

The London School of Economics and Political Science

**Collective Action in an Exceptional Governance Context:
A Critical Analysis of Co-operative Water Management in
the West Bank of Palestine**

Janan Mousa

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of the London School of Economics and Political Science for the
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Declaration

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Abstract

This thesis is a comparative study on local level water management in six villages in the West Bank of Palestine. It examines community-based management of local freshwater resources in two groups of villages, which correspond to two geopolitical zones set up under the Oslo Peace Accords—one marked by more acute exceptional governance conditions (Area C villages), and the other marked by “minimal” exceptional governance conditions (Area A villages). More specifically, it critically examines these six collective action institutions as embedded within wider institutional and power structures. While this study takes a multi-scalar approach, it specifically seeks to understand the micro-scale dynamics that characterize these collective action institutions. It also seeks to understand the ways in which these dynamics interact with meso-scale (Palestinian Authority) and macro-scale (Israeli state) power—framed as exceptional governance. This study comprises a two-fold attempt: to contribute to a burgeoning body of literature on local level resource management in Palestine; as well as to extend the vast literature on collective action in local resource management around the world to include settings of atypical governance—specifically ones in which sovereignty is compromised. The research findings illuminate that macro-scale power facilitates more successful collective action outcomes in Area C villages. The findings also illuminate that meso-scale power hinders successful collective action in several ways: by imposing co-management arrangements that hinder collective action outcomes and reproduce intra-community inequalities—while simultaneously concealing the lingering presence of Israeli control over their water resources.

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Abbreviations

- CA—Collective Action
CBNRM—Community-based natural resource management
CI—Critical Institutionalism
CPR—Common Pool Resource
EG—Exceptional Governance
GS—Governance System
IB—Institutional Bricolage
IAD—Institutional Analysis and Development Framework
IDF—Israel Defense Forces
IFI—International Financial Institution
IHL—International Humanitarian Law
IPNA—Israel Parks and Nature Authority
JWC—Joint Water Committee
MI—Mainstream Institutionalism
MFA—(Israeli) Ministry of Foreign Affairs
NIS—New Israeli Shekel
Oslo—The Oslo Accords (1993)
Oslo II—The Oslo II Accord (1995)
PA—Palestinian Authority
PCBS—Palestinian Central Bureau of Statistics
PHG—Palestinian Hydrology Group
PLO—Palestine Liberation Organization
PRDP—Palestine Reform and Development Program
PWA—Palestinian Water Authority
SES—Socio-Ecological System or Social-Ecological System
UNESCO—The United Nations Educational, Scientific and Cultural Organization
WUA—Water User Association

Chapter 1 Introduction

This study examines community-based management of local freshwater resources in villages in the West Bank of Palestine. It comprises a two-fold attempt: to contribute to a burgeoning body of literature on local level resource management in Palestine; as well as to extend the vast literature on *collective action* (CA) in local resources management around the world to include settings of atypical governance. In other words, it seeks to situate local water management in Palestinian villages within the CA literature—as well as to contribute its insights as comprising a new comparative case study. In doing so, this study frames the comparative case study as an extension of the CA literature to a governance context that is atypical—specifically what I call *exceptional governance* (EG). Exceptional governance is a term that this study employs to refer to the governance conditions that characterize the Palestinian context within the West Bank.

This extension is simultaneously a more specific conceptualization, and one that is more general: it is specific insofar as it frames the governance conditions as *compromised sovereignty*; it is more general insofar as it can be applied to other contexts. The value in its specific conceptualization lies in the explanatory power it has to transcend problematic characterizations of governance conditions in Palestine as comprising a state of exception—i.e. applying Giorgio Agamben’s theory of the state of exception to Israel’s colonization of Palestine. Similarly, it transcends deficient or partial characterizations of governance conditions as solely “occupation”, “military occupation”, or “settler colonization”. As Le More (2008) frames it, governance conditions are more complex: “the big picture”, she states,

is one of continuing Israeli occupation, dispossession, colonization and segregation; of increasing territorial, demographic, socio-economic and political fragmentation of the Palestinians; of a persisting humanitarian crisis and more mismanagement, authoritarianism, lawlessness and chaos (xi).

This study is an attempt to understand the complexities and nuances of how communities in the West Bank manage their local water resources. It seeks to push the limits of extant—conventional and critical—academic inquiry into community resource management in two ways: firstly, by following the lead of an increasingly prevalent critical approach to community resource management—with critical institutionalism (CI) *as the point of departure*; and secondly, by situating the study within what I will refer to as an exceptional governance (EG) situation. While this study treats “exceptional governance” as *a specific set of political conditions that constrain sovereignty* in the West Bank of Palestine today, studying community management under EG conditions has broader geopolitical applicability. In particular, this framing of “exceptional governance” can be applied to other contexts in which a (different) set of specific political conditions constrain sovereignty. Accordingly, this study seeks to examine local-level water management in a particular exceptional governance context—i.e. the West Bank of Palestine, hereinafter referred to as the West Bank. In examining local water management, this study aims: (i) to examine *conditions* of collective action (CA); (ii) to examine *modes* of co-operation amongst water users; and (iii) to examine agency and power *within* these CA institutions—subsumed under wider structures of power. Specifically, it seeks to understand the forms and dynamics of CA in the management of local common pool resources—i.e. groundwater sources—in the West Bank and in doing so, to contribute to the burgeoning literature on these CA institutions. In studying management of freshwater resources, I am cognizant of the ways in which “geographical thought in the bourgeois era...treats natural and social phenomena as things, subject to

manipulation, *management*, and exploitation” (Harvey, 1984: 3; emphasis added). While exploring the implications of this insight is beyond the scope of this study, I seek to move beyond a technical understanding of “management”, to one that is not only political, but also rooted in community members’ own understandings and framings—to look at how “Indigenous knowledge” (Ayre and Mackenzie, 2013) informs water management. The study will situate water conditions within a context of power structures—specifically, a politico-military context of Israeli settler colonization (Salamanca, et al., 2012) and belligerent occupation (Mason, 2011); a political economy context of de-development (Roy, 1999) and neoliberalism (Khalidi & Samour, 2011; Hanieh, 2013; 2016; Haddad, 2016) and a social-ecological context of hydro-hegemony (Zeitoun & Warner, 2006; Zeitoun, 2008) and the militarization of water—while examining local-level conditions through a lens of co-operation. The existing literature frames EG as deliberately destructive to the economy (see Roy, 1999; Roy 2014 on de-development¹); as obstructive to distributive justice (Zeitoun, et al, 2014); and as contravening international water law (IWL) (Elmusa, 1993; Zeitoun, 2008). However, the literature does not thoroughly address the following issues: (i) how people are affected at a micro level; (ii) how they navigate their (EG) conditions to manage their natural resources; (iii) how agency and power within these local institutions affect water management outcomes. While there is a burgeoning literature on CA institutions in Palestinian villages, it does not sufficiently explore the impacts of Israeli power. In light of this, I turn to three streams of literature to address my research question: Mainstream Institutionalism,

¹ De-development is a process “that forestalls development by ‘depriving or ridding the economy of its capacity and potential for rational structural transformation (that is natural patterns of growth and development) and preventing the emergence of any self-correcting measures’. De-development, furthermore, occurs when normal economic relations are impaired or abandoned...and precluding sustainable growth” (Roy, 2001: 128 in Roy, 2014: x).

Critical Institutionalism, and disparate literatures that I collectively refer to as “the exceptional governance literature”. It should be noted that Mainstream Institutionalism (MI) is also referred to as common property scholarship (Hall, et al., 2014); collective action scholarship (ibid); new institutional perspectives (Gutu, et al., 2014); and community based natural resource management (CBNRM) or community-based resource management (CBRM). In classifying the different types of community management, Fabricius (2004) shows that the distinguishing factor is external intervention. From the more “formal” CBNRM, to “interference in informal CBNRM” (Fabricius, 2004: 5), to the traditional forms of community management, participation increases respectively. Menon, et al. (2007) conceptualize CBNRM as “involving, if not privileging, local communities” (1). The goals include achieving the three pillars of sustainability: environmental protection, social equity, and economic growth. It is apparent that conceptualizations of CBNRM vary, with community participation lying at the crux of this variation. It is also imperative to note that MI and CI are not two mutually exclusive bodies of literature; rather, CI is a critical tradition *within* institutional theory—although it is sometimes referred to as “post-institutionalism” (e.g. Gutu, et al., 2014). Thus, I will seek to draw insights from two broad literature streams, while maintaining a critical approach to both, to formulate one cohesive theoretical framework. In seeking to examine the dynamics of local-level management of water resources, I will situate these conceptions within wider framings of power structures.

In order to explore the “central” research question (Creswell, 2009: 129)—i.e. to understand the effects of EG conditions on CA institutions in water management in West Bank villages —this research asks four “subquestions” (ibid):

- 1) What are the conditions that shape the context within which CA institutions exist?
- 2) What are the institutional arrangements that exist in these villages?
- 3) What are the power dynamics within, and surrounding, these institutions?
- 4) How do actors demonstrate agency given the multi-scaled power structure?

In order to understand the effects of EG on CA, this study employs a comparative analysis approach between Area C and Area A villages—whereby the latter is classified as amounting to minimal EG conditions for the purpose of comparative analysis. Accordingly, the main aims are to discover whether—and if so, how—CA outcomes differ between Area C and Area A villages. As outlined in the methodology section, the hypotheses were drawn up deductively and inductively: they were first created deductively based on the mainstream CPR literature, and then developed inductively after conducting the scoping research. The result of this process are the following hypotheses:

- 1) Exceptional governance (macro-scale power) conditions foster CA.
- 2) Asymmetrical power relations within the community (micro-scale) are embedded within village institutions—and reinforced by these power structures (particularly meso-scale).

While exceptional governance conditions encompass settler colonization and military occupation, a *framework* of exceptional governance facilitates a broader analysis for two reasons: firstly, it can be applied to other contexts that lack “normal” governance conditions—irrespective of whether this includes colonization or not—and secondly, it enables me to include aspects of Agamben’s state of exception theory apropos the militarization of water in the West Bank. This study also facilitates an understanding of the ways in which Palestinian irrigators’ water needs are not met—particularly apropos

their lack of sufficient access to, and control over, freshwater resources. The findings can provide insights into the value of community-based management of water resources as a more effective environmental policy than centralization of water management in Palestinian villages.

Chapter 2 Literature Review

2.1 Theoretical and Empirical Literature

This chapter aims to review the key theoretical and empirical literature on collective action (CA) and exceptional governance (EG). It will begin with a review of literature on common pool resources (CPRs), and how these resources are managed through CA institutions. In this literature review, I will identify gaps, which I will attempt to address by turning to Critical Institutionalism (CI) to provide more nuanced understandings of community resource management. However, while CI provides a critical understanding of co-operative institutions, it too, has some gaps. The first of these is that while CI problematizes mainstream institutionalism's (MI) insufficient engagement with context, it does not provide a solid framework for how studies should thoroughly account for context. By contrast, MI does offer a very detailed framework for measuring certain—albeit limited—aspects of context, including indicators of governance systems (GS). The second of these shortcomings is similar in form, but differs in content: CI offers a searing critique of how MI does not sufficiently account for power, which largely shapes CA outcomes; however, as mentioned above, it falls short of providing a solid framework for analyzing power theoretically as well as studying it empirically. The CI literature does refer to theories of power by Lukes, Giddens, and Bourdieu, but insufficiently engages these. Finally, in an attempt to provide a more nuanced alternative to MI's situational variables, CI offers an alternative framework of analysis—institutional bricolage (IB)—which itself is conceptually ambiguous, rendering its operationalization obscure.

In light of these shortcomings, CI serves more as a *point of departure* for a critical approach, rather than as the theoretical framework itself—i.e. it informs but does not fully encapsulate, my theoretical framework. In setting up this framework, I will attempt to show how the collective action literature does not sufficiently address resource management under governance conditions that are atypical. Within this critical approach, I also seek insights from another framework: that of “exceptional governance” (EG). The chapter then goes on to review the state of exception theory, as developed by Giorgio Agamben (2005). It is important to qualify the incorporation of this theory² by noting that this study will only cover the *aspects* of state of exception that are the most relevant to the Palestinian context. This will be followed by an overview of what I refer to as the “exceptional governance” literature vis-à-vis water governance in the West Bank. Finally, I attempt to address these gaps in the literature by adopting a critical framework, which is critical of all of these literature streams, including CI. Turning to these three streams of literature, MI, CI, and EG, facilitates an analysis of the most significant shortcoming in the MI literature—i.e. an analysis of power. While CI opens the door to a general analysis of power—which I engage with through Lukes’ theory of three-dimensional power—EG facilitates an analysis of a specific form or manifestation of power. This form of power, while applied to an arguably “exceptional” or “unique” case, can be more broadly applicable, as reflected in how I conceptualize EG: *as a mode of governance in which sovereignty is compromised, leading to conditions of political stress*. In my endeavor to fill the identified gaps in each of these bodies of literature, I will use elements of each approach, but transcend these in order to enhance their insights;

² While the application of Agamben’s state of exception theory to Israel/Palestine is contentious, certain aspects of it can be instructive—particularly vis-à-vis the militarization of water laws, and the security state.

ultimately, I synthesize these elements to situate my research project within an alternative critical framework. This critical framework is undergirded by a multi-scalar analysis of power in which micro, meso, and macro power operate synergistically to impact CA outcomes.

2.1.1 Mainstream Institutionalism

Collective action (CA)—whereby a group of individuals work together to achieve a public good (Olson, 1965)—is ostensibly a progressive political ideal, insofar as its roots are based on *collectivism*. Lukes' (2005) conceptualizes CA as a situation “where the policy or action of a collectivity (whether a group, e.g. a class, or an institution, e.g. a political party or an industrial corporation) is manifest, but not attributable to particular individuals' decisions or behavior” (26). When people work collectively, they (intentionally or not) challenge liberal ideals of individualism. In a competitive capitalist system—a liberal economic model—individuals seek to maximize their (economic and other) benefits while reducing the costs of doing so. In line with this reasoning, collective efforts toward a common objective amount to, *at face value*, a progressive political ideal. Although collective action was a prevalent model before the mid-1960s, two scholars, Olson (1965) and Hardin (1968), claimed that it would lead to the tragedy of the commons (Ostrom, et al., 2002)—hereinafter referred to as the traditional approach. This means each person would extract from a common natural resource what is individually optimal—without regard to the sustainability of the resource or to their neighbors—and the cumulative effect would lead to the over-exploitation and degradation of the resource; hence the tragedy. The tragedy of the commons refers to a scenario apropos a common resource in which individuals acting in their own self-interest are individually rational,

but collectively irrational. In order to substantiate their claims, these scholars assumed humans to be inherently self-interested and as such, would strive to maximize their individual gains irrespective of the costs to their fellow humans. These scholars' challenges led them to conclude that unitary—rather than collective—management was the solution to avoiding Hardin's tragedy of the commons, or the degradation of a resource. Unitary management refers to one party—i.e. government or a private actor—that is responsible for managing the resource (Ostrom 1990). It is important to note that Hardin's approach to governing the commons was informed by his belief in population control to address environmental problems; Hardin's position "reflected a growing neo-Malthusian environmental concern" (Wall, 2017: 23). Ostrom was explicitly opposed to this traditional approach; thus, in the early 1980s, Ostrom and her colleagues began to challenge these beliefs that people could not effectively manage a resource without external intervention. While nevertheless subscribing to liberal models (including the assumption that individuals are rational actors), Ostrom claimed that various factors *do indeed* enable people to act collectively—i.e. achieve successful CA in resource management.

Ever since Ostrom challenged this traditional approach—research on CA vis-à-vis common pool resource (CPR) management has become widespread, producing numerous empirical studies conducted around the world. These have lent empirical support to Ostrom's groundbreaking theory of CA, which established the basis of MI. It is important to note that Ostrom identified that the traditional approach is based on the flawed assumption that common resources are open-access, and thus necessarily non-excludable. It also inaccurately assumes that "resource harvesters are diverse, do not communicate, and fail to develop rules and norms managing the resource" (Ostrom,

2009: 419). Ostrom's work has been a direct challenge to these assumptions. Studies that followed Ostrom's lead tested her theory of CA in various contexts and identify situational variables—also called “design principles”—that facilitate co-operative CPR management. Some of these empirical studies adopt experimental research designs (see, e.g. Ostrom & Walker, 1991; Ostrom, et al., 1994; Andieres, et al., 2011; Walker & Willer, 2014), whereas others are more empirical by conducting field research (see, e.g. multiple case studies in Ostrom, 1990; Villamayor-Tomas, 2014; Skurray, 2015a; Skurray, 2015b) to observe and understand how local communities behave co-operatively in managing various types of CPRs, including pastures, forests, fisheries, and irrigation systems.

In order to understand CA vis-à-vis CPRs, it is imperative to first define CPRs. Common pool resources comprise a specific type of good, distinct from other goods, including public, private, and toll/club goods (Ostrom, 2010); they are (often environmental) resources/goods that can be owned privately, publicly, or collectively. They have two characteristics that distinguish them from other types of goods (Ostrom, 1990): they are *rival and non-excludable*. Rivalry means that one person's use of the resource will diminish what is available for other users. Rivalry is also sometimes referred to as *subtractability*, as one person's use subtracts from the overall supply, or stock. In contrast, public goods are non-rival and non-excludable—as one person's use does not diminish from the resource, and nobody can be denied access to these goods, respectively. The underlying assumption is that when a good is rival, individual users will extract what is in their best interest (or what is individually optimal), which can lead to over-use of the resource, and ultimately to its degradation. Resource degradation is a particularly pressing issue, as it affects ecosystems and communities dependent on the

resources. Non-excludability means that it is not feasible to exclude others from using the resource. If individuals cannot be excluded from using the resource, they are prone to free-riding—or benefiting from its use without contributing to the costs of its production and maintenance. If individuals can benefit without contributing, they will opt out of contributing to its management, which will lead to the under-provision of the resource.

Scholars who study CA across the board agree that the most significant problem is resource degradation. The traditional approach assumes the inevitability of degradation, which can only be solved through unitary management. The CA literature shows that degradation is not inevitable in all situations (Ostrom, 2009). The most significant flaw Ostrom identified in the traditional approach was their inaccurate assumption that the resources in question were not governed or managed at all, and therefore were rendered open access resources (Ostrom, 2009). Open access resources are rival, or subtractable, but non-excludable. There are different governance regimes for managing CPRs: nationalization, privatization, or common property—the latter of which Ostrom demonstrates is also viable. While nationalized and privatized resources are forms of unitary management, common property regimes are those managed by a group of users who collectively regulate access and use. *Thus, collective action is a regulatory mechanism by which resource users set up rules to determine who has access to the resource—and what type of access—as well as who contributes to its maintenance, protection, and use.* Rules are “generally agreed-upon and enforced prescriptions that require, forbid, or permit specific actions for more than a single individual” (Ostrom, 1986 in Schlager & Ostrom, 1992: 250). Accordingly, CA occurs when boundaries and rules are established, which are absent in the case of open access resources. The rules

established by a community enforce the types of rights and obligations users have with respect to the resource. Rights “are the product of ‘rules’ and thus not equivalent to rules. ‘Rights’ refer to particular actions that are authorized (V. Ostrom 1976). ‘Rules’ refer to the prescriptions that create authorizations” (ibid). Schlager and Ostrom (1992) outline the various types of property rights, and the corresponding access rights. Property rights entail having “authority to undertake particular actions related to a specific domain” (Schlager & Ostrom, 1992: 250). Rights exist at two levels of action: either *operational* or *collective choice*, which determine the type of access and control users have over CPRs. *Operational property rights* include “*access*” and “*withdrawal*”. *Access*—though commonly used as a misnomer to imply water appropriation—denotes having “the right to enter a defined physical property” (ibid: 251). *Withdrawal* means the “right to obtain the ‘products’ of a resource” (ibid)—i.e. to extract or harvest resource units. *Collective choice rights* encompass a higher level of authority vis-à-vis CPRs. These include “*management*” (the right to regulate use), “*exclusion*” (the right to control access), and “*alienation*” (the right to lease or sell management and exclusion rights). These varying property rights correspond to various classifications of rights holders, outlined in the Table 2.1. Thus, ownership differs from management; resource owners have the sole privilege of exercising all operational and collective choice rights, while other types of property rights holders enjoy various levels of rights.

