosen based on two summers of in-person and virtual pilot research (summers 2019, 2020). Both localities host Syrian refugees alongside Lebanese residents within the same neighborhoods, streets, and apartment buildings. Both sites also have similar communal water infrastructures, which supplement otherwise inadequate water systems attached to homes and apartments. Yet while shared refugee-citizen residence in Qob Elias (rural) is largely marked by social harmony and cooperation, Zahle (urban) is marked more by tension and xenophobia targeting Syrian refugee residents. By examining communal water infrastructures as sites of joint citizen-refugee interaction and dependence, I can comparatively analyze the phenomena of rural cooperation and urban tension while accounting for social dimensions such as sectarian, gender and class differences. For this ethnographic research, I will reside in Zahle for the first six months of this study before moving to the nearby Qob Elias for the final half of the project.

RESEARCH METHODS: To answer this project’s questions, I require data on: the experiences of Lebanese citizens and Syrian refugees accessing communal water infrastructures between my rural and urban locales including opportunities, challenges, and changes over time; the social worlds that inform residents’ interactions at water sites, including class, gender, and sectarian affiliations; the governing authorities of the sites, including governmental and non-governmental institutions; and the impact of infrastructural change on cooperative or conflictual relations between citizens and refugees.

My primary research methods will be **participant observation, interviews, and document analysis.** For early data collection, interviews and participant observation will be symbiotically important: initial interviews with NGO workers and local residents will identify key communal water sites in Zahle (urban) and Qob Elias (rural), including public water taps, water truck delivery locations, and unregulated wells. Participant observation at these sites will help to inform suitably relevant questions to be asked in

additional interviews. Interviews and participant observation will be ongoing methods of data collection, focusing on my two field sites for six months each. Finally, document analysis among reports gathered from NGO and government agencies who regulate these sites, including accessible archives, will provide a written timeline of communal water sites. Such documentation will textually represent how infrastructures change over time, including how such moments depict citizen-refugee conflict or cooperation at the sites.

Locating Primary Water Sites: While I plan to devote roughly six months of research to both Zahle and Qob Elias, I will spend the first month of fieldwork identifying the primary communal water sites I will observe in both localities. Through informal interviews with NGO workers and local residents, I will sketch a rough map of communal water infrastructures in my two sites, in order to familiarize myself with the infrastructural terrain. I will then select similar sites of water infrastructure in both Zahle and Qob Elias for consistent participant observation, in order to establish a more controlled comparison. I expect to primarily observe one of the following forms in each locale: public water taps, water truck deliveries, and unregulated wells (3 sites in each locale = 6 sites total). The equal division of these water infrastructures is informed by pilot research and reflects an average estimated dependency by residents in both Zahle and Qob Elias (Ghanem et al. 2017; Machayekhi et al. 2017). In selecting these sites, I will also document the primary governmental or non-governmental bodies that oversee the distribution or maintenance of the infrastructure. While unregulated wells extend beyond the formality of state or humanitarian governance, many wells are nevertheless documented by NGOs who oversee water systems in the region. I therefore I plan to locate unregulated wells from initial interviews with previously established connections at NGOs.

Participant Observation: Visiting and extensively documenting my observations at communal water sites is a central method for this research project. Not only do communal water sites bring citizens and refugees to a single location, but often this water is only accessible during specific hours of the day (i.e., water flows from public taps for two hours each day, or a water delivery truck arrives at 4:00pm three times a week). This spatial and temporal regularity will allow me to create a consistent schedule for visiting certain communal water sites. I plan to visit each water site twice weekly. Over the course of six months, this will yield roughly 140 visits in either Zahle or Qob Elias (total = 280), producing a considerable amount of observational data. Visiting the same water sites over many weeks, I will keep a record of frequent attendees, from which I will extend friendship and seek to build camaraderie. My own Lebanese heritage, which itself is rooted in Zahle from three generations past, has allowed for rich conversation and welcomed friendship among Lebanese and Syrians alike.