Table 2.1: Bundles of rights associated with positions

Property Right	Property Right Holder			
	Owner	Proprietor	Claimant	Authorized User
Access & Withdrawal*	✓	✓	✓	✓
Management	✓	✓	✓	
Exclusion	✓	✓		
Alienation	✓			

Adapted from Schlager & Ostrom, 1992: 252.

*These are operational property rights, held by owners, proprietors, claimants, and authorized users.

There are many studies (see, e.g. Ostrom, 1990; Agrawal, 2001; Tachibana, et al., 2001; Bandiera, et al., 2005; Washington-Ottombre and Evans, 2019) that show the success of CA in CPR management. These studies examine what Ostrom calls “situational variables” (Ostrom, 1990; Agrawal, 2003; Acheson, 2011), which include characteristics of the resource, the users, and the rules that are set up to manage the resource. These variables determine how successful users will be in: (i) preventing over-exploitation and degradation of the resource system (in this case, a groundwater resource for irrigation); and (ii) ensuring favorable distribution of resource units—the “amount and flow of water” (Ostrom, 2009: 420) within this resource system—i.e. sustainable use and equitable distribution, respectively. Some of these factors include group size, cultural homogeneity, economic heterogeneity³, and trust among users (Bandiera, et al., 2005). Ostrom (1990) also identified the conditions that successful CPR systems have that correspond to these situational variables, including: “well-defined boundaries on resources and user groups; proportional equivalence between costs and benefits; monitoring and enforcement, including sanctions; conflict resolution mechanisms;

³ Bandiera, et al., 2005 qualify this factor as having an “ambiguous” effect.

nested hierarchies; and government recognition of people’s right to organize”. Wall (2017) describes Ostrom’s seminal 1990 book as revolving around empirical studies that “she termed long-enduring, self-organised, and self-governed common pool resource systems” (27).

Table 2.2: Design principles shaping collective action outcomes

Design Principles
<ul style="list-style-type: none"> ○ Defined boundaries of CPR and exclusion of unentitled parties ○ CPR arrangements adapted to local conditions ○ Decision making inclusivity ○ Monitoring ○ Sanctions for defectors ○ Mechanisms of conflict resolution ○ Self-determination of community recognized as legitimate by authorities

Adapted from Ostrom (1990: 197-203).

While Washington-Ottombre and Evans (2019) assert “there is no agreed-upon definition of what successful or sustainable governance is, there is a common understanding that *‘successful institutions [are] those that last over time, constrain users to safeguard the resource, and produce fair outcomes’* (Agrawal 2001)” (Washington-Ottombre and Evans, 2019: 330; emphasis and brackets in original). In their review of literature on criteria that render CA institutions successful, Washington-Ottombre and Evans (2019) highlight the concepts of adaptation and flexibility; in addition to “adaptive efficiency” (North, 2005 in *ibid*: 331), they assert that “appropriators adapt and transform institutions over time to enhance success and adaptive capacity (Grief 2014)” (*ibid*). Agrawal and Benson (2011) identify the most common dimensions that capture “ecological or social sustainability of the resource system, contributions to the livelihoods of those who rely on these resources or equity in the allocation of benefits” (199). In identifying five variables that impact outcomes, they highlight that the majority of studies do not look at the relationships between outcomes, and thus overlook tradeoffs

between these. While Agrawal and Benson conclude that the relationships between these cannot be generalized, they assert that “social capital is often a key feature of user groups that is associated with positive resource outcomes” (ibid: 206).

In Ostrom’s 1990 book, she juxtaposes empirical studies that demonstrate the reasons underlying institutional success and failure. This forms the basis of her design principles, which characterize “an essential element or condition that helps to account for the success of these institutions in sustaining the CPRs and gaining the compliance of generation after generation of appropriators to the rules in use” (Ostrom, 1990: 90). Ostrom notes that enduring CA institutions “all share fundamental similarities” (ibid: 88), including “uncertain and complex environments” (ibid). This uncertainty often arises from biophysical conditions, such as unpredictable rainfall. The design principles or situational variables provide a framework for understanding and predicting success. Conversely, there are empirical studies that outline the conditions that lead to failed CA; in doing so, these studies identify the characteristics of failed CA as well as reasons for their failure. Ostrom (1990: 146-9) studied failed CA in groundwater management in California, concluding that failure is characterized by an overdraft of water, and a lack of consensus on multiple issues. She attributes the failure to the large size and complexity of the management system; a lack of consensus about the complexity; and competing interests of the CPR users. In studying irrigation for rice cultivation in Sri Lanka, Ostrom (ibid: 157-73) found that a lack of reliable rules led to many issues vis-à-vis land productivity; irrigation water availability; and lack of a unified strategy amongst CPR users. Mukhtarov, et al., (2015), studied water user groups in Turkey, Azerbaijan, and Uzbekistan, identifying the characteristics of, and reasons for, failed CA. In Turkey, a lack of democratic representation and participation; low user satisfaction; and issues

around water logging and salinization were caused by: regional poverty; a hierarchical clan structure; arid climate; gravity irrigation techniques; and corruption amongst users. Mukhtarov, et al. (2015), found that failed CA in Azerbaijan is characterized by low user satisfaction; low crop yields; inadequate water supply for downstream users; and inability to consistently collect irrigation fees. They conclude that these failures are due to: the CPR being rendered open access; poor and inequitable infrastructure; and poor knowledge of water user associations (WUAs) or the need to co-operatively manage their resource.

In order to understand Ostrom's theory, it is important for us to briefly interrogate the assumptions underlying it. The first assumption is that of relative scarcity. Water scarcity can be measured through four different methods: the Falkenmark indicator or water stress index; a criticality ratio; the IWMI measure; and the water poverty index (White, 2012). For the purposes of this research, I will only look at the most straightforward of these water stress measures: the water stress index or the Falkenmark indicator. In accordance with this indicator, there are three levels of inadequate water access; in order of increasing severity, these are: water stress; water scarcity; and absolute water scarcity. Water scarcity is assessed "by looking at the population-water equation...when water supplies drop below 1,000 m³ per person, the population faces water scarcity, and below 500 cubic metres 'absolute scarcity'" (UN, 2014: n.p.). Water scarcity can exist as a natural reality or be induced anthropogenically (ibid). On a global level, humankind does not face water scarcity, "but...[water] is distributed unevenly and too much of it is wasted, polluted and unsustainably managed" (ibid). Abundance of a natural resource could be an open-access resource without leading to its depletion; similarly, absolute scarcity does not provide viable conditions for sustainable resource

use. Thus, relative scarcity, or what Falkenmark classifies as “water scarcity” provides conditions that render CA institutions the most necessary and potentially effective. While Ostrom does not explicitly state this, the assumption is made clear that her “analysis [is] of scarce, renewable resources” (Ostrom, 1990: 31), wherein CPR users “are heavily dependent on a flow of scarce resource units for economic returns” (ibid: 182). This important assumption is echoed by Tachibana, et al. (2001) in their empirical study on community forest management in Nepal. Their results led them to the conclusion that “the initiation of user group management was likely to be induced by scarcity of...resources” (297). Based on the finding that community-based management “was induced by the shortage” (300), Tachibana, et al. (2001), conclude “that when...resources are abundant, user group management is less likely to be practiced” (ibid). In addition to this conclusion, they draw a connection between resource scarcity and CA rules, whereby “management rules have tended to strengthen as scarcity of...resources have increased over time” (ibid: 365).

The second assumption Ostrom makes is that resource users are “boundedly rational” (McGinnis and Ostrom, 2014: 31) actors, insofar as they make rational *economic* choices. This means that within the confines of their knowledge and ability, people act in their own best interest *as individuals*. Individuals recognize that working collectively and co-operatively will result in optimal outcomes for them individually, for the group, and for the sustainability of the resource. The third assumption is that context matters. This means that the success of CA will depend on the particularities of the institutions in a given context. These include cultural, social, and political economy institutions. This also includes *institutional path dependence*, which is an important factor in assessing CA outcomes. “North (1990) broadly defined path dependence as

occurring where opportunities for institutional reform are constrained by existing institutional arrangements” (Marshall and Alexandra, 2016: 680). This means that CPR users are constrained by historical realities and practices that have lasting effects, or are maintained in the present, and are thus difficult to overcome. “Path dependency explains the difficulties of institutional change: a ‘path’ is the way institutions ‘structure a nation’s response to new challenges’” (Hall and Taylor, 1996 in Sehring, 2009: 64). Path dependence is an important variable to consider, as it is one of the aspects of context—i.e. it addresses historical context—that an analysis of CA necessitates. However, as outlined in the below section, in addition to other shortcomings, MI does not sufficiently take into consideration socio-economic, political, and legal contexts.

2.1.2 Critical Institutionalism

In taking a critical look at the Mainstream Institutional stream of literature, we can make a few observations: firstly, while the idea of CA is a seemingly inclusive, collectivist paradigm of community-based action, mainstream institutionalism is a liberal⁴ approach to resource management. Common pool resources “are from the very start *exclusive* to a particular social group” (Hardin, 2011: 103; emphasis added). This sheds light on how in essence, CA serves an exclusive group—and is based on this very concept of exclusion. Mehta (1990) explores the chasm between liberal theories that promote inclusion and the historically prevalent liberal practices that are de facto exclusionary. In their work on water rights, Schmidt and Mitchell (2014) also invoke this nexus between common property and exclusion vis-à-vis property rights. However, they

⁴ Insofar as liberalism promotes the centrality of individuals, individual gain, freedom of choice for individuals (albeit part of communities).

take a different approach by problematizing the assumption of exclusion in common property. They do so by exploring what they see as a false dichotomy between the espousal of water as a human right and those who espouse “the individualist tenets of property rights or variants of liberalism more broadly” (ibid: 55).

In addition to the rational actor assumption⁵, the mainstream approach treats context—framed as social, economic, and political *settings* (Ostrom, 2009; McGinnis & Ostrom, 2014)—as merely the *backdrop* to a system, rather than the actual *structure*. Ostrom (2009) classifies settings as a sub-system, arguably indicating their subsidiary status. Secondly, there are shortcomings in examining political (Saunders, 2014; van Steenberg, et al, 2015), historical (Agrawal, 2003), socio-economic, and cultural (Acheson, 2011) contexts—notwithstanding Ostrom’s attempts to contextualize her empirical analyses. Ostrom’s contextualization is encapsulated by the concept of *embeddedness*: she views “all humanly used resources [as] embedded in complex, social-ecological systems (SESs)” (Ostrom, 2009: 419).

Agrawal (2003) provides a useful critique of this common property literature, in which he identifies three weaknesses: (i) the over-ambitious inclusion of variables, thus diluting the effectiveness of analyses; (ii) the insufficient attention to biophysical features of the resource and the environmental conditions and/or changes that affect the resource; and (iii) the lack of interrogation of historical, social, and political contexts—as well as the interaction between the latter two. This is a significant contribution to critical CPR scholarship, which draws attention to the issue of agency and “intra-group politics and issues of power and resistance” (Agrawal, 2003: 257). However, this critical literature

⁵ This is problematic primarily because people have variegated reasons for practicing CA; aside from economic reasons, actors may have other motivations (e.g. political, cultural, social).

falls short of thoroughly exploring the dynamics of power and agency. Saunders (2014) similarly takes a critical look at CPR literature, with a particular focus on how development interventions are implemented. Echoing Agrawal's critique, Saunders draws on Hyden (2006) and Cleaver (2002) to shed light on the chasm between these design principles and complex realities in these countries, including the "micro-power relations of rural communities" (ibid: 642).

Saunders (2014) shows how Ostrom's "design principles have been drawn on widely to craft institutions in support of commons projects" (640), whereby development agencies attempt to enforce CBNRM institutions in developing countries. Saunders draws attention to an important divide in the CPR literature, whereby some studies examine CA institutions that were created through community initiatives, and others examine institutions created through development interventions. The latter focuses on the effectiveness of these institutions in order to enhance existing programs or to propose new pathways to achieve successful local resource management that benefit communities. Some leading voices in the CI literature fall into this latter group.

The idea that "Critical Institutional approaches address a number of challenges in institutional analysis, but in doing so *raise more questions*" (Cleaver and de Koning, 2015: 11; emphasis added) shows just how open-ended this framework is. Any academic exploration will inevitably leave some questions unanswered—ideally to be addressed in subsequent research; however, this acceptance of multiple unanswered questions is problematic. In effect, leaving questions unanswered diminishes—at best—and undermines—at worst—the explanatory value that theoretical frameworks should provide. Sandstrom, et al. (2017) provide an important contribution to this CI understanding of the commons:

commons are not only juridical and economic resources but also important social resources that bind people together in a place for a common purpose. In this way the concept of commons is close to the concept of community as the ongoing process of commoning and the common use of the commons can be seen as an important part of the symbolic construction of community (c.f. Cohen 1985; Fournier 2013). The commons can be seen as a socio-ecological adhesive that contributes to constitute communities (510).

Francis Cleaver, a leading CI scholar, is not only critical of these development interventions that promote MI design principles, but is also a development “insider”, who has done development work in Zimbabwe and Tanzania (Cleaver, 2016). Throughout her experiences in these southeastern African countries, Cleaver learned that the design principles prescribed as a universally applicable approach to community-based resource management were less effective than expected. She learned that development agency expectations of formal institutions with systematized mechanisms and documented transactions did not exist as such. Moreover, the policy of improving these systems simply did not fit into the concerned contexts. Building upon the concept of institutions as embedded in SESs, Cleaver sought a deeper understanding of the complexities and particularities of embeddedness; her understanding of institutional embeddedness moves beyond the mainstream approach that she identifies as “functional and...static in...[its] conceptualisation of culture and tradition” (Cleaver, 2001: 28). In attempting to understand the ways in which institutions are created, or “how people make arrangements for managing their water supply” (ibid), she concludes that these arrangements were formed through *institutional bricolage*. Institutional bricolage is “a process by which people consciously and unconsciously draw on existing social and cultural arrangements to shape institutions in response to changing situations. The resulting institutions are a mix of ‘modern’ and ‘traditional’, ‘formal’ and ‘informal’” (ibid: 26). Cleaver posits this process of bricolage—based on the concept of social bricolage as a process where

solutions are “pieced together” (Levi-Strauss) from what is available to people (Cleaver, 2002)—as being distinct from the MI view of resource users as rational actors who follow a set of design principles to craft formal institutions. Rather, resource users piece together an array of social and physical resources that are available to them to create embedded CA institutions. Cleaver thus directly challenges Ostrom’s assumption of resource users being “boundedly rational”; rather, people do the best they can with the knowledge and resources available to them.

In her early contribution to the conceptual development of CI, Cleaver continued to critique institutional design principles as lacking complexity⁶ and nuance; as overlooking “institutional evolution” (Cleaver 2001; 2002); and as inaccurately assuming the “primacy of narrow productive concerns amongst resource users” (Cleaver, 2002: 13). This important work contributed to what Hall et al. (2014) identify as the three areas of critique of mainstream CPR literature proposed by CI:

- (i) the perpetuation of the need for a homogenous community of CPR resource users that share common beliefs, norms, and interests;
- (ii) the lack of political contextualization and analyses of power relations, “particularly those relations which create or exacerbate inequalities, exclusion and inter-/intra-group conflict” (Hall et al., 2014: 76); and
- (iii) the lack of social contextualization or sociological analyses. Cleaver recognized that development agencies—in an attempt to be more culturally sensitive—aimed to design functional and efficient institutions that are based on village life, but yet again missed the mark by taking a one-size-fits-all approach. By insufficiently examining political and social contexts, MI renders villagers and village conditions as homogenous entities.

These critiques are echoed throughout the CI literature—also referred to as “post-

⁶ While this is a valid critique, Ostrom sought to account for complexity—by taking an interdisciplinary approach: she sought “insight into research from other economists and political scientists...ecologists, hydrologists, anthropologists, geographers, legal theorists...historical evidence...[and] psychology” (Wall, 2017: 27).

institutionalism” (Gutu et al., 2014: 3)—including:

- (i) a lack of serious interrogation of structural power—although governance systems (GS) are addressed in Ostrom’s framework, they serve more as a backdrop than as a foundation;
- (ii) a lack of engagement with power (not just external power, but also internal to communities); and therefore
- (iii) a lack of engagement with agency of community members—i.e. water users. Instead of being merely self-interested “rational actors”, water users have a range of motivations, and are not necessarily *solely* self-interested. This is a two-pronged phenomenon: (a) community development and national struggle for sovereignty and economic independence are part of these “calculations”; and (b) factoring in agency of water users does not preclude the dominance of structural power;
- (iv) a lack of engagement with atypical governance systems.

There are notable exceptions to the last point, including: Bennett and Barrett (2007) on rangeland CPR management in post-apartheid South Africa⁷; Mason et al. (2014) on Lebanon, whereby the political context is classified as “post-conflict”; Cleaver (2016) on Zimbabwe, whereby the context is described as a “crisis of governance and of economy”; and WSRW (2007) on Western Sahara, which is described as “the last remaining colonial issue in Africa”⁸. Nevertheless, the CI literature falls short of providing a viable alternative framework. In particular, it:

- (i) critiques the concept of embeddedness without offering an alternative conceptualization; and
- (ii) critiques design principles, without proposing a generalizable framework for understanding the establishment of CA institutions—instead, it simply relies on the concept of institutional bricolage, which is merely described as being “messy”.

The concept of IB as providing an explanatory framework for understanding CA

⁷ This atypical governance is described as “a modern regulatory framework introduced under colonial rule and systematically imposed...under apartheid” (Bennett and Barrett, 2007: 98).

⁸ See <http://www.wsrw.org/a135x516>

institutions is weak; while it provides space for context-specific explanations to flexibly fit into the CI theory, it is far too broad and flexible. This breadth and flexibility of IB—in addition to the vague explanatory concept of it being a “messy” process—render it unfit for being a generalizable framework, which is the ultimate purpose of a theory. This does not negate the valuable contributions CI has made to institutionalist literature, nor does it undermine the concept of IB as being applicable in certain contexts (e.g. it may very well have strong explanatory power in Cleaver’s studies on WUAs in Zimbabwe).

Thus, these pitfalls do not preclude the value in CI literature—particularly vis-à-vis EG contexts, in the broadest sense of the term. However, it is insufficient for the purposes of this study, and thus essential to extend our critical view beyond this critical literature—i.e. CI. Hence this study’s use of CI as *a point of departure* to develop a critical framework, which encompasses the interface between MI, CI, and EG.

2.1.3 Bridging Collective Action and Exceptional Governance

The concepts of *adaptation* and *agency* are also central to the CI approach, whereby agency is characterized by actors’ capacity to adapt to changing conditions and pressures on their resource, CA institution, and livelihoods. Adger (2003) expounds on this relationship between adaptation and agency, whereby “adaptation processes involve the *interdependence of agents* through their relationships with each other, with the institutions in which they reside, and with the resource base on which they depend” (388). Adaptation is particularly significant to CI insofar as it informs adaptive governance, as part of “generating ‘thicker,’ contextualized, and power sensitive understandings of how adaptive governance works in practice” (Cleaver and Whaley, 2018: 49). Cleaver and de Koning (2015) qualify this contextualized approach within

CI scholarship [which] treads a middle ground between structural accounts of agency in which people's actions are defined by their place in the social system (the roles, norms and forms of cognition that this imposes), with post-structural emphases on diversity and creativity of identities and practices (8).

Adger's (2003) work also helps us to contextualize the structural approach that underlies CI, and how it lends itself to a specific understanding of agency: "advocates of structural approaches have contended that institutions are embedded in the antecedent decisions and cultures of the societies in which they emerge" (388).

Agency is central to this study conceptually and methodologically. One aspect of the methodological contribution is the unit of analysis: CPR users. Studying CPR users is conducted through field observation—approximating participant observation—and semi-structured, in-depth interviews. One of the most striking shortcomings of exceptional governance studies is the distinct lack of providing a voice to the irrigators/cultivators who comprise CPR users. From a methodological perspective, this has implications vis-à-vis capturing the fullness of the story; from a normative perspective, it marginalizes the voices of actors who are already politically and often socio-economically marginalized; and finally, from a policy perspective, it undermines the possibility of assessing the specificities of conditions and needs on the ground.

2.1.4 Accounting for Governance in Collective Action

Mainstream institutionalism and critical institutionalism study CA in situations of "normal" governance situations. For the purpose of this study, I use the term "normal" governance to indicate governance conditions in which sovereignty is not compromised—i.e. in contrast to "exceptional" governance. The latter does not imply that it is entirely unique; similarly, the former does not imply that there is objectively

normal governance. Hall (2011) provides a typology of governance that can be classified under what this study terms “normal”: hierarchical, markets, networks, and communities. Hall draws on conceptualizations of governance from policy studies and political science, offering “two broad meanings of governance” (Hall, 2011: 439):

firstly, it is used to describe contemporary state adaptation to its economic and political environment with respect to how it operates. This is often referred to as ‘new governance’...the second broad meaning of governance is that it is used to denote a conceptual and theoretical representation of the role of the state in the coordination of socio-economic systems (ibid: 439-40).

In presenting this four-pronged typology—drawn from extant literature on governance—Hall classifies these into two “modes” of steering or governing: *hierarchical* and *non-hierarchical*.

Table 2.3: Governance typologies

Steering modes	Actors		
	Hierarchical	Public Actors Hierarchies	Private Actors Markets
	Non-hierarchical	Public Actors Networks	Private Actors Communities

Adapted from Hall (2011: 443).

What is of particular significance to this research is the non-hierarchical mode of steering by private actors: community governance. The model of community governance “is very much influenced by communitarianism and demands for more direct citizen involvement in governance...[with] the focus on the significance of social capital in community and economic development” (ibid: 447).

Börzel and Risse (2010) provide a model that undermines the classification of community governance as a non-hierarchical mode of governance. They argue that

governance without government—within the political context of statehood—requires the “shadow of hierarchy”, whereby

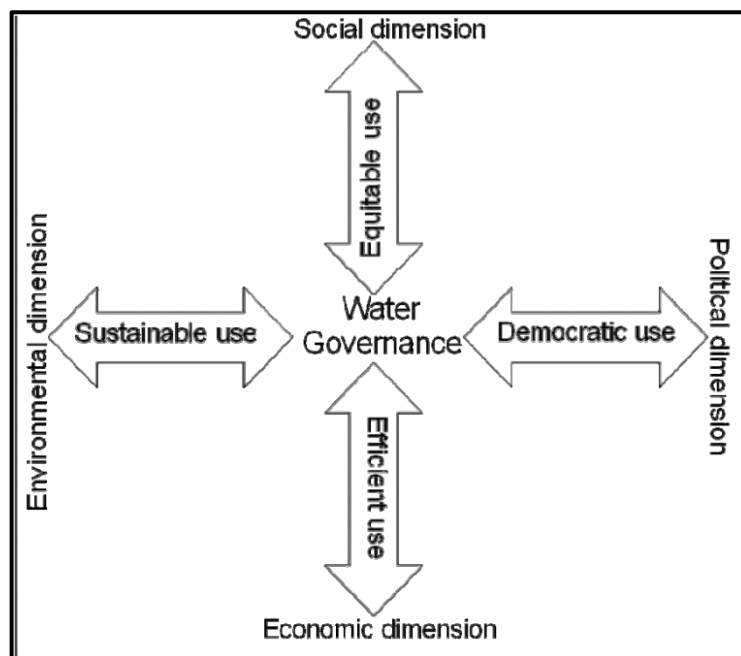
the state threatens—explicitly or implicitly—to impose binding rules or laws on private actors in order to change their cost-benefit calculations in favour of a voluntary agreement closer to the common good rather than to particularistic self-interests (2010: 116).

In the case of a non-existent state, governance without government requires the “functional equivalent” of the “shadow of hierarchy”. This implies that hierarchy plays a role in all forms of governance; in the case of community governance, the external structure of a state—or the equivalent “shadow of hierarchy”—is a prerequisite for effective governance. We can also extend this logic to intra-community governance structures, which nevertheless entail some form of hierarchy. In other words, hierarchy characterizes the external conditions *and* the internal structure of community governance. While exceptional governance does not fall under the “normal” governance typologies outlined by Hall, they are not mutually exclusive mechanisms of governance. Exceptional governance is surely a form of hierarchy—albeit a very different manifestation of it.

As Sehring (2009) outlines, governance “reflects a shift in power from national government alone to local levels, transnational organisations and civil society, and private actors” (Pierre and Peters, 2000 in Sehring, 2009: 62). This shift is referred to as one from government to governance, whereby the concept of “steering” is viewed as “interaction between interdependent collective actors on different levels: local, regional, national, and international” (Sehring, 2009: 62), amounting to *multilevel governance*. Multilevel governance is increasingly upheld as the best practices standard to promote in international development interventions. This sets the foundation for the model of *co-management* in local resource management, whereby communities share management

responsibilities of their resources with local/national government bodies and/or local/international NGOs. Similarly, the tenets of “good water governance” (see Figure 2.1 below) inform the main goals of successful CA in CPR management. Good water governance encompasses the goals of sustainable, equitable, democratic, and efficient use, while successful CA encompasses sustainable use, equitable distribution, and livelihoods.

Figure 2.1: Good water governance



Adapted from Sehring, 2009: 63.

While Le More (2008) classifies the West Bank (and Gaza Strip) as “a failed state”, this does not accurately capture the acutely limited governance status of the Palestinian Authority (PA)⁹. Accordingly, exceptional governance in the Palestinian context is not even an effective functional equivalent to the shadow of a state. As

⁹ See Section 2.1.5.

illustrated below, governance conditions in the West Bank are marked by a politico-military context of Israeli settler colonization (Salamanca, et al., 2012) and belligerent occupation (Mason, 2011); a political economy context of de-development (Roy, 1999) and neoliberalism (Khalidi & Samour, 2011; Hanieh, 2013; 2016; Haddad, 2016); and a social-ecological context of hydro-hegemony (Zeitoun & Warner, 2006; Zeitoun, 2008) and the militarization of water. While the PA is ostensibly intended to serve the purpose of a state-like entity, its lack of sovereignty—as well as its lack of performance apropos “good governance”—renders it incapable of serving as a functional equivalent of a shadow of a state. As outlined in the theoretical framework, exceptional governance (larger structure of Israeli power) comprises power at the macro scale, while the Palestinian Authority comprises power at the meso scale.

In light of MI theory’s lack of engagement with exceptional governance, there is nevertheless potential to create a nexus between the two. While it is apparent that MI is situated within a liberal perspective that frames structures as “settings”—and that, by consequence, it renders political analyses limited—there is nevertheless analytical potential for this to be framed within an alternative critical approach on two fronts: firstly, settings can be reformulated as historically-situated political and economic *structures*. From a critical perspective, structures determine power dynamics and outcomes. Cleaver and Whaley (2018) define structures as “resources, social institutions, systems, or forces, generalized at a societal level, and manifest in recurring patterns of organization and practices” (49). Accordingly, CI “allows us...to conceptualise social relations as more central than simply context or assets” (Cleaver, 2002: 15). This facilitates an understanding of socio-ecological system (SES) “contexts” as socio-economic, political, and legal structures that shape outcomes.

Secondly, CA can be reformulated as a shift from individual liberal values to more progressive communal or collectivist values. In the prevalent liberal approach, collective management is “for individual and collective benefit” (Harvey, 2011: 102) and depends on co-operation, trust, reciprocity (Ostrom, 1998), and the goal of resource preservation. By contrast, a more critical approach to community welfare would not be exclusionary, but based on “the common good” (Harvey, 2011: 107). This would open up the possibility of “find(ing) creative ways to use the powers of collective labor for the common good” (ibid). This poses a direct challenge to the conclusion that people need external intervention to control their resource use¹⁰; it highlights the potential for CA to demonstrate that people have agency and can create rules that foster favorable outcomes. In addition to the focus on how “power relations, class and gender issues, or inter-sectoral relationships influence the application of norms” (Gutu et al., 2014: 13), CI also accounts for agency. Agency is conceptualized by Cleaver and Whaley (2018) as “the ways in which individuals use their capacities or personal powers to act in purposeful and meaningful ways (King 2005)” (49). Cleaver (2007; see also Westley, et al., 2013) provides a framework—albeit a weak one insofar as it fails to provide a solid alternative—for understanding agency vs. structure. This is a crucial contribution to the literature on community resource management, as it enables us to look at local power relations and how local conditions foster or hinder the accumulation of scientific ecological knowledge; the bridging of scientific knowledge with local/traditional ecological knowledge; and the space allowed for local experts to introduce initiatives to help shape outcomes.

¹⁰ This conclusion is espoused by those who promote market solutions and those who promote “authoritarian” (Harvey, 2011) state solutions.

2.1.5 Sovereignty, Non-sovereignty, and Compromised Sovereignty

The aim of this section is to summarize some of the prominent models of sovereignty, in order to situate governance conditions in Palestine—which this study conceptualizes as *compromised sovereignty*, as developed in the theoretical framework. This conceptualization does not preclude, or in any way aim to undermine, the applicability of prevailing theories—most notably settler colonialism. Rather, the aim is to provide a more general framework for understanding political conditions in Palestine that can be applied to other political contexts—specifically ones in which sovereignty is not fully realized, but do not necessarily entail (settler) colonization.

Risse (2015) locates the origin of sovereignty as a product of a specific historical context in Europe, which was theorized about by European political philosophers. Jean Bodin and Thomas Hobbes were among the earliest proponents of sovereignty—broadly defined as “*supreme authority within a territory*” (Stanford, 2003: n.p.). The two dimensions of this definition of sovereignty are thus *authority* and *territoriality*. The “supreme authority” of the sovereign denotes authority that is “superior to all authorities under its purview” (ibid). Territoriality is a “principle by which members of a community are to be defined” vis-à-vis “geographic borders” (ibid). In more contemporary scholarship on sovereignty, it has been typified in various ways. Notwithstanding the conceptualizations summarized below, Risse (2015) refers to “the modern fully sovereign state” as a *myth*—due to the norm or “default” paradigm being *limited* statehood, rather than “consolidated and fully sovereign statehood” (2).

A basic distinction between two types of sovereignty is *internal vs external*—whereby the former refers to sovereignty over the community within the territorial boundaries. The latter informs international law, whereby sovereign states in the

international system have mutually-recognized “constitutional independence—a state’s freedom from outside influence upon its basic prerogatives” (James 1999, in Stanford, 2003: n.p.). While Thomson (1995) discusses various “degrees of sovereignty” (227), the primary criterion that underlies the types of sovereignty is the distinction between *authority* and *control*—whereby the former is comprised of “the claim to exclusive right to make rules” (ibid: 223) and the latter entails “the capability of enforcing that claim” (ibid). In other words, *authority* is the state’s right to decision-making vis-à-vis policy, while *control* is the extent to which the state is able to effectively implement these policies. “Sovereignty,” asserts Thomson (1995), “is the recognition by internal and external actors that the state has the exclusive authority to intervene coercively in activities within its territory” (219). This conceptualization has five dimensions, or “elements”: “recognition, the state, authority, coercion, and territory” (ibid).

Krasner (1999) describes different uses of the term sovereignty: domestic, international legal, Westphalian, and interdependence. *Domestic sovereignty*—“the formal organization of political authority within the state and the ability of public authorities to exercise effective control within the borders of their own polity” (Krasner, 1999: 10)—is akin to internal sovereignty. *International legal sovereignty*, which revolves around the concept of “mutual recognition, usually between territorial entities that have formal juridical independence” (ibid)—corresponds to one aspect of external sovereignty, with recognition and juridical independence as its primary dimensions. *Westphalian sovereignty* is predicated upon the concept of noninterference, whereby the state’s authority is strictly the state’s prerogative. *Interdependence sovereignty* entails the state’s control over border flows. These four “uses” of sovereignty “do not necessarily covary. A state can have one but not the other” (ibid: 11). In other words,

states have different iterations of sovereignty, whereby one type is not dependent upon the others. While these scholars do not outline the differences between sovereignty and autonomy, Krasner provides some context: *autonomy* for Krasner is the “independence of a polity vis-à-vis other polities” (ibid: 46n11), or what he refers to as Westphalian sovereignty¹¹. The recognition of this autonomy within the international system “involves rights, roles, and responsibilities of membership in a society of states” (ibid), which he refers to as international legal sovereignty.

These international relations conceptualizations of sovereignty are predicated on a Weberian understanding of the state. In writing about the state, Weber locates it as “the institutional matrix of modern politics...which he conceived as a historically and structurally specific organization of the rule of men over men” (Dusza, 1989: 74-5). Based on this understanding of the modern sovereign state, Weber ascribes several characteristics to it, including “the claim to the monopoly of the legitimate use of physical force within a given territory” (ibid)—as well as other bureaucratic and legal structures determining power distribution and regulatory enforcement. It is important to note that while Weber referred to a monopoly on the use of force as *one characteristic* of the modern state, it has been represented in the literature as the very definition of sovereignty. Thomson asserts that “even non-Weberians suggest that ‘effectively patrolled territory’ is a prerequisite for recognition as a sovereign state” (Ashley, 1984: 272 in Thomson, 1995: 225). Some of the other characteristics of the modern state include: the centralization of ruling power; distribution of power as constitutionally dictated; “an administrative and legal order which claim binding authority...over

¹¹ “The norm of autonomy, the core of Westphalian sovereignty, has been challenged by alternatives including human rights, minority rights, fiscal responsibility, and the maintenance of international stability” (Krasner, 1999: 15)

citizens...[and] over all actions taking place within its area of jurisdiction” (Dusza, 1989: 76).

While the above-reviewed literature has pointed out some of the limitations, contradictions, and variability of sovereignty, another stream of literature provides more critical approaches, which are particularly relevant vis-à-vis the location of this study’s comparative case study. Notwithstanding the normalcy of limited statehood, the critical sovereignty literature uncovers the deeply problematic nature of sovereignty—empirically but also as a political paradigm. This literature identifies the foundations upon which sovereignty was established: violence, death, dispossession, and other human rights violations. Simpson (2014) asserts that this essential violence of sovereignty “is structural, not eventful” (154; see also Bishara, 2017). The common approach in this literature stream is the examination of sovereignty vis-à-vis settler colonialism, whereby the latter “is predicated on a territorial possession by some, and thus, a dispossession of others” (Simpson, 2011: 205). Simpson argues that this dispossession comprises the exigencies of settler sovereignty. This can be summarized as an “*eliminationist logic* (Wolfe, 2006) that has animated settler colonial policies” (Stamatopoulou-Robbins, 2019: 11). In the case of settler colonialism, violence takes a particularly pernicious form of (attempted) erasure—which it is contingent upon. This foundational violence is unleashed upon “the life worlds that had to be vanquished for them to *become* sovereign” (Cocks, 2014: 4). However, the critical literature also makes clear that settler colonialism is not the sole political situation in which sovereignty is underpinned by violence: “the foundational violence of sovereignty...reappears at the birth of every new state, the territorial expansion of state authority, and political revolutions in established states” (Cocks, 2014:28). In other words, the *specificity* of

settler colonial contexts does not preclude violence as an essential condition of sovereignty in general. Cocks (2014) captures this common thread in the critical literature in unambiguous terms:

even on “home territories”, attempts to gain freedom through sovereign power via, for example, ethnonational movements, political partitions, revolutionary regime changes, or modern state-building also are settler projects of a sort, as each of these new political orders must “settle” the society it “colonizes”, by [re-]establishing the territorial boundaries within which it is to be authoritative, [re-]wiring laws within those bounds, [re-]configuring identities and habits of life for the people it declares to be “its” people, and determining who will be counted as that people’s new enemies. Thus settler states in the literal sense of that term, rather than being exceptions to the rule, can be seen as extreme exemplars of sovereign power entrenchment (5; brackets in original).

Similarly, Rifkin (2009) conceives of sovereignty in the United States in biopolitical terms of bare life, whereby “the language of exception, of inclusive exclusion” (90) reflects the violence inherent in sovereignty. Sovereignty in this capacity amounts to the mechanisms through which violence against the Indigenous is legitimized. As has been illustrated, this critical literature does not stop at problematizing the concept of sovereignty as fraught with contradictions, and as being mythical in its conception as fully consolidated statehood. Rather, it pushes these analytical parameters by illuminating the ways in which it is fundamentally flawed—even “dangerous” (Cocks, 2014)—insofar as it is based on exclusion, dispossession, and violence.

While *territoriality* is a dimension of sovereignty common to the mainstream and critical sovereignty literature streams, the latter treats it in analytically variegated ways. Madera (2020) problematizes the very idea of territory as “a structure replete with contradictions and inconsistencies” (178). Simpson (2014) illuminates the ways in which Indigenous peoples engage with sovereignty in territorial terms for practical—rather than

ideological—purposes, stating that the latter is effectively “dominion over a place and people” (141), and is situated in a right to kill. Indigenous people are on the receiving end of this; they are by default led to define their struggle in terms of territory—albeit in the form of “protection over territory and decolonization” (ibid). Cocks (2014) posits that while “the concept is highly complex, sovereignty can be summed up as the power to command and control everything inside a physical space” (2; see also Rifkin, 2009). This demonstrates that the conceptualization of sovereignty does not differ greatly between the mainstream and critical literature streams; rather, what lies at the heart of their divergent approaches is the way in which they problematize its theoretical (and empirical) underpinnings.

Another divergence appears within the critical literature itself, whereby studies are split between centering sovereignty as a means of achieving independence, and those that do not. The former category includes Rifkin (2009) and Brown (2018), as well as by Raeymaekers (2020), who conceives of “an alternative understanding of sovereignties (in the plural)” (476). In contrast, Cocks (2014) views sovereignty—even in the best of cases, as dangerous. Simpson’s work seems to straddle this divide, whereby she recognizes that it is an outdated paradigm, but nevertheless views sovereignty as a means to an end, in particular a means of “protection from harm” (Simpson, 2020: 687). This position is informed by Simpson’s distinctions between Indigenous sovereignty and the Western paradigm of sovereignty, which are central to her critique of the latter. This conception of sovereignty also encompasses “Indigenous commitments to *place- and water-centered lives*...not as stasis but in a dialectical tension between these core commitments to life, land, and waters” (ibid; emphasis added). It is crucial to unpack this straddled position, wherein Simpson unequivocally states that “‘sovereignty’ is fraught”

(687), yet serves a purpose of liberation. This political purpose is supported by critical academia, in particular Native and Indigenous Studies, which foreground justice. This divergence does not solely exist in the academic literature. As Bonilla (2015) argues in her work on *non-sovereignty* in the Caribbean, there is an ambivalence towards sovereignty, whereby “there is a common feeling of disenchantment with the modernist project of postcolonial sovereignty, even while there is also a lingering attachment to its normative ideals” (xiv). It is therefore not unexpected that the merits of sovereignty as a means to an end—or as a political end in itself—is contested. While his study illuminates this ambiguity, its dynamics, and its determinants, Bonilla argues for an alternative political paradigm. In other words, her work can be positioned on the other side of the divide of the critical literature, wherein he envisions “non-sovereign futures”.