I am particularly interested in the relational dynamics of class, gender, and sectarian affiliation which, I expect, contribute toward alliance or tension among citizens and refugees at these water sites. As Lebanon is increasingly marked by economic precarity, in what ways would an unemployed Lebanese citizen make claims to a public water tap that excludes an employed Syrian refugee? How would this dynamic shift if both were Sunni Muslim, living in a Christian-majority district of Zahle? Is citizen-refugee cooperation more prevalent among women collecting water than men? Ethnographic methods will help to illuminate the complex social worlds and relations which shape residents' encounters at and beyond these water sites. Through continued conversation and built trust, I plan to learn of my interlocutors' sectarian and class affiliations. To gather measurements of class status, I will ask interlocutors of their professions, education, material possessions, and housing, and consult data presented in NGO reports. Comparing responses from a range of informants will allow me to contextually understand how class functions at the water sites. I will also account for gender dynamics, including the prevalence of men versus women in gathering water, and how different genders interact at water sites. My own positionality as a male researcher may prevent close associations with female interlocutors at water sites, but I will still document how gender factors publicly in my observations and through interviews.

During each of my visits to water sites, I will record the day/time, the amount of people gathering water, and any conversations I engage in or overhear. I will grant particular attention to conversation regarding the water system itself: Are individuals satisfied with the water distribution or do they make complaints? Does tension arise during the process of distribution, or is there laughter or kind remarks? I will also document where people are physically situated in gathering water: Who arrives to the site first,

or initially approaches the waterspout? Who do attendees converse with or avoid? My observations will also center on moments of inconsistency, such as a broken water tap, weak hydraulic pressure, poor water quality, a late or absent delivery truck, etc. In these acute moments I will document how attendees react, or who/what is seen as responsible. I will also grant attention to (non-)governmental employees who are present at certain sites, and how such presence affects how attendees interact. This will be especially useful as I examine unregulated wells, which elude official political oversight. I will discretely record fieldnotes during and immediately following my site visits, and I will input the data in a spreadsheet where I can better sort and keep a record of themes over time. This consistency will prove central to my data analysis through MaxQDA qualitative data software. Extensive observations will provide a thorough picture of social relations at water sites and will allow me to compare Zahle (urban) and Qob Elias (rural).

In addition to visiting and observing the three forms of water infrastructure (public taps, truck deliveries, unregulated wells), I plan to volunteer and join water truck deliveries for participant observation. Over the first three months of fieldwork, I will establish contacts among water truck workers through connections with NGOs who oversee the deliveries. As a volunteer, I will participate in and observe the filling of water trucks at central pumps, the journey to various villages or informal tent settlements, and assist in the delivery of water. During these journeys I will extensively document the experiences of the delivery worker and those receiving water. While these journeys may take me beyond my six specific water sites, such participant observation will provide an additional insight into how both Lebanese and Syrian residents interact at sites of water distribution, and whether certain sites more commonly demonstrate cooperation or conflict between citizens and refugees than others. If possible, I will offer assistance as a routine volunteer to make water deliveries a central and repeated site of inquiry.

Through participant observation, I will better grasp how infrastructure functions as a central component of everyday life, including how it produces affective responses among those who access it. Infrastructure lends itself to a range of responses and emotions depending on its expected functionality: satisfaction, hope, frustration, confusion, despair, anger. Observing how residents react to a water site's (non-)functionality will grant access to the subjective interactions people have with infrastructure. Documenting these moments will supplement interview questions regarding the evolving nature of infrastructure, stimulating discussions of hopes, aspirations, and imagining alternative ways of life.

Interviews: Beyond initial unstructured interviews to identify key sites for research, I will conduct roughly 15 structured interviews among three categories of individuals in both Zahle and Qob Elias: NGO workers, Lebanese residents, and Syrian residents (45 interviews in each locality, 90 total). These interviews will be either guided by a formal interview questionnaire or guided by an open-ended questionnaire that will be conversationally driven, depending on the context and formality of the interview setting. Interviews will be recorded and transcribed, as possible. Among these three interview sets (NGO workers, Lebanese residents, and Syrian residents), a range of individuals will be selected to create representative samples, including class, gender, and sect distinctions for Lebanese and Syrian residents, and a number of staff or contract workers from four NGOs who assist in water distribution and maintenance (anticipated NGOs: UNHCR, UNICEF, Oxfam, and MedAir). The number of interviews for each representative set has been selected to provide empirically significant results for comparison between the two localities (Guest et al. 2006). These interviews will be conducted over the course of twelve months (split between Zahle and Qob Elias) and will include follow-up interviews as required.