As aforementioned, Cocks (2014) problematizes the very feasibility of achieving independence via sovereignty as “delusional” and furthermore, “dangerous”. In fact, this comprises the crux of her argument: “first, sovereign power is an end that is possible to strive for but impossible to arrive at...[and] second, the struggle to gain freedom through sovereign power is not only more delusional but also potentially more dangerous than the attempt to attain sovereign power *per se*” (Cocks, 2014: 3). This contention of the impossibility of attaining freedom through the paradigm of sovereignty is arguably the most critical—in fact, radical—view of sovereignty. Cocks elaborates on the dangers of sovereignty as the means to striving for liberation by pointing to its *exclusionary* characteristic of “cutting potential bonds of identification with those outside the sovereign body and elevating a particular people and its mode of life above those marked as alien” (ibid). The other component of the underlying danger of espousing the sovereignty model is the very existence and nature of power: modern sovereignty

“opened new possibilities for domination both inside and outside the territorial boundaries” (ibid). The other part of her argument is the *unattainability* of freedom through sovereignty; its unattainability—and thus illusory basis—is informed by the premise that “sovereign freedom and domination are inextricably intertwined” (ibid: 6).

Within this context of critical analyses of sovereignty, Simpson (2014) develops an alternative concept of sovereignty—i.e. *nested sovereignty*, wherein “Indigenous sovereignties and Indigenous political orders prevail *within and apart from* settler governance” (11)—a condition in which sovereignties are embedded within each other. Simpson explains this nestedness or embeddedness as being a condition of a power hierarchy, wherein nested sovereignty precludes the possibility of “two perfectly equal robust sovereignties” (ibid: 12). Simpson posits nested sovereignty and an Indigenous “politics of refusal” (ibid) as comprising resistance to “settler logics of elimination” (ibid). This logic, however ironic¹², is based on the myth of “*terra nullius* and *tabula rasa*” (Simpson, 2020: 687). As discussed below, this concept of nested sovereignty has been applied to Palestine.

Before reviewing non-sovereignty, it is important to look at the concept of “constrained” or “limited” sovereignty (Risse, 2015). Krasner (1999) identifies various forms of “infringement” or “violation” of state sovereignty; these can be distinguished by the mechanisms they are fueled by: invitation or intervention. The former encompasses conventions and contracts, whereas the latter encompasses imposition and coercion. Sovereignty—particularly Westphalian—can be compromised by international legal obligations and membership in supranational organizations, or by intervention in

¹² The irony lies in settler colonialism’s assertion of an empty or vacant land, yet is contingent upon the elimination of Indigenous people. This logic is based on “the possession of territory [which] requires the disappearance of ‘the native’ (Wolfe 1999, 2006)” (Simpson, 2011: 205).

another state's political affairs (Krasner, 1999). Börzel and Risse (2010) borrow from this language of constraints to Westphalian sovereignty: some "internationally recognized states...lack sovereignty in the sense that external actors rule parts of their territory or in some policy areas (Krasner, 1999)" (119). Similarly, Risse (2015) demonstrates that even modern states in the international system have "limited statehood" (see Börzel and Risse, 2010) whereby full sovereignty in empirical terms is a myth. In other words, *limited statehood* is conceived of as "the rule, rather than the exception, both in today's international system and historically" (Risse, 2015: 2). This does not mean that the state as a whole has limited sovereignty, but rather that a specific *area* of sovereignty within the state is limited. This can refer to a specific policy area; a specific segment of the population; or a specific part of the state's territory. Alternatively, limited statehood can be manifested in the state's "legitimate monopoly...on violence ...[as] lacking" (ibid: 5). According to this model, states are conferred with international recognition as sovereigns, but their "*domestic* sovereignty...is severely circumscribed" (ibid). Moreover, this condition afflicts the majority of states that are conferred with sovereign status within the international system. It can thus be inferred that this characterization does not encompass non-sovereign political entities. Even in cases "where the reach of state authority is severely constrained" (ibid: 2), or in states where sovereignty is so "severely circumscribed" (Börzel and Risse, 2010: 118) that they are designated as "failing" or "failed", they are nevertheless conferred with sovereign state status; the model of "failed states" is therefore not applicable to polities that *lack* international recognition as sovereign states. In sum, comprehensive sovereignty does not exist as such. Rather, sovereignty falls along a continuum, which Risse (2015) does not provide a visual representation of, but describes as having "empirical states [that]

might approximate the ideal type—'consolidated statehood'" (4) on one end and failed states on the other. Thus, the spectrum of constrained sovereignty amongst internationally-recognized sovereign states—reflecting the degree of sovereignty, which is, in turn, captured by the extent of limited statehood—can be best conceptualized as separate from the spectrum of constrained sovereignty in polities that lack this recognition. In other words, an additional spectrum is required to capture political situations in which statehood does *not* exist¹³.

Figure 2.2: Spectrum of limited statehood in recognized sovereign states



Based on Risse (2015)

It is important to reiterate that usage of the terms “constrained” and “limited” to describe areas in which sovereignty is restricted, is strictly regarding political entities that are recognized as sovereign states. The mainstream literature on sovereignty is predicated on the *existence of a state*—irrespective of the degree or iteration of its sovereignty. For analytical purposes, this study situates these political conditions as “normal” or “typical” governance. In contrast to the mainstream literature’s premise of internationally recognized statehood, the critical literature focuses on restrictions to sovereignty wherein statehood is not recognized. As Simpson (2011) points out, a range of disciplines “examine the simultaneously bestowed, *contracted*, and *challenged* forms of sovereignty that Indigenous peoples maintain and assert within the United States”

¹³ See Theoretical Framework.

(210; emphasis added). These contracted or challenged forms of sovereignty—including nested sovereignty—have varied spatially and temporally, and continue to exist throughout the world¹⁴. These can be conceived of as existing on a separate spectrum of *non-sovereignty*.

Madera (2020) locates the spatial and temporal origins of the concept of non-sovereignty: “the meaning of nonsovereign territory materialized in debates and legal decisions about geopolitical reach at the turn of the twentieth century when the US claimed the island archipelagos of Guam, the Philippines, and Puerto Rico from Spain in the Treaty of Paris (1898)” (177-8). While such political conceptions of non-sovereignty referred to a lack of sovereignty, Bonilla’s (2015) conceptualization is more nuanced, wherein non-sovereignty is not merely equivalent to non-independence. Rather, it is a term that encompasses various “alternative forms of political and economic autonomy” (Bonilla, 2015: 4) that transcends their current position as “embedded not just in sociohistorical contexts but in particular political and moral projects” (ibid: 10-11). Similarly, Armstrong, et al. (1998) problematize the oversimplified premise of a definitive duality between sovereignty and non-sovereignty: they assert that “there is no simple cut-off point between economically and politically sovereign state on the one hand and the sub-national regions of larger states on the other. Indeed, this distinction is rapidly becoming less clear still with the creation of highly autonomous enclaves within larger states” (641-2)¹⁵. Bonilla (2015) illustrates this via his focus on the French Antilles; she illuminates how previous depictions of these polities were framed as

¹⁴ See Beverley, 2020.

¹⁵ “Sovereignities are more varied than we tend to grasp, both because of (neo)colonial geopolitics and because of other, nonstatist conceptions of sovereignty (Anghie 2006; Asad 2003; Mahmood 2012; Wilson 2016)” (Bishara, 2017: 349).

“political oddities, exceptions to the rule of postcolonial independence, and sites of paradox and contradiction” (6). Bonilla challenges these depictions as lacking sufficient contextualization, and as “inadvertently lead(ing) to a view of the Caribbean as a site of *problematic sovereignty*, rather than to an exploration of *sovereignty itself as a categorical problem*” (ibid: 10; emphases added).

Bonilla (2015) conceptualizes non-sovereignty as comprising a range of “spaces of suspended, subcontracted, usurped, or imposed foreign jurisdiction that challenge the principles of bounded territorial authority associated with the Westphalian order” (ibid: 10)—in short, these spaces represent forms of “socioeconomic patterns of *constrained sovereignty*” (ibid; emphasis added). By foregrounding the voices of research participants, or interlocutors, Bonilla illuminates how people in non-sovereign polities use the terminology of independence as “slogans”—not because that is their demand per se, but because they lack an alternative concept that encapsulates their political aspirations. Thus, “independence” and “sovereignty” are demanded in lieu of language that expresses these political aspirations. Ultimately, the aspirations of ““social transformation”” (Gama, a research participant quoted in Bonilla, 2015: 3) transcend the “conflicting norms and attendant desires produced by the modernist projects of decolonization and postcolonial sovereignty” (ibid).

In reviewing the mainstream conceptualizations of sovereignty, it becomes clear that their applicability to the case of Palestine is limited, as the majority of the dimensions of these conceptualizations are absent. In reference to the most basic definition of sovereignty, the PA lacks supreme authority within defined territorial boundaries, as it is colonized by Israel. As Wildeman and Tartir (2013) assert, the PA “lacks both *de jure* and *de facto* sovereignty” (3). In fact, Palestine lacks territorial contiguity (Roy, 2012),

as visibly evidenced by the bantustanization (Hanieh, 2013¹⁶) of the land. It also lacks control over its borders, as Israel has the ultimate authority over border flows of people and goods. Hanieh (2013) elucidates how this lack of control is sanctioned and enforced:

Israel's complete control over all external borders—codified in the 1994 Paris Protocol¹⁷, an economic agreement between the PA and Israel—meant that it was impossible for the Palestinian economy to develop meaningful trade relations with a third country. The Paris Protocol gave Israel the final say on what the PA was allowed to import and export (110).

Palestine also lacks control over its resources¹⁸, as Israel has the final say on everything¹⁹ from water projects—via the Joint Water Committee (Selby, 2003, 2013; Messerschmidt, 2014)—to waste management (Stamatopoulou-Robbins 2020). “Palestinian designs and environmental impact assessments must be evaluated and approved by multiple Israeli offices, including the Civil Administration, in ministries (e.g. of environment, infrastructure)” (Stamatopoulou-Robbins 2020: 5). Israeli power to authorize or bar the above-outlined plans extends to non-governmental actors, as plans “are informally vetted by [Israeli] *settler groups* (Stamatopoulou-Robbins 2014, 2019)” (ibid).

As Hanieh (2013) explains, this was achieved via military rule, which

was established...to control every aspect of life in the West Bank; [whereby] Palestinians...were subject to Israeli military law...[and] the military governor, a high-ranking officer in the Israeli military accountable only to the prime minister, would be the final arbiter regarding all decisions in the territories (103).

Military law, which characterizes the governance structure that colonized Palestinians have lived under since 1967, is enforced through “five categories of legislation” (JMCC,

¹⁶ Bantustanization is “a term referring to the areas of ‘self-rule’ for the rural Black population in 1950s apartheid South Africa. The utilization of spatial zones like the South African bantustans, which provide a veneer of autonomy but can be easily controlled from the outside, has been a feature common to most colonial projects” (Hanieh, 2013: 100).

¹⁷ Also referred to as the Paris Economic Protocol (PEP) and the Paris Protocol on Economic Relations (PER).

¹⁸ Including “the vast majority of water aquifers, all underground resources, and all air space in the West Bank” (Hanieh, 2013: 108).

¹⁹ Including required “approval to build roads, import equipment, establish industrial zones, speed commercial clearance at borders, reduce transaction costs, and so on” (Khalidi & Samour, 2011: 10).

1995: vii): military proclamations; numbered military orders; unnumbered military orders; regulations; and notifications and instructions. In 1981, the Military Civil Administration was established via Military order 947 (JMCC, 1995) to handle civil affairs within this military governance structure²⁰. While “military commanders...[were] empowered with ‘governmental, legislative, appointative [sic], and administrative power’” (IDF Military Proclamation 2(3) in Cavanaugh, 2007: 200) from 1967, when the Civil Administration was established in 1981, almost “all legal and administrative powers were transferred to [it]” (ibid). “Its vast powers...touch upon most areas of life in the occupied territories: travel and work permits; infrastructure—water, electricity, transportation and communication; agriculture; trade and industry; environmental protection; archaeology and nature reserves”²¹ (Yesh Din, 2017: 5). This military governance structure includes a judicial branch that enforces Israeli Military Law.

Palestine also lacks recognition as a sovereign state in the international system— notwithstanding its observer status in the UN²². The exception to the lack of fulfilled dimensions of sovereignty is arguably vis-à-vis control—as defined by Thomson (1995), denoting the ability to enforce rules. Nevertheless, control is limited by the very source of those rules, as the PA does not have the “exclusive right to make rules” (Thomson, 1995: 227)—i.e. authority—which is circumscribed by the politico-legal terms of the Oslo Accords. Authority largely lies outside of the PA, thus undermining the feasibility of even domestic sovereignty. Ultimately, Israel violates would-be (i.e. nonexistent) parameters of Westphalian sovereignty for the PA—thus precluding the latter—via

²⁰ See Appendix 1 for a visual representation of the Civil Administration’s organizational structure.

²¹ Overseen by the IPNA. Available at: <https://www.parks.org.il/en/>

²² See UN website for details of what this “non-member observer State status” entails: <https://www.un.org/unispal/document/auto-insert-182149/>

multiple institutions and mechanisms. These institutions and mechanisms—which include the Civil Administration; military courts; military presence; the IPNA; settler influence on decisions; and the JWC—cumulatively epitomize the violation of Westphalian sovereignty, whereby “external actors influence or determine domestic authority structures” (Krasner, 1999: 24). The PA is a quintessential reflection of Krasner’s (1999) conception of *imposition*, whereby “the target is so weak that it cannot effectively resist...in the case of rulers of would-be states, never be allowed to assume office in the first place” (29). Beyond the lack of these dimensions, Palestinians do not enjoy the freedom to determine their own fate.

It should be noted that just as the above-reviewed models of sovereignty do not accurately capture the political conditions in Palestine, neither does Jackson’s (1990) concept of *quasi-states*²³. This concept is specifically regarding “third world” countries; it is based on a distinction between positive and negative sovereignty, whereby the former refers to the “rights of nonintervention (freedom from)” (Jackson, 1990: 11), and the latter refers to the “capabilities to act or deter (freedom to)” (ibid). Jackson posits that “quasi-states possess negative sovereignty by definition but usually rather limited positive freedom” (ibid). This conceptualization includes a legal component that qualifies quasi-states as internationally recognized sovereigns. Out of context, the usage of the prefix *quasi-*, gives the specious impression of applicability to Palestine. However, given the conceptualization of this type of statehood as encompassing state sovereignty, we could place it on the sovereignty spectrum, rather than on the non-sovereignty spectrum.

²³ This inapplicability is notwithstanding classification of Palestine “as a transitional client quasi-state (Hilal 2004, 2007; Khan 2004, 2009; Brown 2003, 2010)” (Tartir, 2015: 16) or Taghdisi-Rad’s (2014) classification as “symbolic quasi-sovereignty” (22).

Notwithstanding the limited applicability of the sovereignty models, as well as of the limited statehood paradigm, political conditions in Palestine can be captured by the language of sovereignty. This idea reflects Stamatopoulou-Robbins' attempt to locate Palestine within theoretical literature on statehood, whereby she identifies Palestinian governance conditions as nested sovereignty. She develops this via the concept of non-sovereignty, as conceptualized by Bonilla (2015). Stamatopoulou-Robbins (2020) conceives of non-sovereignty as including "settler colonialism or war" (1). She locates non-sovereignty in Palestine, and illuminates its relationship to Simpson's (2014) concept of nested sovereignty:

waste siege and PA governance become superimposed, or conflated, into an experience that I call the "phantom state," following my interlocutors, but that could be called the waste-siege-state. I think of this *as an addendum to Audra Simpson's theory of "nested sovereignty."* The waste-siege-state is different from nested sovereignty first because I think Simpson finds some hope in it, and I am not sure that I find that same hope in the phantom state effect...[and] *it presents a case of "nestedness" where the settler colonial state is always also a part of the nested, colonized sovereignty* (Stamatopoulou-Robbins in MERIP, 2020: n.p.; emphases added).

While Simpson's (2014) paradigm of embedded sovereignties—i.e. nested sovereignty—is applicable to Palestine to a certain extent, Bonilla's (2015) concept of non-sovereignty (as applied to Palestine by Stamatopoulou-Robbins) is more apt. The paradigm of non-sovereignty is a more accurate reflection of the reality of political conditions in Palestine—whereby, as outlined above, none of the dimensions of sovereignty are fulfilled. This does not preclude the applicability of some aspects of Simpson's nested sovereignty, as exemplified by the phenomenon of one polity's sovereignty being established at the other polity's expense; the colonizer "can only come into political being because of Indigenous dispossession" (Simpson, 2014: 12). By substituting the countries in Simpson's theory with Israel, it is apparent that this assertion

is accurately reflective of sovereignty in Israel and Palestine. In addition to the impossibility of the PA holding equal power to Israel, the latter's sovereignty comes at the expense of the former's sovereignty. While state sovereignty is not necessarily a zero-sum game, it is in the case of Israel and the PA. Salamanca et al. (2012) assert that, "as for other settler colonial movements, for Zionism, the control of land is a zero-sum contest fought against the indigenous population" (1). As an instance of settler colonialism, Israeli sovereignty does in fact come at the expense of—indeed *precludes*—genuine Palestinian sovereignty. Thus, Israel's sovereignty leads to the PA's compromised sovereignty. Understanding the origins and complexities of this polarity requires a historical analysis that pre-dates the establishment of the Israeli state in 1948. Although this is beyond the scope of this study, it is important to note that the Israeli state was predicated upon the myth of Palestine being *terra nullius* and *tabula rasa* (Stamatopoulou-Robbins, 2019) or—framed as "a land without a people for a people without a land"²⁴.

In addition to the inapplicability of state sovereignty, the language of sovereignty is not prevalent in Palestine (Bishara, 2017); rather, the language used "among Palestinians [includes the] anticolonial *tahrir*, liberation, or *istiqlāl*, independence" (349). This differs from Simpson's (2020) illumination of the "language game" (687) played by the Indigenous—as well as Bonilla's (2015) elucidation of Puerto Ricans' reference to "sovereignty" in lieu of language that accurately captures their political aspirations. This difference, according to Bishara (2017), renders Palestine a "counterpoint to discussions of sovereignty among scholars of indigeneity" (349). In

²⁴ See Khalidi (2020: 11) on the use of this phrase.

identifying the PA as having “attributes of a police state without the sovereignty” (ibid: 351)²⁵, Bishara turns to the literature on governance in Palestine to account for this paradoxical situation. Although the PA “enacts violence on Palestinians in a variety of ways” (ibid), it lacks all other dimensions of sovereignty. It should also be noted that this de facto police state does not render the PA as possessing the primary characteristic of modern states, as conceptualized by Weber: a monopoly on violence. This is evidenced by the lack of a Palestinian military²⁶, as well as the multiple interfaces between Palestinians and the Israeli military.

The resultant governance structure is formed by a constellation of actors (Israel, donors, and the PA), who govern Palestinians—which locks the latter into dependence (Stamatopoulou-Robbins, 2020). Bishara (2017) situates this as a historically embedded process, whereby multiple actors “have with a shrewd sleight of hand at once asserted and denied their sovereignty over Palestinian populations” (351). The simultaneous assertion and denial of sovereignty over Palestinians enables Israel and the PA to “deploy force and create hegemony” (ibid: 351-2). It is important to emphasize that power is not equal amongst these two actors—despite Bishara’s framing of both as hegemons. Nevertheless, Bishara (2017) notes that, “the establishment of the PA in 1994...has led only to *entrenched Israeli control with Palestinian collaboration*” (350-1; emphasis added). The entrenchment of Israeli control has been made possible via a myriad of policies in service to a neoliberal agenda (Khalidi & Samour, 2011, 2014; Hanieh, 2013, 2016; Haddad, 2016; Bishara, 2017). While Israel has maintained ““maximum control and minimum responsibility”” (Li, 2006: 39 in Bishara, 2017: 351) vis-à-vis Palestinians,

²⁵ See Hanieh (2013); Khalidi & Samour (2014); Tartir (2015).

²⁶ The PA’s multiple security apparatuses do not include a military.

a complex mechanism of governance is established, wherein governance responsibility is outsourced to the PA. Evading responsibility for the Palestinian population can be traced to the beginnings of Israeli settler colonization of the West Bank and Gaza Strip in 1967, when Israel sought to “avoid as much as possible direct responsibility for the Palestinian population” (Hanieh, 2013: 103).

It has been illustrated that the concept of non-sovereignty aptly captures political conditions in Palestine. It comprises its own spectrum, which is separate from Risse’s (2015) spectrum of state sovereignty; it represents the range of governance conditions in polities that lack sovereign state status. Similar to the spectrum of sovereignty, this spectrum reflects the *degree of constraint* to sovereignty—albeit amongst polities that lack recognized sovereign state status. The various iterations of non-sovereign status can be conceptualized as ranging from low to high: polities with a low level of non-sovereignty are closer to possessing sovereignty than polities that have a high level of non-sovereignty²⁷.

Figure 2.3: Spectrum of non-sovereignty



²⁷ These polities lack independence and self-determination, including those colonized.

Given that settler colonialism is a form of non-sovereignty, Palestinians live “under settler colonial, military occupation...*as nonsovereigns*” (Stamatopoulou-Robbins, 2020: 2; emphasis added)²⁸.

In reviewing the critical literature on sovereignty, as well as its applicability to the case of Palestine, it is clear that Palestinian non-sovereignty is due to Israeli settler colonization. Israeli settler colonization is, however, complicated by the role played by the PA. Stamatopoulou-Robbins (2011) illuminates how there has been a shift in the experiential manifestation of occupation, which elides its previous manifestation (as visibly and tangibly pervasive), but does not negate occupation itself. In other words, the lack of visibility of occupation—e.g. conspicuous infrastructure or pervasive interfaces with Israeli military officials²⁹—does not render occupation non-existent. Rather, it is a change in form, which has resulted in “the occupation’s perceived (to some) recession and replacement by self-rule” (Stamatopoulou-Robbins, 2011: 59). The resultant conditions have engendered “a dual colonial reality, whereby partial Israeli colonization and partial Palestinian neocolonialism concomitantly characterize the political reality” (Mousa, 2010: 4)—a situation in which “the postcolonial era is happening at the same time as the continuation of the colonial era” (Al-Khalili, 2011: 44).

The occupation literature frames the PA as being set up as an “outsourced” (Wildeman and Marshall, 2014) occupier, tasked with handling the Palestinian peoples’ civil affairs in the West Bank. This government-like body has ministries and agencies that mimic those of a nation-state³⁰ without the attendant sovereignty or political power

²⁸ See Theoretical Framework for an explanation of compromised sovereignty, and its relationship to non-sovereignty.

²⁹ It should be noted that although conspicuous infrastructure and interfaces with the Israeli military are not pervasive throughout the entirety of the West Bank, they do still exist—particularly in and around Israeli colonial settlements.

³⁰ See Appendix 2 depicting the PA’s organizational structure.

to implement meaningful policies. Rather, they mainly rely on donor aid to uphold a façade of government that is ineffective and largely symbolic. The PA—which holds meso-scale power—is designed to foster conditions whereby sufficient economic prosperity will (presumably) lead to people accepting political settlement (Wildeman and Tartir, 2013). This meso-scale power encompasses the PA, the Palestinian Water Authority (PWA), and local government bodies (either village councils or municipalities for larger/more established towns). Embedded within these meso and macro power structures lies micro power. In this study, micro power encompasses power dynamics and relations within each respective CA institution for CPR management.

The Palestinian Authority—which embodies meso-level power—was established in 1994, with the signing of the Declaration of Principles (DOP), marking the inception of the Oslo Accords or Peace Agreements³¹. It also marked the ending of the first *intifada*, the Palestinian uprising against Israel’s settler colonization and military occupation (Hanieh, 2013). The Oslo Accords, brokered by the United States, had the ostensible aim of achieving peace between the Palestine Liberation Organization (PLO)³² and Israel, and establishing the Palestinian Authority in 1994 as a transitional or interim government. The professed plan was for this interim government to last five years (PASSIA, 1999), in preparation for an independent Palestinian state (Hanieh, 2013). The governmental structure is analogous to those of internationally-recognized sovereign states, comprised of executive, legislative, and judicial branches. The missing component is, of course, sovereignty, and all that it entails. Notwithstanding this lack of sovereignty, the PA does have a degree of power—*albeit limited*. Notwithstanding its official title as

³¹ See Appendix 3 for a timeline of the Oslo process.

³² The PLO served as an umbrella organization for political parties. “Most of the Palestinian population...regard(ed) the PLO as their sole, legitimate representative” (Hanieh, 2013: 105).

the “Authority” representing the Palestinians, this power can be classified as control, rather than authority, as defined by Thomson (1995). The PA was given “administrative and executive authority” (Tartir, 2015: 14) with responsibilities that include “build(ing) institutions for the promised state in 1999; provid(ing) public services; *guarantee(ing) Israeli security*; allocat(ing) aid to sustain peace, and pursu(ing) the final status negotiations (Khan et al.2004)” (ibid; emphasis added). This arrangement entails a twofold irony: the irony of being classified as an executive authority that in fact lacks any meaningful power—and the irony of being a political entity that lacks sovereignty (as well as its own military), yet is tasked with ensuring its colonizer’s security. This conditionality is not only incongruous with its capacity, but also with Israel’s responsibilities as occupying power—under international humanitarian law (IHL). One of the principles enshrined in IHL is the occupier’s obligation to ensure the protection of the occupied population³³. While Israel does not accept its designation as an occupier, it does refer to IHL in its Military Courts³⁴.

Notwithstanding the PA’s government-like structure—including a legislative and constitutional³⁵ structure—ultimate authority rests with Israel, as stipulated by the politico-legal framework provided by Oslo. This ultimate authority sets the spatial, political, legal, and economic parameters of what the PA is *allowed* to do—i.e. the PA’s power (authority and control) cannot transcend these parameters. There are multiple mechanisms through which Israeli power was established and continues to be

³³ The International Committee of the Red Cross (ICRC) states that “as the occupying power in the West Bank, Israel is bound by international humanitarian law. It has a duty to ensure the protection, security, and welfare of the people living under occupation” (ICRC, 2018: n.p.). See The Brussels Declaration, the Oxford Code, and The Hague Conventions of 1899 and 1907 (Bhuta, 2005).

³⁴ See Ramati (2020); Cavanaugh (2007).

³⁵ The Basic Law, created by the PLC, is the foundation for the future state’s constitution. See Miftah: <http://www.miftah.org/Display.cfm?DocId=790&CategoryId=7>

reproduced. This power is legitimized and reproduced by Oslo, but also by international donors.

The first mechanism through which Israeli power is reproduced and reinforced, is via the militarization of multiple phases of the Oslo Accords: design, negotiations, and implementation. The literature on the role of the Israeli military in Israeli political affairs identifies three trends: firstly, the substantial trust the Israeli public has in the Israeli military—which, in turn, has bestowed it with political legitimacy uncharacteristic of the military in other³⁶ modern democratic states (Peri, 2005; Michael, 2007). Secondly, as a result of this trust-induced political influence, the Israeli military played a leading role in the design of the terms of the Oslo Accords. The final trend within the first mechanism of power exertion is manifested in the leading role the Israeli military played in the negotiation process itself. These latter two trends of the military's role in the Oslo process are the most pertinent to this study. The prominence bestowed upon the Israeli military³⁷—as a legitimate political actor—also stems from their planning capacity being unmatched: “the IDF³⁸ Plans and Policy Directorate (formerly known as the Planning Branch) [is] the most influential body shaping political settlements” (Michael, 2007: 528), and lacks a civil equivalent. This leads into the second trend, wherein the military's trust-induced political influence facilitated its prominent position during the Oslo process—in particular, the military's Planning Directorate was given a prominent role in

³⁶ Israel is more accurately conceived of as an *ethnocracy*, which “denotes a non-democratic rule for and by a dominant ethnic group, within the state and beyond its borders” (Yiftachel, 1998).

³⁷ The prominent role dates back to the early days of Israel's establishment (Pappé, 2002; Hajjar, 2000). The Israeli media fostered this prominence by “help(ing) to invent the mythology of Israeli heroism in the battlefield” (Pappé, 2002: 46; see also Levy, 2008). While this mythology waxed and waned with political conditions, “it was [nevertheless] very easy for the army to dictate the media's language” (ibid: 47)—which, in turn, helped to prevent critical media coverage of the military (ibid). The language used by the media consolidated this myth, whereby “intelligence estimates...are perceived as the absolute truth, despite the multiplicity of fallacious assessments” (Beilin, 2001: 289-91 in Michael, 2007: 543, endnote 37).

³⁸ The Israeli military is officially the Israel Defense Forces (IDF).

Oslo negotiations; top military officials played prominent roles in processing information, as well as conducting negotiations. This influence extended to the implementation of the Oslo Accords, whereby the military's "interpretation...[of the DOP] usually" (Levy 2008: 153) prevailed. This interpretation resulted in Israel's retention of control over aspects that were intended to be transferred to the PA³⁹. It can therefore be seen how "the militarization of the Oslo process" (ibid: 156) extended Israel's 1967 militarization of water into the terms of the Oslo Accords.

Israel's militarized approach to the Oslo process included an abundance of data provided by the Planning Directorate. In contrast, the Palestinians were not well-equipped; most notable was their dearth of data, including hydrological and hydrogeological data (Rouyer, 1997). While this is arguably now deemed to be relatively common knowledge amongst Palestinians, it is not well-documented. During the second phase of scoping research, I questioned a scholar in Palestine about the PLO's access to hydrological and hydrogeological data; this was informed by previous in-depth interviews with water experts (Mousa, 2010), wherein a water specialist and NSU attorney claimed that Oslo negotiators lacked this data (including maps). This was corroborated by the aforementioned scholar, who asserted that one of the negotiators—an international legal scholar who specializes in international water law (IWL)—described how, in contrast to the Israeli negotiators, their team lacked even the most basic maps.

³⁹ "The army controlled the pace of the establishment of the Palestinian Authority;...the timing of elections, which were conditioned on its withdrawal from the Palestinian cities;...the army translated Israel's commitment to withdrawal as a *redeployment* of IDF forces in the Occupied Territories...the *army insisted on retaining control over border crossings*;...arrangements were made that allowed the IDF to enter areas controlled by the Palestinian Authority in order to pursue suspects, and...enforced joint Israeli-Palestinian patrols in areas under Palestinian security control. In contrast to the army's interpretation, *the DOP had originally intended that the IDF withdraw in a way that would create Palestinian territorial contiguity*" (Levy, 2008: 153; emphases added).

In addition to the parties' unequal access to information—reflecting the power imbalance between the parties—Oslo was used as a politico-legal instrument to consolidate Israeli power; “the Oslo process did not lead to a lessening of Israeli power but rather to *a change in its form*” (Hanieh, 2016: 37-8). It also paved the way for international actors and Israel to implement a development project that secures their interests. Hanieh (2016) identifies and elucidates the mechanisms through which this development project “hide(s) the ongoing reality of Israeli settler-colonial power” (33) and thus consolidates this power. These mechanisms are threefold: “dehistoricizing Zionism and its project; incorporating the structures of occupation into official Palestinian development strategy; and foisting economic neoliberalism on the PA” (ibid). Hanieh (2016) illuminates how de-historicization is facilitated by the fragmentation of Palestinians, whereby spatial and temporal fragmentation enables its “reduc(tion)...to a recent narrative that accepts the *results* of fragmentation as de facto and permanent” (ibid: 36). This spatial fragmentation includes attempts to “formalize a system of bantustanization and to establish Palestinian culpability for how this system operates” (Hanieh, 2013: 100-1). This in turn, enabled the results of fragmentation to be the *point of departure* for the Oslo process. In other words, rather than questioning these conditions, they were taken as *a given*, and therefore deemed acceptable.

The second of these mechanisms of reinforcing Israeli power is the incorporation of military occupation into the development project. This includes maintaining and legitimizing the “system of military orders that has governed Palestinian life since 1967⁴⁰” (Hanieh, 2013: 37); reinforcing economic dependence through a myriad of

⁴⁰ It is important to note that while the DOP “and the accompanying agreements provided for a transfer of civil powers and responsibilities from the Israeli Civilian Authority to the Palestinian Legislative Council in Zones A and B, and in

policies, whereby the “Palestinian economy is fundamentally structured by its dependency on Israel” (ibid: 38); and by eliding Israeli power via framing political conditions in technocratic, and thus neutral, terms. Hanieh (2016) outlines two instances of this technocratic framing—that elide and thus reinforce Israeli power:

when the World Bank...asks the PA ‘to work alongside Israeli Customs (at the Allenby Bridge) and practice actual customs border procedures and gain needed experience, *it reframes Israel’s control over borders as a technical skill rather than as an integral feature of how the occupation actually works*. Perhaps the starkest illustration of this discursive shift is the World Bank’s funding of Israeli checkpoints inside the separation wall, which *normalizes the architecture of Israeli settler colonialism* in the name of speeding up trade (ibid: 39; emphases added).

Shikaki and Springer (2015) characterize this de-politicized approach to development as “techno-fetishism”⁴¹

The third mechanism of consolidating Israeli power is via the neoliberal agenda that is imposed on the PA by conditioning international aid upon the adoption of neoliberal policies (Hanieh, 2016). While this agenda was not explicitly enforced on the PA initially, it entered into the equation in 2007, a politico-economic phase called the “neoliberal turn” (Khalidi & Samour, 2011; Hanieh, 2013). This amplification of a neoliberal agenda was accompanied by a substantial increase in aid “in comparison with the total aid received between 1993 and 2006” (Tartir, 2015: 13); the PA’s history can thus be classified as being comprised of two separate phases. The neoliberal turn is described as coinciding with Fayyadism, the period in which the West Bank’s prime minister (2007-2013), Salam Fayyad, who previously worked with the IMF, implemented an accelerated neoliberal agenda under the rubric of reform (Khalidi and

Zone C, for those powers and responsibilities not relating to territory” (Cavanaugh, 2007: 200)—the Israeli military governance structure remains in place in the West Bank. This includes military orders and the Military Court system—although the number of courts has been reduced (Weill, 2007).

⁴¹ The “introduc(tion) [of] techno-fetishism into Palestinian policy-making, aligning the PA with a technocratic, administrative and process-focused mandate assumed to represent a universal best practice” (7).

Samour, 2011; Hanieh, 2013; Shikaki and Springer, 2015; Tartir, 2015). This agenda “is inspired by a model of neoliberal governance increasingly widespread in the region, indeed in neocolonial states around the world” (Khalidi and Samour, 2011: 8)⁴². The main apparatus through which this agenda was implemented was via the Palestine Reform and Development Program (PRDP). The depoliticization of the Palestinian struggle is central to its design, whereby the “notion of being ‘apolitical’ runs consistently through the PRDP and subsequent economic programs”⁴³ (Hanieh, 2013: 118). The required cuts to the public sector—implemented through various policies—dealt a heavy blow to the Palestinian population, which had become heavily dependent upon the PA (Hanieh, 2013).

The literature on this neoliberal turn illuminates the ways in which it rendered the interim phase—marked by a transitional government and a pause on so-called final status issues—a de facto permanent situation. It also illuminates the socio-economic effects—which have been deeply transformative and destructive to Palestine as a polity and as a society. The adoption of neoliberal policies facilitated and reinforced Oslo’s *disguise* of Israeli control—and replaced it with “a veneer of [Palestinian] autonomy” (Hanieh, 2016: 37). The most notable transformations include substantially increasing socio-economic inequality (Hanieh, 2013)⁴⁴ and decreasing political consciousness—in particular, one revolving around a quest for national liberation and self-determination (Hanieh, 2013;

⁴² See also Hanieh (2013).

⁴³ This includes the 2011-2013 National Development Plan (NPD) (Haddad, 2016).

⁴⁴ “More often than not, countries that have implemented neoliberal reforms have experienced rising rates of poverty and unemployment, in most cases accompanied by the rise of a new social class whose fortunes are directly linked to the privatization of state enterprises and economic liberalization” (Khalidi & Samour, 2011: 11).

Wildeman and Tartir, 2013; Haddad, 2016)⁴⁵. This impact on political consciousness⁴⁶ is also based on the “rationale...[of] mak(ing) Palestinians feel better economically to make it easier for them to compromise politically” (Wildeman and Tartir, 2013: 2).

The increase in inequality was effected through a manifold mechanism of formalizing bantustanization; intensifying international aid dependence; consolidating de-development; and creating a new socio-economic class structure. Hanieh (2013) explicates this process of class restructuring, whereby two new socio-economic classes were simultaneously created: a large-scale proletariat class and a capitalist class. The creation of a proletariat class is inextricably linked to de-development, particularly the dimensions of it that are most pertinent to this study—i.e. the confiscation of land and water resources (Roy, 2014). As Roy illuminates, *de-development* is a policy designed to preclude any possibility of genuine Palestinian economic development (Roy, 1999). This intentional preclusion of development renders the PA indefinitely locked into a cycle of dependence on external resources (e.g. Israeli products/resources and international imports)—and the continual erosion of access to, and control over, natural resources. Ongoing confiscation of land renders territorial contiguity and control over the resultant bantustanized territories impossible. In fact, Hanieh (2013) argues, bantustanization facilitates dispossession. The

change in social relations of the West Bank, characterized...by the proletarianization and dispossession of much of the West Bank population...has been achieved through the progressive seizure of Palestinian land and resources by the occupying power and the encirclement and regulation of Palestinian movement through the political, bureaucratic, and military apparatus constituted by the occupation (Hanieh, 2013: 100).

⁴⁵ See Michael (2007) on the Strategic Division of the Planning Directorate intentionally attempting to shape consciousness during the second *intifada*, whereby “a major goal of the fighting [was]...to ‘shape the Palestinian consciousness’” (*Haaretz* interview with Ya’alon, 2002 in Michael, 2007: 533).

⁴⁶ Khalidi and Samour (2011) comment on the “perplexing” result of this attack on Palestinian consciousness, “given the Palestinian tradition of vibrant and pluralistic political debate” (11).

The resultant proletariat class once comprised a large peasantry, as Palestinian society was heavily dependent on agriculture. Hanieh (2013) traces the history of this proletarianization process, which began in 1967 with the loss of agricultural land to Israel. This, in turn, led many in the peasantry—particularly the youth—to seek employment in Israel (ibid). While this phenomenon did not end, the creation of the PA largely served as a replacement for this income, whereby “Palestinians became increasingly dependent on public sector employment within the PA or on transfer payments made by the PA to families of prisoners, martyrs, or the needy” (ibid: 109). At the same time, a capitalist class was fostered, which benefits economically from its ties to the PA and in turn, reinforces Israeli power (ibid).