Set 1: (NGO Workers): Initially living in Zahle, I plan to spend the first two months developing networks with NGO workers who are based in the city. During my summer 2019 pilot research in Lebanon and summer 2020 virtual research, I established preliminary connections and conducted interviews with three different NGOs operating in Zahle. I expect to focus primarily on international NGOs such as UNHCR, UNICEF, Oxfam, and MedAir, who have field offices in Zahle, from which I will expand to additional contacts as needed. International NGOs are preferred due to their stable-funding, collaborative efforts addressing water infrastructure, such as UNHCR and Oxfam's "WaSH" (Water, Sanitation and Health) initiative. Such coalition initiatives will help me build a robust network representing the full range of NGO efforts addressing water infrastructure in Zahle and Qob Elias. For each organization I will conduct five to seven interviews (total = 30) among a range of staff, including

managers of monitoring and evaluation, project planners, water maintenance workers, and locally hired contractors. I will inquire: How are sites for communal water infrastructure determined? Under what conditions or criteria are the sites maintained? Have there been instances of infrastructure breakdown, and how was it addressed? Are there efforts to improve sites over time, or to abandon sites due to constraints such as budget? How do Lebanese and Syrian residents interact at these sites—is there noticeable cooperation or conflict? I will also discuss the rise in anti-migrant rhetoric and policies by both government officials and local residents, as I learned from preliminary research, and discuss whether sites of communal water access have helped to mediate or exacerbate this tension.

Set 2: (Lebanese citizens): I will interview a sizable pool of Lebanese residents in both Zahle and Qob Elias (total = 30). During my summer 2019 pilot research, I established initial connections with Lebanese residents in Zahle who frequently access public water taps, but I plan to build rapport among additional residents through participant observation. In initial unstructured interviews, I will document how my interlocutors discuss communal infrastructure, including how it is accessed on a consistent basis and who frequents the sites. In later structured or semi-structured interviews, I will ask questions regarding the water infrastructure itself, including how long it has been used, its overall functionality, and whether there have been moments of breakdown. I will ask how these moments were addressed, and whether complaints were directed at NGOs, government officials, refugees, or Lebanese residents. I will then ask more direct questions regarding Lebanese-Syrian relations, and inquire if the sites become the basis of cooperation or conflict between citizens and refugees. By chronicling material and social changes at these communal water sites, I will gather a temporally-informed data set reflecting a history of interaction, including how Lebanese citizens present their relations with Syrians at the sites. These findings will therefore reveal how Lebanese residents understand communal water infrastructures as sites of alliance or tension between citizens and refugees.

Set 3: (Syrian refugees): In both Zahle and Qob Elias, I plan to interview a range of Syrian refugees who access communal water infrastructures alongside Lebanese residents, from multiple class and sectarian identities (total = 30). Similar to my interactions with Lebanese residents, I plan to meet Syrian refugees by frequenting communal water sites in both localities. Interviews with my Syrian interlocutors will mirror questions posed to Lebanese residents regarding how they access the communal infrastructure, who frequents the sites, and the overall quality of the site over time. I will ask questions regarding changes to the infrastructure, including breakdown, and how these dilemmas were addressed. I will pay special attention to whether, as refugees, they had difficulty accessing infrastructure, and if conflict or tension has arisen alongside Lebanese residents. More sensitive questions regarding discrimination or personal hardship will be posed over the course of fieldwork, after mutual trust and camaraderie has been established. In particular, for sites of semi-functional infrastructure, I will inquire whether Syrians become the target of complaints and/or actions by Lebanese on account of the burdened infrastructure, or whether grievances are directed elsewhere, such as towards government inefficiency.

Document Analysis: My final method of data gathering is collecting and analyzing documents from openly available and archival sources. I plan to gather documents regarding water infrastructure from NGO headquarters in Zahle and Beirut. Anticipated NGOs include: UNHCR, UNICEF, Oxfam and MedAir. I will also seek documents from local municipal sources if I am granted access. Such documents include: policy reports, meeting notes, focus group responses, correspondence between partnered organizations, budget outlines, official petition requests and others. While certain documents may be difficult to access, I plan to request these files over the course of fieldwork by first seeking clearance and establishing formal associations as a researcher inquiring into the history of various communal water projects. Documentation regarding the planning, maintenance, and construction of communal water sites will not only inform my interview questions but also provide a written timeline of events and a detailed representation of official narratives regarding the development of material infrastructures.