The resultant restructuring or “transformation of Palestinian society from a predominantly rural existence—with social reproduction centered around agriculture and the traditional authority structures of village life—to an incorporated, dependent, and subordinated appendage of Israeli capitalism” (ibid: 100) was intensified in the early years of the neoliberal turn. The concomitant downsizing of the public sector and bolstering of the private sector resulted in intensified individual spending and in turn, increasing personal debt (ibid). As Palestinians fell deeper into the frenzy of consumerism, they inevitably became concerned with their mounting debt—instead of societal welfare and liberation (Hanieh, 2013; Haddad, 2016). This shift resulted in the necessary relinquishment of collective goals, including collective struggle. What is particularly pertinent to this study is neoliberalism’s “advocating [of] an individualistic world view that fiercely embraced core liberal values of free trade and enterprise” (Haddad, 2016: 3). The adoption of such values—including individualism, privatization, enterprise, and material accumulation—represents an *anti-collectivist* position. The

abandonment of collectivism, which lies at the heart of Palestinians’ “traditional patterns of social existence” (Hanieh, 2013: 102) and “traditional authority structures” (ibid: 105)—as well as well as being a central tenet of the first *intifada*—thus directly undermines Palestinian life itself. In addition to undermining the struggle for liberation and self-determination, this neoliberal agenda undermines Palestinians’ means of managing their resources—particularly their traditional collective management of freshwater resources that underpins agriculture.

Another mechanism through which Israeli power is reinforced is via dependence on international aid. This dependence and its effects have been written about since the mid-1990s (see e.g. Said, 1995; Le More, 2008). Establishing an interim government propelled by international aid was designed to keep the PA—and any future Palestinian state—dependent on external actors from the outset. This dependence on external aid is what Raeymaekers (2020) calls *extraversion*, whereby de-colonized states focus on external financial support, rather than on generating revenue internally—i.e. via taxation. However, this aid dependence did not begin with the establishment of the PA; rather, “through the 1970s and 1980s, this dependency grew as a result of military orders that prevented Palestinian industrial and agricultural development” (Hanieh, 2016: 38). This dependence has been maintained and bolstered, rendering the Palestinian economy an “adjunct” to Israel (ibid). In addition to Palestinians being among the most aid dependent people globally (Wildeman and Tartir, 2013; Tartir, 2015; Hanieh, 2016), the aid they receive benefits their colonizer in various ways. One way is via the positioning of “the West Bank...[as] a captive market for many Israeli goods” (Hanieh, 2013: 110). As the Paris Protocol on Economic Relations (PER) was adopted with the signing of the DOP, it further entrenched Palestinian dependence; in addition to maintaining the Israeli Civil

Administration as a governance body in the West Bank, “the PER, in fact, institutionalized the dependence of the oPt⁴⁷ economy on Israeli policies, rules and regulations” (Taghdisi-Rad, 2014: 22)⁴⁸. As abovementioned, the neoliberal agenda promoted by IFIs and international development agencies diminishes Palestinians’ political consciousness—and in turn their resistance to Israeli colonization—which is in Israel’s interest. This is achieved through international aid, which “encourages Palestinians to give up any kind of resistance...and keeps them fed and subdued” (Wildeman and Tartir, 2013: 5). These mechanisms serve to preclude Palestine’s economic and political sovereignty.

While exceptional governance refers to the governance structure and conditions that define Palestinians’ lack of sovereignty—particularly significant to this study is lack of sovereignty over their natural resources—this study does not include a historical review. Rather, in order to set the foundation for a comparative study between villages with more acute EG and those with “minimal” EG⁴⁹ conditions, this study only looks at time period beginning with the geo-political zoning established under Oslo II (1995). Thus, understanding the ways in which Oslo was set up, the power asymmetries that were reinforced, and the internal dynamics that resulted from it, are at the crux of this study. While the aim is to understand the micro-level dynamics within CA institutions, these are contextualized within broader power structures that were reproduced and reinforced by Oslo. Some of the earliest critiques of Oslo were written by Edward Said, who also contextualized Oslo as a continuation of colonial policies—rather than a mutually-

⁴⁷ occupied Palestinian territories.

⁴⁸ See also Turner (2014).

⁴⁹ Note that the term “minimal” is used for methodological purposes—i.e. to conduct a comparative analysis between areas with and without EG. Thus, this is not to imply that EG does not exist in Area A villages.

beneficial peace agreement. Of particular significance is the acceptance of the division of people, division of land, and geopolitical zoning differences—which have determined variegated outcomes, most pertinently vis-à-vis access to, and control over, freshwater resources.

The establishment of the PA as an ever-dependent political entity—coupled with the de facto permanent state of limbo of the issues for final status negotiations—precludes the creation of a sovereign state with the attendant components that states possess in the current international system, namely supreme authority over a territory and a monopoly over what is deemed legitimate use of force/violence. The resultant structure of this design is also a de facto permanent state of limbo, whereby the PA is locked into being a perpetually interim body—which in turn precludes Palestine’s sovereignty. This has been variously described as settler colonialism, military occupation, and a “bifurcated political reality” (Mousa, 2010: 9), whereby “superficial decolonization translates into a dual system of colonial and neocolonial control” (ibid: 7⁵⁰); the former component of this bifurcated system represents macro-scale power and the latter represents meso-scale power.

While the logical conclusion of a successful struggle against settler colonization is self-determination, this is not the direction of the position taken by the PA. Rather, as Salamanca, et al. (2012) point out, “recent Palestinian political history has been a long march away from a liberation agenda and towards a piecemeal approach to the establishment of some kind of sovereignty under the structure of the Israeli settler colonial regime” (3). Sovereignty under settler colonialism is a contradiction in terms—

⁵⁰ See also see Khalili (2011).

reflecting the very nature of the PA as an oxymoronic entity that claims to represent Palestinians yet plays a collaborative (Salamanca et al., 2012⁵¹; Bishara, 2017) and accommodating role for Israel (Salamanca et al., 2012). Yet this contradiction, asserts Hanieh (2013), is *not* coincidental. Rather, “there was no contradiction between Oslo-style ‘peace’ and colonization—one was the prerequisite of the other” (Hanieh, 2013: 107)⁵².

2.1.6 State of Exception and Exceptional Governance

While the collective action literature on water is predominantly situated within “normal governance” conditions, there are some notable exceptions, including: Trottier (1999; 2000; 2007; 2013; 2015; 2019a); Trottier and Perrier (2018; 2019); De Donato (2018); and Gasteyer and Araj (2009), which analyze Palestinian water institutions within the context of what this study frames as “exceptional governance”. Although these studies discuss institutions, most do not adopt an institutional approach per se—nor do all of them place sufficient emphasis on exceptional governance, let alone frame the political context in these terms. In employing an exceptional governance framework, my point of departure is Giorgio Agamben’s theory on the state of exception. Agamben (2005) conceptualizes the *state of exception* as a situation in which there is a perceived imminent threat to a sovereign, who declares a state of emergency and subsequently suspends the constitution, replacing state laws with military orders. Contrary to what one might assume, the state of exception is a modern institution that was created by democratic states, not absolutist ones.

⁵¹ “The settler colonial structure undergirding Israeli practices...[entails a] dependence on willing (or unwilling) native collaboration regarding security arrangements” (Salamanca et al., 2012: 2).

⁵² See Haddad (2016).

Agamben provides historical context of various forms of emergency situations—including state of siege, state of necessity, and martial law—whereby civil authority is transferred to the military commander. These emergency situations are in effect the suspension of peacetime governance. However, the state of exception differs from these emergency situations, because “insofar as it is a suspension of the juridical order itself, it defines law’s threshold or limit concept” (Agamben, 2005: 4), where the lines between what is “inside” and “outside” the law become *ambiguous*. In essence, the state of exception is a “space devoid of law, a zone of anomie” (ibid: 50) whereby the law is “entirely emptied of content” (Humphreys, 2008: 681). In this “anomic zone”, the military exercises control over civil affairs (Lentin, 2006). In the state of exception, the constitution is suspended due to a perceived necessity, or threat to the nation state’s security. This suspension jeopardizes civil liberties, which constitutional norms are designed to protect. The military origins of this necessity eventually were extended to political and economic “necessity”—rendering a “real” state of exception now a “political” or “fictitious” one (Agamben, 2005). In such cases, the language of war is employed to justify the fictitious state of exception. By creating this pretext of necessity, the state of exception is maintained even in absence of an emergency situation, and thus “become(s) the rule” (ibid: 9).

In line with this study’s approach of employing relevant *aspects* of Agamben’s State of Exception theory, the militarization of governance⁵³ outlined above can be examined as an instance of a political or fictitious state of exception. In the West Bank, this political or fictitious state of exception is embodied in the Israeli military governance

⁵³ Militarized governance has changed over time, and is spatially variegated (e.g. military rule in lands colonized in 1948 vs. those colonized in 1967).

structure—particularly vis-à-vis the militarization of water governance. The most salient aspect of this governance structure is the transfer of full control over West Bank water to the Israeli military. This militarized governance epitomizes Agamben’s state of exception⁵⁴—insofar as the military commander is granted full civil authority.

In 1967, after Israel occupied the West Bank, it issued Proclamation No. 2⁵⁵, which effectively placed control over all water resources in the hands of the military commander (see Zeitoun, 2008; COEHRE, 2008), thus ensuring Israel’s complete control over West Bank water resources. The fourth paragraph of this proclamation (Directives regarding property) states:

Movable and unmovable property...and any other military equipment that belonged to, or was registered in the name of the Hashemite Jordanian state or government, or any unit or branch thereof, or part of any of these, which are situated in the region—*will be transferred to my*⁵⁶ *exclusive custody and be subjected to my administration* (Paragraph 4, Proclamation 2; emphasis added).

Israel consolidated this securitization of the water by implementing a series of military orders that effectively became law:

Military Order 92⁵⁷ (15 August 1967) *Order Concerning Jurisdiction over Water Regulations*...[which] transferred all authority over water resources to an Israeli official appointed by the Area Military Commander...Military Order 158 (19 November 1967) *Order Concerning the Amendment to the Supervision over Water Law*...[and] Military Order 291⁵⁸ (19 December 1968) *Order Concerning Settlement of Disputes over Land and Water* (COHRE 2008: 19).

“The issuance and implementation of these orders amounted to the militarization of water governance in the West Bank” (Mousa, 2010: 12); these military orders “severely

⁵⁴ The Defence (Emergency) Regulations annually renewed by Israel since its inception is quintessential of a state of exception.

⁵⁵ Titled The Proclamation Regarding Regulation of Administration and Law (The West Bank Region) (No. 2). See Cavanaugh (2007) and Weill (2007).

⁵⁶ Major General Chaim Herzog referred to himself as the sole custodian and administrator.

⁵⁷ Established under the Water Law No. 31 of 1953 (JMCC, 1995).

⁵⁸ Established under the Disputes over Land and Water Law No. 40 of 1952 (JMCC, 1995).

restricted Palestinian extraction, transfer and consumption of water resources” (Rouyer, 1997: 61). This was carried out by the Civil Administration, via the enforcement of “strict quotas on water utilization and restrictions on the development of new facilities” (Rouyer, 1999: 115). These “granted Israeli water officials the power to refuse permits, and to revoke and amend licences...meters⁵⁹ were installed on all existing wells, and quotas were rigorously enforced, with excess abstraction punishable with heavy fines” (Selby, 2003: 81). Furthermore, these military orders are particularly important in contextualizing Israel’s effectively *permanent* confiscation of Palestine’s 1967 lands (the “West Bank”), as they “remained in force after Oslo II” (ibid: 114).

Under IHL, the condition of “security”—albeit often a pretext—allows for natural resources to be used by the occupying power for absolute military necessity (Bhuta, 2005; Tomuschat, 2010; Al-Haq, 2013). Thus, exploitation of a land’s water (Daibes, 2003; Bhuta, 2005) is allowable if an occupying power deems it to be of “military necessity” (Tomuschat, 2010). While Israel does not officially recognize its occupation of the West Bank⁶⁰, it nevertheless uses “‘security as a pretext’ for a range of political/military operations, namely land and water confiscation” (CESR, 2003: 5 in Mousa, 2010: 12)—most notably the confiscation of over 80% of the West Bank’s groundwater sources. Under IHL, belligerent occupation is regulated, rather than prohibited. Specifically,

belligerent occupations...under Article 42 of the 1907 Hague Regulations, are defined as territory placed under the control of a hostile army (International Committee of the Red Cross 2010): such occupations lack the consent of the civilian population and its recognized representatives (Mason, 2011: 1).

⁵⁹ Meters and gauges are used interchangeably throughout this thesis.

⁶⁰ Israel refers to the West Bank as “disputed territory”. See Israeli Ministry of Foreign Affairs website: <https://mfa.gov.il/MFA/MFA-archive/2003/Pages/DISPUTED%20TERRITORIES-%20Forgotten%20Facts%20About%20the%20We.aspx>

The militarization of water governance in Palestine is quintessential of Israel's manipulation of military "necessity"; declaring security necessity enabled Israel to implement a state of exception vis-à-vis water. The extension of these military orders post-1982 evokes the permanence of the suspension of the law in the state of exception; this permanence was reinforced via the extension of militarized water governance to the Oslo II agreement.

The Oslo II agreement concurrently consolidated Israel's control over water and set up a political reality of deliberate "de-development," as coined by Sara Roy (1995). Selby characterizes this political process as "domination dressed up as co-operation" (Selby, 2003), and shows in detail how the Joint Water Committee (JWC), set up under Annex III, Article 40 of Oslo II⁶¹, is the apparatus through which the farce of co-operation is manifested (Selby, 2013). Zeitoun (2008) describes this process as the formalization of *hydro-hegemony* (Warner & Zeitoun, 2005), whereby Israel maintains hegemonic control over all water resources in the West Bank. Similarly, Messerschmid (2014) argues that Oslo enabled Israel to promote a myth of co-operation with the Palestinians. Messerschmid (2014) also classifies this domination/hegemony as "hydro-apartheid"⁶².

Palestinians' lack of control over their water resources has been defined variously by critical scholars, but their common argument is that technical, apolitical analyses overlook how political and economic structures determine water conditions. It is important to stress the political nature of water scarcity, which Clemens Messerschmid, a hydrogeologist, illuminates via an examination of rainfall, groundwater recharge, and

⁶¹ The JWC's "obligations and responsibilities" (MFA website) are outlined in Schedule 8 of Article 40

⁶² See also Al-Haq (2013).

climate factors. Messerschmid's (2014) analysis invalidates "one of the most basic and enduring myths surrounding water in Israel-Palestine...[which] portrays the land as suffering from a natural scarcity of water (i.e. a nature-given state of physical scarcity)" (61). While Messerschmid acknowledges the threats of climate change, he nevertheless shows that the current biophysical situation in the West Bank is not one of water scarcity. Moreover, he asserts that this myth is used to elide Israel's continued control over water and their refusal to relinquish this control. While a good deal of scholarship has been devoted to addressing systemic water issues in Palestine, this research has been predominantly on the meso and macro levels. As elaborated below, studies on micro-level water issues comprise a burgeoning body of literature, which can be traced to Trottier's (1999; 2000) earliest work on local water institutions. Other studies (see, e.g. Aggestam and Sundell-Edlund, 2014; Brooks, et al., 2013; McKee, 2019; Trottier, 2007; Trottier and Brooks, 2013) examine hydro-politics in a less critical manner than the hydro-hegemony and domination studies, which examine how Oslo preserved the power structure that shapes water conditions. Among the more critical work, Alatout (2009) examines the colonization, politicization, and securitization of water through an actor-network framework. Similarly, Gasteyer et al. (2012) use an actor-network framework to examine water grabbing as a form of "new colonialism"—though they propose to study this phenomenon as "old colonialism". Organizational reports also address water control: the control established through Oslo II is framed by an Amnesty International report as the "institutionaliz(ation) [of] Israeli control of resources" (AI, 2009: 21). Similarly, a COHRE report states that the "Oslo peace process only served to formally institutionalize...[the] arrangement...[of] power over water resources and water resource management" (COHRE, 2008: executive summary). Other reports discuss Oslo II as

granting sole veto power to Israel in JWC decisions (see e.g. EWASH, 2010); still others talk about Israel taking more than its fair share of water, but do not discuss Oslo II as the consolidation of water control (see, e.g. PWA, 2014).

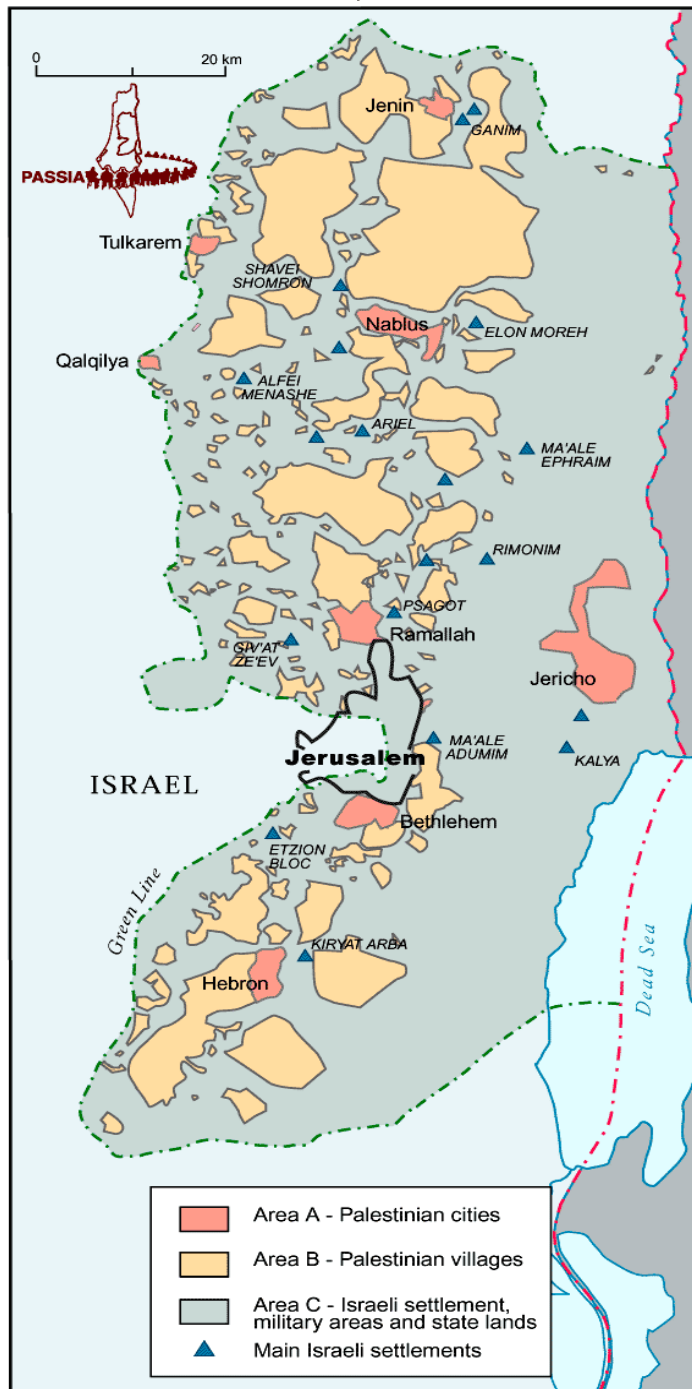
It has been demonstrated that the exceptional governance (i.e. macro-scale focus) water literature is political to the exclusion of an institutional analysis; it focuses on the failings of Oslo and the current system that enables Israel to maintain exceptional governance—albeit now legitimized under International Law—over water. Although Messerschmid (2007) claims that “the practices sanctioned by Oslo blunt(ly) disregard international law” (9), this study’s interpretation is that Israel manipulated the law to serve its interests; Oslo II upheld the international water law (IWL) principle of *prior use* to the exclusion of the requisite balancing principle of *equitable utilization* (Elmusa, 1993). Article 40 of Appendix III addresses water issues but leaves its resolution to be dealt with as a final status issue—one of the six most significant and politically volatile issues—which were to be postponed and resolved in a phased manner, contingent upon the progress of the peace process; the declared goal was to reach a final agreement by September 2000 (Rouyer, 1999). This interim agreement also established a geopolitical zoning scheme, whereby the West Bank was divided into three areas: Area A, under full Palestinian civil and security control; Area B, under full Palestinian civil control and Israeli security control; and Area C, “the land mass surrounding Areas A and B, where Israel retains full control over security and civil affairs, including planning, building, laying infrastructure and development” (B’Tselem, 2017). See Figure 2.4 below of a map depicting the geo-political zoning established by Oslo II. De Donato (2018) notes that in Area C towns/villages, “NGOs often substitute the PNA⁶³ in providing basic services

⁶³ The PA is also referred to as the Palestinian National Authority (PNA).

and resources and infrastructure development to Palestinian civil population” (6), as the latter does not have the jurisdiction to conduct such projects. This has implications for water governance, as demonstrated throughout this study’s findings.

Figure 2.4: Map of Oslo II

Oslo II, 1995



Palestinian Academic Society for the Study of International Affairs
(PASSIA)

Courtesy of PASSIA: http://www.passia.org/palestine_facts/MAPS/Oslo-2.html

2.1.6.1 Macro-Scale Water Governance

The militarization of water was effectively extended into the Oslo era, albeit under the guise of self-rule. This is evidenced by “Israel’s insistence on maintaining

control over all⁶⁴ water...[which is] a key sticking point in final status negotiations” (Messerschmid, 2014: 56). In other words, due to pre-Oslo water governance being largely maintained, *in effect, Oslo maintained* the militarization of water. This was primarily achieved via the application of the legal principle of prior use⁶⁵. It was also achieved via power asymmetries and the concomitant asymmetries in access to hydrological and hydrogeological data. While “Israel possesses detailed and precise information on water resources in the region from decades of scientific assessments, including metering all wells in the West Bank since 1967” (Rouyer, 1997: 57-9), the Palestinian side did not have any of this data⁶⁶. During in-depth interviews with Palestinian water experts, a variety of shortcomings on the Palestinian side were identified. One respondent explained that

‘what happened with water happened in all other [issue areas]...there was no technical support provided for negotiators as should have been the case. There are Palestinian and Arab experts around the world that could have been used but were not used or consulted...the Oslo negotiations were done behind closed doors’ (Muhammad⁶⁷ interviewed in Mousa, 2010: 34-5).

The closed-door nature of the negotiations is a primary reason behind the lack of documented information on this process. Alwyn Rouyer (1996) highlights the secrecy of

⁶⁴ While Israel insisted on maintaining its *existing use* (Rouyer, 1996), the extent of its control over West Bank groundwater is more nuanced: while Israel is legally entitled to 82% of groundwater, it maintains effective control over the *parameters* of Palestinian control over their 18%. Throughout this study, I refer to this phenomenon as *relative control*.

⁶⁵ Prior use is a legally dangerous concept, whereby establishing utilization amounts can be manipulated by political mechanisms, and then legitimized; de facto utilization, irrespective of its equitability, can become de jure allocation. In this case, “the Zionists’ diplomatic efforts to obtain ever increasing amounts of water during the British Mandate era to support and justify growing Jewish immigration to Palestine” (Rouyer, 1996: 25-6) epitomizes this manipulation. ⁶⁶ Rouyer (1997) asserts that the political nature of this issue renders a “difficulty in obtaining accurate data” (61). This has been a significant obstacle in this research—which may be partially due to the fact that “currently, spatial trajectories of water in the West Bank are mapped very roughly, on a large scale” (Trottier, et al. 2019: 698). Trottier, et al. (2019) point out that some springs have dried up, as the drilling of “wells redirected the spatial trajectories of water...these new trajectories of surface and groundwater have yet to be mapped” (699). See Trottier (1999), who, like the abovementioned studies, states “many authors have emphasized the difficulty in obtaining exact data concerning water in the area” (33).

⁶⁷ Dr. Abdul Latif Muhammad, deputy director of the Palestinian Agricultural and Relief Committee (PARC).

these negotiations, basing his conclusion on extensive fieldwork. Notwithstanding this limited data, the Palestinian accounts corroborate each other. One Palestinian negotiator

asserted that ‘there were no pre-negotiations; there was no preparation to start with. There were no strategizing meetings to coordinate between the different committees: water, agriculture, environment, borders, and security, so that we (could) speak with the same voice... (we did not) receive instructions or transmit information; we did not have lawyers or legal advisors. We kept asking for lawyers but unfortunately, I do not remember having a lawyer present at any time’ (As’ad interviewed in Mousa, 2010: 35).

Tamimi⁶⁸, another Palestinian negotiator, explained that “water experts were involved in pre-negotiations⁶⁹ ‘at (the) technical level’...[but] this was not the case during actual negotiations” (ibid: 33). Another PA official corroborated this, asserting that despite having experts present during pre-negotiations to Oslo II, they “‘were all shocked by what was signed as being completely different from what they discussed in the many months before’” (ibid). The combined effects of the leading role played by the Israeli military in the Oslo process, the lack of Palestinian access to information, and the extension of existing water governance conditions—all underpinned by a substantial power imbalance—resulted in the maintenance of Israeli control over the lion’s share of West Bank groundwater⁷⁰. The consolidation of Israeli control over water through its legal consecration by Oslo II renders Palestinian control over water infeasible.

2.1.6.2 Meso-Scale Water Governance

The PWA was established soon after the establishment of the PA in 1996⁷¹, with the implementation of Law No 2 (PWA, 2000). The PWA’s primary functions are to:

⁶⁸ Dr. Abdulrahman Tamimi, director of Palestinian Hydrology Group (PHG).

⁶⁹ While As’ad is referring to pre-negotiations to Oslo I in 1994, Tamimi is referring to pre-negotiations to Oslo II in 1995 (see Appendix 3 for timeline of Oslo process).

⁷⁰ This is notwithstanding the perceptions of “Israeli critics...[who] see the accord as a ‘give away of Israeli water’” (Rouyer, 1999: 114).

⁷¹ The PWA was “formally established in April 1995 prior to the [Oslo II] agreement” (Rouyer, 1999: 115), and Law No. 2 established its purview.

“(1) Guaranty defragmentation of hydrological data collection and archiving and publishing all water-resources data and information. (2) The monitoring, inspection, and management of all Palestinian water resources” (ibid: 3). The second function is carried out by their West Bank Water Department (WBWD)⁷², as well as “in co-operation with the Israeli Hydrologic Service through the Joint Water Supervision and Enforcement Teams [JSETs] program...[which] did not change dramatically with the change from the Israeli Civil Administration to the Palestinian Authority” (ibid: 5). The JSETs have several responsibilities, including monitoring springs and wells. This joint monitoring and supervision system between the two parties⁷³ is formalized in the Joint Water Committee (JWC). The JWC was due to “operate in seemingly egalitarian fashion: it would be made up of an equal number of Israeli and Palestinian representatives, and decisions within it would be reached by consensus” (Selby, 2003: 103). In practice, however, this purportedly egalitarian characteristic—including the veto power each side has (Rouyer, 1999)—elides power asymmetries maintained in the JWC’s structure. As Selby elucidates, the requirement of consensus “effectively grants Israel veto powers over Palestinian water resource and infrastructural development...moreover, given that the Oslo II regime only applies to the West Bank, this means that the PA enjoys no equivalent veto powers in relation to Israel” (Selby, 2013: 7). In effect, the joint structure—which Selby (2003) points out encompasses joint coordination rather than joint management—relegates the Palestinian side to a subordinate position. This position reflects the maintenance of power asymmetries, whereby “the JWC merely institutionalized the

⁷² Jordan established the WBWD in 1965, and Israel’s Civil Administration took control of it in 1967 (Zeitoun, 2008).

⁷³ These are comprised of representatives from the PWA and the Israeli Water Commission (IWC) (ibid).

intrinsically discriminatory system of Israeli control over Palestinian resources” (Amnesty International, 2009: 34).

This subordinate position is easily elided by the PWA’s series of water laws—including the 2002 Water Law, the 2010 Water Law, the 2014 Water Law, and the 2018 Regulation—which give the specious impression that the PA in fact controls the water. This is an ironic position that the PWA upholds, as it reinforces the false idea of control over its freshwater resources. The PA does not control any water bodies above ground and only has access to 18% of West Bank groundwater. As illustrated in Table 3.1, PWA figures indicate that this is the *de jure* percentage of Palestinian water use; the *de facto* use is “less than 14% of available shared groundwater resources” (PWA, 2013: 9). The irony thus lies in the PWA’s simultaneous posturing of control and emphasizing of Israel’s over-extraction (which amounts to a violation of the terms of Article 40 of Oslo II). This irony is compounded by its technocratic approach to water governance, which elides the political roots of water scarcity (Messerschmid, 2014)—and in turn, elides the effects of Israeli power. As De Donato (2019a) elucidates, this neoliberal technocratic approach frames “the solution of water stress...[as] be(ing) achieved by increasing the technical abilities of individual farmers to manage water efficiently” (124).

Perrier (2020b), following Trottier (2007 in 2019b) describes the tension between local management (decentralization) and central control over water as “legal pluralism”⁷⁴. In short, the official designation of water as public property coincides—and clashes—with the historical phenomenon of “a great number of commons each constructed over the use of a spring or a well” (Trottier, 2019a: 10). Trottier (2000)

⁷⁴ Similarly, De Donato (2018) frames this tension as “contradictory dynamics”, which she explores in the context of “Israeli administrative and water planning strategies and development agencies’ approach to water problems” (5).

describes this as tension between centripetal and centrifugal policies; in her study, she elucidates the fragmentation of water control by

investigat(ing) local hydropolitical constellations in the WB...[By] examining the position of the PWA, it identifies two concurrent dynamics in water politics...:a centripetal dynamic draws power to the PWA...and a centrifugal dynamic dispersing water power among various village organizations and the Israeli authorities (35).

Trottier illuminates these competing dynamics in her earliest research (1999; 2000), setting the foundations for her and others to examine its implications. Trottier's (2000) conclusions on the chaos⁷⁵ that ensues from the competing dynamics leads her to propose four possible water management paths that the PA could pursue: centralization of local water resources; allowing for local water to continue to be decentralized, and instead “concentrate(ing) its efforts on claiming the 82 percent of West Bank water now attributed to the Israelis” (48); a combination of these two paths; or “a wise policy...of taking advantage of the international support the PA now enjoys to push for a new way of managing water” (ibid). While arguing for the feasibility of any of these policy paths—as well as being one of the first to acknowledge the significance of local water institutions for Palestinian farmers—Trottier (2000) argues for the PWA to engage in negotiations with all local actors, whom she points out, are overlooked. She asserts that engaging local actors “in the long run...would be in the best interests of the widest segments of the population: strengthening the PWA would open the way for the centralized control over water resources that *alone makes possible efficient and fair distribution*” (Trottier, 2000: 46; emphasis added).

⁷⁵ “Such water anarchy can only weaken the PA in the long term insofar as it will prevent the development of statelike control over water” (Trottier, 2000: 47).

The PWA's first few water laws referred to WUAs "without any practical consequences" (Perrier, 2020b: 5)⁷⁶ until the promulgation of the 2018 WUA Regulation. Perrier's (2020b) work examines the dynamics of local level water management vis-à-vis the PA's policy to decentralize water resource management. This policy is embodied in two regulations: the 2014 Palestinian Water Law, and the 2018 Water User Association Regulation (ibid). This policy comprises an effort to support development interventions⁷⁷ that Perrier (2020b) identifies as "Irrigation Management Transfer (IMT) policies, which encourage the participation of local actors in decision-making processes regarding water management" (5). It is important to note that the WUAs created via external interventions (e.g. IMT policies) comprise a separate type of community-based institution than those created organically. Perrier (2020b) summarizes the three-pronged critique of this policy in the development literature and applies them to the Palestinian context, outlining two salient critiques: firstly, these WUAs are imposed in a top-down manner, which has resulted in institutional weakness; and secondly, IMT policies reproduce inequalities within CPR communities.

It is important to note that while these WUAs are billed as participatory modes of local water management, this is not an accurate reflection of their structure. Rather, "the PA, through the MoA⁷⁸ and the PWA, controls the functioning and the agricultural strategies of the WUA, particularly with regard to the choice of seeds and the irrigation schedule" (ibid: 12). In effect, this policy comprises an *imposition of co-management* on water users. This, in turn, renders WUAs less participatory than it is purportedly intended to be—as well as less participatory than organically-established CA institutions.

⁷⁶ See also Trottier, et al. (2019).

⁷⁷ See Saunders (2014); Cleaver (2016).

⁷⁸ The PA's Ministry of Agriculture.

Notwithstanding its purported participatory goals, the neoliberal agenda that underpins it exposes the *inherent contradictions* in the principle of participatory management within co-management arrangements. These contradictions are particularly salient between the anti-collectivist ideology that underpins neoliberalism and the promotion of participatory management. In fact, the de-centralization policy—as part and parcel of a neoliberal agenda—is not one that promotes collective management, but rather privatization⁷⁹. The PWA began to receive international aid upon its establishment (Rouyer, 1999); its projects are thus underpinned by the neoliberal agenda discussed above. While these projects include the “maintenance of the springs and the ‘modernisation’ of irrigation infrastructures and techniques, in order to support villagers to manage irrigation water stress” (De Donato, 2019a: 123), the outcomes are not always successful, including vis-à-vis efficiency. As McKee (2019) asserts, “neoliberal water reforms...promote calculativeness and rational individualism” (557)—the antithesis to collectivism⁸⁰.

Perrier (2020b) argues that the PWA’s decentralization policy actually has the opposite effect—i.e. it consolidates the de jure centralized⁸¹ control over water management by requiring all existing water associations to be answerable to the PA’s bodies (Ministry of Agriculture and PWA); “the reform of the water sector implemented within the PWA therefore resembles more of a centralization of management, under the guise of decentralization” (16). The efforts to centralize water as public property thus

⁷⁹ “The decentralization envisioned by the World Bank essentially consists of the delegation of executive tasks, and not a decentralization of the control of resources” (Perrier, 2020b:16). See also De Donato (2019a) on neoliberalism and water privatization.

⁸⁰ While the micro-scale studies summarized mention neoliberalism, this literature largely overlooks the ways in which neoliberalism is designed to function—i.e. without exploring its underpinnings or ramifications, namely anti-collectivism and its effects on CA institutions.

⁸¹ While it has not been implemented, water governance was de jure centralized by declaring water public property via Article 3 of the 2002 Water Law. Available at: <http://www.pwa.ps/userfiles/file/water-law-App -E1.pdf>

reflects meso-scale power (as well as external power), whereby the PA’s efforts amount to “a main tool to extend their control over the local Palestinian population” (De Donato, 2018: 5). This is particularly consequential vis-à-vis property rights regimes, whereby the law *promotes unitary management* of CPRs—as co-management arrangements strip CPR users of the decision-making power they have under common property regimes.

The 2018 regulation—which is the most salient water law vis-à-vis this study—requires that all existing water management institutions adopt the form of WUAs as stipulated in its terms. This regulation seems to assume that existing water management institutions are not formalized—i.e. do not have a governance structure and rules that render successful outcomes, including equitable distribution and sustainable utilization of their freshwater resources. Moreover, as Perrier (2020b) points out, Article 41 of the 2018 regulation deems all other water management institutions in violation of the law: any pre-existing association is required to “(correct) its status in accordance with the provisions of this Regulation during a maximum period of (6) months starting the day it entered into force, *otherwise it will be considered in violation with the Regulation provisions*” (Article 41, Decision Number 4⁸²; emphasis added). This criminalization of organically-established WUAs that do not conform to the terms of the policy—i.e. co-management arrangements and reporting to governmental bodies—renders traditional water management illegal. Thus, this new policy leads to a situation in which existing CA institutions—including those with successful CA outcomes—are invisible and irrelevant at best⁸³—and illegitimate and illegal at worst⁸⁴.

⁸² See *Council of Ministers’ Decision Number (4) for the Year 2018 relating to Water Users Association Regulation*. Available at: <http://www.pwa.ps/userfiles/server/water%20sector/Water%20Users%20Association.pdf>

⁸³ As “it ignores local customary rights” (Perrier, 2020b: 15).

⁸⁴ A thorough examination of this requires fieldwork that studies the implementation of the 2018 regulation (this study’s fieldwork was conducted between 2015 and 2017)—as “we have to wait for the promulgation of the regulation on WUA’s [sic] in 2018 to learn more about the fate of pre-existing associations” (Perrier, 2020b: 15).

This critical interrogation of the exceptional governance literature reveals that it pays scant attention to the ways in which power dynamics affect local CA institutions. As illuminated in the literature review, many studies focus on macro-scale power that ultimately renders Palestinians relatively powerless in accessing and controlling their freshwater resources. These studies, which include Selby’s “domination dressed up as co-operation”, Zeitoun’s “hydrohegemony”, and Messerschmid’s “hydro-apartheid”, do indeed accurately represent the macro power structure that ultimately leaves Palestinians facing water scarcity. Some of the water studies summarized above take a multi-scalar approach, and thus cannot be classified as solely macro- or meso-scale studies⁸⁵. This is also the case with the micro-level studies, as most of these also take a multi-scalar approach.

2.1.6.3 Micro-Scale Water Governance

In contrast to the micro-scale studies summarized below, the exceptional governance (macro-scale) water literature largely does not allow local Palestinian water users to express these conditions for themselves—nor do they frame water conditions in a way that gives people agency. Palestinians are often positioned as those *done unto*, rather than actors with agency; this precludes the possibility of viewing Palestinians as agents who behave co-operatively to devise and maintain systems of local-level water management. Trottier et al. (2019) assert that the focus on macro-level water management—in which “Palestinians have been mostly portrayed as objects of Israeli action” (3)—precludes the exploration of Palestinians as “social and political actors”

⁸⁵ Throughout this thesis, these studies will also be referred to as macro-scale water studies. This is also the case for meso- and micro-scale studies.

(ibid). In recent years, there has been a notable increase in studies on micro-level water management in Palestine⁸⁶. This includes Trottier (1999, 2000, 2013; 2019a; 2019b), Trottier and Perrier (2017), De Donato (2018), Trottier et al. (2019), Perrier (2020b), Braverman (2020), and Trottier, et al. (2020)—as well as McKee (2019) and De Donato (2019a; 2019b), who address CA institutions tangentially. While this burgeoning body of literature provides invaluable insights into the intricacies of community-based water management, many of these studies do not employ a theoretical framework that specifically looks at CA vis-à-vis freshwater CPRs⁸⁷; none seem to have used either MI or CI as a framework for examining CA in Palestinian villages. They have, however, cumulatively expanded the breadth and depth of existing knowledge on how Palestinian communities navigate their water resources. These stand in contrast to the primarily macro-scale focus of previous water management studies summarized above, which focus on power structures and power asymmetries between the PA and Israel. These micro-scale water studies provide rich accounts of CA institutions, based on extensive fieldwork that includes ethnographic and participatory observation methods. While the majority of these studies do not include direct quotes from the research participants (including irrigators), these accounts nevertheless contribute to the oral history⁸⁸ on traditional forms of local water management, and as Trottier (2019a; see also Trottier, 1999; Trottier et al., 2019) asserts, should be explored further.

This literature describes the organically-established institutions that have existed throughout history as traditional forms of water management in Palestinian villages.

⁸⁶ Several of these studies were published subsequent to the fieldwork conducted for this thesis.

⁸⁷ Some, however, do refer to the literature on the commons, particularly Ostrom's work (see, e.g. Trottier 2019a, 2019b).