RESEARCH SCHEDULE: Funding is requested 01/15/2022 - 12/31/2022 for the schedule below:

Month	Research Activity
Jan. 2022 – Feb. 2022	<ul style="list-style-type: none"> Identify primary water sites in Zahle and Qob Elias Conduct daily participant observation at water sites in Zahle
Feb. 2022 – Jul. 2022	<p>Zahle:</p> <ul style="list-style-type: none"> Conduct daily participant observation at water sites Conduct interviews with NGO workers, Lebanese citizens, and Syrian refugees Join water truck deliveries for participant observation and interviews Gather reports and access archives from (non-)governmental organizations
Jul. 2022 – Dec. 2022	<p>Qob Elias:</p> <ul style="list-style-type: none"> Conduct daily participant observation at water sites Conduct interviews with NGO workers, Lebanese citizens, and Syrian refugees Join water truck deliveries for participant observation and interviews Gather reports and access archives from (non-)governmental organizations

DATA ANALYSIS: This research will produce three types of data: interview transcriptions, fieldnotes from participant observation, and summaries of document sources. Data analysis will commence during fieldwork, particularly as I transcribe interviews and fieldnotes. From this process of transcription, I will begin to notice common and divergent themes which will recursively inform later interview questions.

Narrative analysis: Narrative analysis will allow me to analyze common stories and narratives that are shared by informants (Allen 2017; Bernard 2006), which I will conduct on interview transcriptions, fieldnotes, and document summaries. This approach will help me understand how my informants experience and discuss their efforts of accessing communal water infrastructure, including: how citizens interact with refugees; how the sites are governed; how infrastructure breakdown or repair (re)shapes expectations and desires; and who or what is responsible for dilemmas that may arise. I anticipate informants' replies will largely depict seemingly mundane actions (i.e., standing in line, filling canisters with water, talking to familiar individuals, etc.), or will appear as complaints to inadequate or dysfunctional water systems. The consistency of these responses, and how acute moments appear in informants' replies, will suggest how narratives of social life change over time at these sites. Framing these data as stories informants tell themselves about relations at water infrastructure, narrative analysis will also elucidate the affective dimensions of these social encounters, including frustrations or joys associated with these sites and between citizens and refugees. Data gathered from document reports and archives will also allow me to situate interlocutors' narratives against those produced by NGOs.

Content analysis: I will conduct content analysis on my transcribed interviews, fieldnotes and document summaries. Content analysis is concerned with the quantitative appearance of key words in texts and allows for recognizing patterns among a range of datasets. To better aid in content analysis, I will utilize MaxQDA software, which allows me to input transcription as coded words to reveal patterns and associations in the text. This method of content analysis will provide numerical representations of my interview transcriptions, highlighting otherwise hidden patterns in my transcribed data. This will allow me to clearly diagram how repeated keywords are presented, thus revealing how dominant narratives are shared and replicated among my informants and archival material. By coding national, sectarian, class, and gender affiliations among my informants' interviews, I will be able to recognize the prevalence of certain social ties, and how these correlate to discussions of cooperation or conflict at water sites.

Discourse analysis: Discourse analysis will help to recognize how my informants' replies, and archival representations, are situated in certain social contexts (Salkind, 2010). By recognizing my informants' various positionalities (i.e., profession, class, sectarian identity, gender), I can better understand their responses in a shared, contingent social context. This will allow me to grasp important nuances and subtext in my informants' replies, and better compare my three interview sets between my urban and rural sites. Recognizing the role of discourse in my data will be key in determining the subtleties of how citizens and refugees are represented in my informants' replies and in NGO documents.

In combination, these streams of data and modes of analysis will allow me to produce a study of communal water infrastructure understood from a variety of sources that represents a temporally situated and multi-level portrayal from the perspectives of Lebanese citizens, Syrian refugees, and NGO workers. Through all three forms of analysis, I will be able to elucidate the social and political factors that variously promote conflict or cooperation between citizens and refugees in my field sites.

PRELIMINARY RESEARCH AND CONTINGENCY PLAN: My graduate education and preliminary fieldwork have equipped me with the language and research skills to conduct this research successfully. In addition to four years of Modern Standard Arabic (advanced proficiency) acquired through undergraduate and graduate coursework, I have enrolled in four months of intensive Levantine Arabic dialect coursework, including one summer (2019) studying at the American University of Beirut in Lebanon. I am continuing dialect coursework through remote learning during the 2020-2021 year. I have also acquired significant methodological training to carry out this project. During my undergraduate and graduate education, I have taken qualitative methods coursework and have conducted interviews, designed surveys, and analyzed data for research associated with numerous fellowship and grant programs (summer 2014, 2016, 2019). I have also taken a course in Ethnographic Methods and Writing, through which I have trained in conducting participant observation, and I have received training in MaxQDA software. Additional Masters and PhD coursework in Political Anthropology, Environmental Anthropology, Development and Change, Anthropology of (Neo-)Colonialism, and Middle Eastern Security Studies have provided me with the theoretical grounding for this project.

Supported by the Henry Luce Foundation, I conducted pilot research pertaining to this project during summer 2019 in Lebanon. Over the course of two months, I established contacts with numerous international and local NGOs that operate in Bekaa, where I conducted fifteen structured and semi-structured interviews with staff of international NGOs including UNHCR, UNDP, and MedAir, and a number of local organizations. This preliminary research further allowed me to travel throughout the Bekaa Valley, visit water treatment facilities, and locate Zahle and Qob Elias as my primary field sites. For summer 2020 I was awarded a Global Fellows grant with Emory's Halle Institute for Global Research to conduct additional pilot research in Lebanon, but the Covid-19 pandemic limited this preparation to virtual research. In addition to analyzing dozens of online reports published by NGOs and attending a number of webinars regarding Lebanon and the Levantine region, I conducted fifteen remote interviews with NGO staff and experts on Lebanon's water infrastructure, which has informed the feasibility of this project. Finally, I successfully secured research affiliation with the American University of Beirut's department of Sociology, Anthropology, and Media Studies through which I am seeking IRB approval.

Contingency Plan: Due to recent uncertainties, including the Covid-19 pandemic, Lebanon's 2019-2021 economic crisis, and the political changes following the August 2020 explosion in Beirut, I offer a contingency plan for my dissertation work. To reiterate, the proposed sites in the Bekaa Valley are some of the most socially and politically stable in Lebanon. Having established a range of personal networks in Zahle, I feel assured to conduct my research safely and securely, despite Lebanon's recent economic depression. However, if I am unable to reside securely in Lebanon, I am prepared to transfer this research project to a nearby site in Jordan. After extensive research and dialogue with relevant individuals in Jordan during summer 2020, I feel confident to conduct this doctoral project in the Bina Kinana District located in Jordan's northwestern Irbid governorate. Located roughly 100 miles southwest of Lebanon's Bekaa Valley, this district holds many similarities to my proposed primary sites: it contains a jointly agricultural and urban landscape with a history of Syrian seasonal workers who migrated with family following the outbreak of conflict in Syria; Syrians and Jordanians live alongside each other in residential spaces, and are dependent on shared water infrastructures; the spoken dialects are similar to those of Lebanon; and NGOs target both citizen and refugee populations alike, including water rehabilitation projects overseen by the International Committee of the Red Cross and the UNHCR. Therefore, while this doctoral project is designed for research in Lebanon's Bekaa Valley, it can be moved with limited adjustments to the Bina Kinana District in Jordan if research in Lebanon becomes unfeasible.

BROADER IMPACTS: Beyond its scholarly contributions, this project will be useful to policymakers, development practitioners, and humanitarian workers. First, this project will prove relevant to those concerned with citizen-refugee co-residence in regions of protracted human displacement. As societies around the world continue to face growing trends of mass human displacement, governments and municipalities are increasingly required to respond to rapidly changing social and demographic realities. This study will provide a grounded, ethnographically informed analysis of how communal water infrastructures serve as sites of cooperation and social harmony between refugee and citizen residents, thereby informing potential policy recommendations to be shared across geography in similar social and political contexts. Second, by exploring the role of shared infrastructure systems as sites of alliance and tension among disparate groups, this study will prove valuable to development practitioners. In examining a range of water distribution efforts, from public sources to water delivery trucks, this project will better inform the efficacy of development's emphasis on "sustainability" over dependency (Ferguson 2015) by clarifying how a range of citizen and refugee residents negotiate various options of communal water access. In particular, this study will reveal how the public and non-profit sectors can function holistically and efficiently to address water needs in both rural and urban contexts. Finally, this project will prove relevant to humanitarian workers. In a context of increased human displacement and rising anti-migrant policies and rhetoric on a global level, this study will explore the impact of capacious humanitarian efforts that target both citizen and forced migrant communities. This research will therefore not only reveal how host countries are burdened by an influx of refugees, but how social harmony can be addressed and promoted through shared infrastructural dependence.

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