⁸⁸ Trottier et al. (2019) assert that "common property regime(s)...[are] described in written statutes" (7), but does not identify these.

Trottier and Perrier (2018) assert that “the overwhelming majority of remaining springs accessible to Palestinians in the West Bank have been used for many centuries, as in Battir” (298). Trottier (2019b) asserts that “Palestinian water has been managed locally, on a village-scale, for thousands of years” (2). Trottier et al. (2019) explain that “when spring water is directed to a field, it is usually managed by farmers according to a common property regime” (ibid: 700), whereas agricultural well water is “managed by a *shirket al bir*, literally a ‘well company’” (ibid)⁸⁹. Local spring water is managed through “farmer-run common property regimes” (Trottier & Perrier, 2018: 298), “according to customary rules” (Perrier, 2020b: 6; see also De Donato, 2018; 2019b). Perrier (2020b) asserts that these rules were not affected by the military orders imposed in 1967 (see Trottier, 2019b). Similarly, Braverman (2020) asserts that none of those who have ruled over the West Bank in contemporary history (Jordan, Israel, PA) “have typically interfered with the existing communal customs that pertain to the springs, as practiced by local Palestinian farmers” (528). It is important to note that while these customary rules may not have been affected, this does not mean that the CPRs and/or the respective CA institutions were not affected in other ways. There is still a lack of thorough documentation of the effects of (pre- and post-Oslo era) Israeli power on CA institutions.

One notable exception to this under-documentation is Braverman’s (2020) study on Israeli military occupation on West Bank springs. Part and parcel of this military occupation is the designation of “many of the springs...as nature reserves and national parks...in order protect them and their associated ecosystems” (528). However, this designation has detrimental impacts on CPR communities, as it has “often curtailed

⁸⁹ Trottier & Perrier (2018) state that these have been misclassified as community property regimes. Village C1 (the only well out of six CPRs) is, however, a registered co-operative, managed via a community property regime.

Palestinian access to these springs (Kerem Navot, 2015)” (ibid). Braverman (2020) highlights the ways in which “the spring’s power...as an anchoring device...enables the colonial takeover of physical territory” (529), particularly via “formal and informal, *spring-related dispossession mechanisms*” (ibid) conducted by Israeli settlers. In her study, Braverman highlights the illegality of settlers’ actions and the impunity they enjoy. She traces the process of dispossession and the transformation of springs into tourist sites for Israelis. Most notably, Braverman (2020) asserts that the “seizure [of springs]...(has) solidified the Jewish settlers’ control over space even beyond the sites’ physical boundaries, turning them into anchors for further territorial takeover” (546)—hence reinforcing Israeli control over land and water resources. Braverman also touches upon the phenomenon of Palestinian resistance to this dispossession, or “water grabbing”, which is also referred to as a “white intifada” (Levy, 2010 in Braverman, 2020: 545). While this is conducted via protests and legal appeals to Israeli courts, it is not a prevalent form of resistance.

While Braverman focuses on the impacts of Israel’s dispossession of Palestinian springs—as well as on the multi-dimensional meanings of the springs for Israelis and Palestinians—Trottier’s work focuses on the effects of PA, PWA, and donor policies⁹⁰ on locally-managed water sources. In contrast to this thesis’ focus on agricultural water, Trottier’s numerous studies cover domestic and agricultural water. In her policy report for the AFD, Trottier (2019a) identifies the implications of these projects, whereby

donors have systematically engaged with the Palestinian Water Authority to develop a *government* of water. They have failed to engage with the multiplicity of institutions, including the many commons, that presently carry out water *governance* in the Palestinian territories (10).

⁹⁰ Including CPR communities’ dispossession.

This is a particularly salient point, as it highlights the invisibility of local water actors and their complex, historically-situated CA institutions. This invisibility contributes to the under-examination within the literature of these important institutions. In response to their invisibility, this thesis is dedicated to understanding these institutions vis-à-vis powerful actors at all scales—macro (Israel), meso (PA), and external (donors). Notwithstanding the lack of academic exploration, governmental and external actors’ overlooking of local CA institutions can arguably be viewed as simultaneously beneficial and detrimental to the attendant CPR communities: they may benefit from maintaining the endogeneity—and thus the independence—of their institutions while also being deprived of possible sources of support. As is shown in this study’s findings, donor projects overlook the particularities of the irrigation systems and thus fail to enhance the CA institutions. This is also the case vis-à-vis co-management arrangements, which render less successful CA outcomes—as indicated by this study’s findings. In the final sum, maintaining the endogeneity of CA institutions renders more successful outcomes. While Trottier (2019a) does not frame this benefit in terms of successful CA, she nevertheless elucidates this benefit: CPR community

members are used to deliberate and compromise on the basis of commonly agreed principles. This allows the rules to be accepted and implemented. This contrasts with the manner the very same people may not abide by the rules parachuted upon them by the Palestinian Authority (11).

Trottier and Perrier (2018) also illuminate this phenomenon, whereby donors “do not take into account the forms of land tenure that interact with water tenure in peasant irrigation” (306). Trottier et al. (2019) study the multi-dimensional impacts of donor-funded water—and wastewater—projects on the “trajectories of water” (2), focusing on three realms of transformations these projects have led to. These transformations entail “actors [who]...may find themselves dispossessed from all or part of the water they used

to access” (ibid: 3)⁹¹. Figure 2.5 below depicts Trottier et al.’s (2019) illustration of a water utilization SES—specifically a trajectory of water flow that includes a cycle through common property resources. Trottier et al. (2019) illustrate a salient example of this cycle or trajectory, wherein a project designed to address leaks in a reticulation network “changes the spatial trajectory of water, because the flow of the leaked water to neighbouring agricultural wells is reduced. It also changes the institutional trajectory. The flow of water through a farmer-managed common property regime used for the well is reduced” (7), but remains in the cycle. In some cases, these transformations have resulted in the “wip(ing) out” (19) or the “demise” (ibid) of these common property regimes. While Trottier et al. (2019) cite other factors that have led to this significant reduction in CPR flows—including increased urbanization, the drilling of unlicensed (Palestinian) wells, and Israeli wells—they argue that the donor-funded water projects comprise a consequential factor. Among the other impacts they highlight is the reduction in subsistence agriculture and the concomitant rise in agri-business agriculture. While their study contributes valuable insights to the burgeoning literature on local water institutions, it deliberately excludes an analysis of Israeli *power*. The justification for this exclusion, while based on a valid argument—i.e. that the primarily macro-scale focus of the literature should not drown out “intra-Palestinian mechanisms” (3)—renders their analysis incomplete. Their analysis treats intra-Palestinian water interactions occurring in a vacuum—notwithstanding their acknowledgment of Israeli occupation⁹². The exclusion of an analysis of Israeli power also leads them to conclude that “the clustering

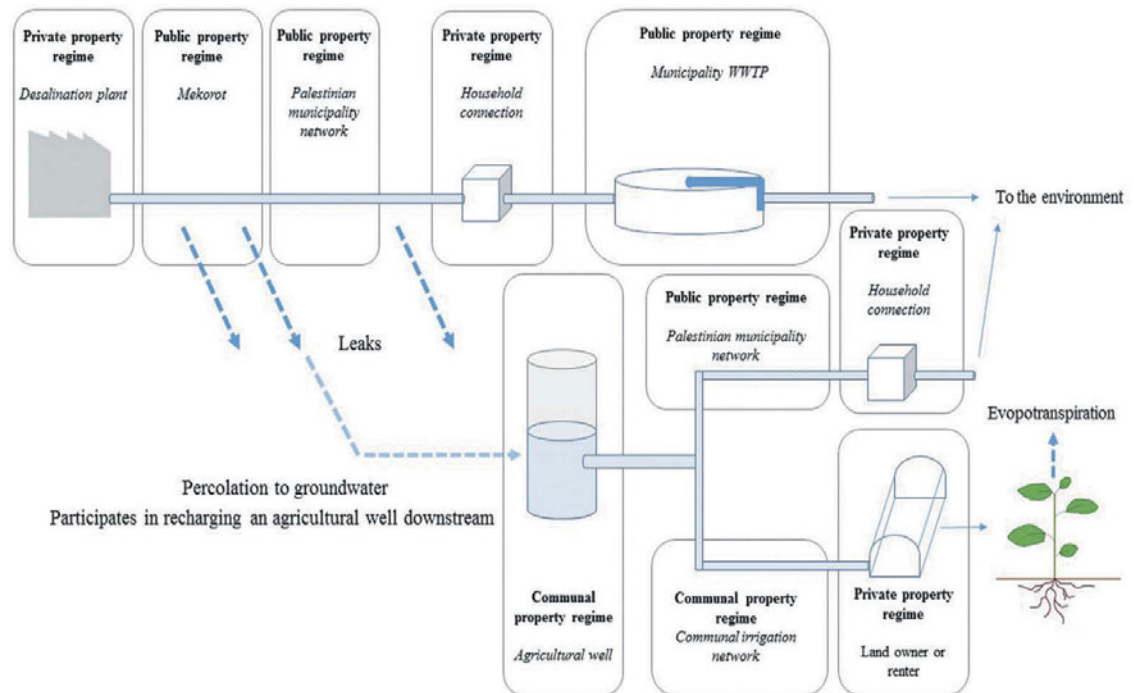
⁹¹ Water projects were historically implemented for political purposes: during the British Mandate over Palestine “water projects...had a central role in British strategies of domination” (De Donato, 2019b: 264).

⁹² The authors state that their “study in no way denies the fact that Israel still occupies and still abstracts water from wells in the West Bank. The article does not study such Israeli activity, which has been the focus of most articles on Palestinian water development” (Trottier, et al., 2019: 2-3).

of...[wastewater] projects close to B and A areas has left a large track of C area undeveloped, and open to the development of Israeli settler agriculture and development” (ibid: 23), although they do recognize that the distribution of these projects depends, among other factors, “on Israeli permits from the civil administration for area C” (ibid: 15). Thus, the lack of interrogation of Israeli colonial power renders their arguments devoid of an analysis of the limitations placed by Israel⁹³—and legitimated by the Oslo Accords—on all infrastructure in Area C towns/villages.

⁹³ See Trottier (1999): “on the Palestinian side, it is deemed unacceptable to attribute water problems to any other cause than the Israeli occupation and the theft of water by the Israelis. The identification of any other cause is immediately labeled as Palestinian anti-nationalism” (164). This thesis provides a critique of a lack of a thorough analysis of Israeli colonial power on purely analytical—rather than normative—terms. It is entirely based on critically reviewing literature that takes a multi-scalar approach but falls short of conducting a thorough analysis of power structures at the highest level.

Figure 2.5: Water utilization socio-ecological system



From Trottier, et al. (2019: 6).

As noted above, the overlooking of CA institutions in Palestine is not limited to the most powerful actors; rather, it extends into academic inquiry. Trottier (2019a) illuminates a trend in the political ecology literature on water, wherein these studies “(dismiss) the commons so prevalent in rural water management as a doomed, archaic form” (8). This insight is related to another important insight that Trottier has consistently emphasized in her micro-level studies on water management in Palestine: the overlooking of community-based management to the privileging of macro-level studies that primarily focus on Israeli control over the lion’s share of water resources (see Trottier 2019a⁹⁴; Trottier, et al. 2019).

⁹⁴ Trottier (2019a) illuminates the missed opportunity to gain valuable insights on the management of the commons through conducting fieldwork.

One of the earliest micro-scale studies on water management in Palestine is Trottier's 1999 book. This work covered community-based water management in several towns/villages, including Battir, which is covered in this thesis. Trottier (1999) states that Ostrom's findings that "working rules, which rarely match written laws" (22) can only be observed via the *activities* that reflect these rules. These findings "largely guided the fieldwork of this research, allowing us to measure and observe the gap between the draft Palestinian water law and the field reality" (ibid). Trottier's (1999) participatory observation and other qualitative methods paved the way for her and a few others to expand existing literature on micro-scale water management in Palestine. It is also one of the earliest studies to conduct a multi-scalar analysis of water management, and most saliently, to illuminate the tensions between water laws that affect this management. This multi-scalar approach, as is the case with her later studies, focuses on meso- and micro-scale water management; like her other studies, it covers agricultural *and* domestic water. Throughout her book, Trottier examines power dynamics at play within and between these two levels, which she terms local and national, as well as at the international level—which create a "constellation" of co-operation and competition. Her study sheds light on several local water institutions, illuminating the ways in which donors have contributed to the tensions between centrifugal and centripetal water policies: Trottier (1999) asserts that "donors have fuelled rather unwittingly both the centrifugal and centripetal dynamics" (163). This analysis differs from that provided by the occupation literature covered above which asserts that donor policies are designed to promote a neoliberal agenda⁹⁵. One policy focus in Trottier's (1999) study is on Palestinian state-building, a timely topic given the anticipation of the creation of a Palestinian state with a final status

⁹⁵ While donors have variegated approaches, the neoliberal agenda undermines collectivism.

agreement. This is apparent in her assertion that “the challenge of the PA consists today in achieving the disembedding of these local institutions, a preliminary step necessary to erect a modern state control of water” (134). She bases this upon her findings that the control of

irrigation water...is firm and respected in the West Bank, but the fact that the exercise of this control is fragmented among a multitude of local institutions that escape the PA makes any sectoral reallocation from irrigation to domestic use very difficult. These institutions have a distinctly pre-modern character (ibid).

Notwithstanding this positioning on the role of the PA, Trottier repeatedly uncovers the ways in which local actors are excluded from water governance planning and decision making—including by the PWA who conducted workshops to discuss water policies that did “not [include] village farmers and well owners” (164). This finding underscores the importance of studying local water institutions, as well as including local actors in policy making processes. Hence Trottier argues that any viable approach requires engaging all local actors:

entering a negotiation with every local Palestinian institution controlling water would be a slow and painful process. But, on the long-term, it would greatly strengthen the PWA as it would allow the development of state control over water, a control already granted to the PA by international treaties (164).

De Donato’s (2018) thesis—another study that contributes to the burgeoning micro-scale water literature—sheds light upon the “hybrid and ‘modern’ character of peasants’ communities and their water management systems” (6) in Wadi Fuqeen. While my study’s approach is similar to De Donato’s—insofar as it takes a multi-scalar approach that includes an analysis of Israeli power—it differs in notable ways, particularly vis-à-vis its environmental policy approach (vs. De Donato’s anthropological approach). While my study includes six CA institutions in six villages, De Donato’s work (2018, 2019a, 2019b) solely explores the village of Wadi Fuqeen. Thus, her conclusions are based

solely on one study location, which is nevertheless an Area C village; its geo-political location enables her to “address the local implications of the interventions of rural development agencies and actors in a context in which the PNA cannot exert its power” (6). Similar to Trottier’s work, De Donato (2018)’s piece looks at agricultural water *and* domestic water. She provides a multi-scalar analysis of water governance that interrogates Israeli power more critically than many of the other micro-scale studies. In particular, she illuminates the ways in which the PA’s power is hindered by Israeli power, while also interrogating the PA vis-à-vis their quest for centralizing water governance. De Donato (2018) highlights the competition for local water resources that leads to “the PNA de-legitimis(ing) the supposed ‘traditional’, decentralised patterns of resources management as backward and as a threat to national security (Brooks and Trottier 2010)” (5). Her multi-scalar analysis leads her to conclude that CA institutions face detrimental impacts from both Israel and the PA: this is carried out through Israel’s “reinvention of territory through the appropriation and centralisation of most water resources, through legal devices for systematic land expropriation and large-scale displacements” (376), as well as through the PA’s attempts to centralize and modernize the water system. De Donato’s work provides a particularly salient insight into the impacts on CPR communities, whereby

similarly to the British colonial period (Van Aken 2012), water modernisation projects are aimed at the detribalisation and atomisation of the local society, in order to detach individuals from loyalty patterns that differ from, and compete with, that to the nation-state. This objective is fostered by means of the de-socialisation and naturalisation of the essential economic and symbolic resource of domestic water, on which the local patterns of co-operation, solidarity and identification have always been grounded—such as the tribal groups, extended families, neighbourhoods and the whole community (379).

While this literature review does not claim to be exhaustive, it has critically summarized the literature on CA institutions vis-à-vis freshwater CPRs in Palestine.

While these micro studies have illuminated the negative impacts of meso-scale power, many of them have not thoroughly examined power structures at the macro level. Their critique of PA policies and donor funding—albeit generally accurate—largely overlooks that the impacts of donor policies are created by design, as shown by the occupation literature. Although they assert that these phenomena do not exist in a political vacuum—they nevertheless treat them as such. They recognize colonization but do not directly examine its macro-scalar dynamics. Micro-scale studies have therefore missed the opportunity to expand existing knowledge on how CPR communities are impacted by multi-scalar power structures—as well as how their CPRs and CA institutions have been impacted. In particular, these studies do not thoroughly discuss how macro-scale power created the conditions of severe constraint on Palestinian choice. This shortcoming is compounded by a portrayal of a trade-off between focusing on local water management and macro-scale power. This thesis demonstrates that it does not have to be a trade-off; a multi-scalar approach does not stop at a mere *recognition* of Israeli colonial power, but requires an interrogation of its structure and the particularities of its *impacts on CPR communities*. Understanding their CA institutions and broader SES conditions is incomplete without a critical interrogation of Israeli power.

2.1.7 Power

Power at the macro level is encapsulated by the concept of “exceptional governance”. It provides the structure within which all scales of power are subsumed, and within which CA institutions are embedded. It includes military, political, and legal structures (see Figure 2.3) that were created in 1967 with Israel’s military occupation of the West Bank—and reinforced into a politico-legal framework under Oslo II. This

politico-legal framework led to a new facet of power: meso-scale power. This manifested as the establishment of the PA as a national governmental body without sovereignty over borders, resources, air space, or even its own security—the latter of which precludes it as a sovereign nation-state in Weberian terms. Nevertheless, it was set up as an “outsourced” (Wildeman and Marshall, 2014) occupier, tasked with handling the Palestinian peoples’ civil affairs in the West Bank and Gaza Strip.

This government body has ministries and agencies that mimic those of a nation-state without the attendant sovereignty or political power to implement meaningful policies. Rather, they mainly rely on donor aid to uphold a façade of a structure of government that is ineffective and largely symbolic—thus providing the conditions whereby sufficient economic prosperity will lead to people accepting political settlement (Wildeman and Tartir, 2013). This meso-scale power encompasses the PWA as well as local government bodies (either village councils or municipalities for larger/more established towns). Embedded within these meso and macro power structures lies micro power. In this study, micro power encompasses power dynamics and relations within each respective CA institution for CPR management.

The CI literature provides a power model that is instructive insofar as it provides insights into (land and water) *resource distribution*, as well as how people as agents *adhere to rules* and/or *resist power*. These dimensions of power, as conceptualized by the CI literature, help to paint a picture of how research participants understand and experience the effects of power at all three scales. These understandings of power—as well as participants’ expressions of how they experience power—can also be viewed through the lens of the first two faces of three-dimensional power reviewed below: decision-making and agenda-setting power. While all of these are useful, none of them

capture what Lukes describes as the invisible workings of power that influence people on a cognitive level.

This study looks to Lukes' model of power as revised and developed in his second edition of *Power: A Radical View* (2005). Power, according to Lukes, has three "faces" or "dimensions": the first and second "faces" were theorized by Dahl (1957), and Bachrach and Baratz (1962), respectively, with Lukes adding a third dimension to this understanding. Dahl theorized that power entailed decision-making authority, or the authority to control the fate of others—what Lukes labels the first face of power. Bachrach and Baratz contend that this model of power is insufficient, thus adding another dimension: the power to determine what is *not* addressed, or "agenda-setting power"—what Lukes labels the second face of power. Agenda-setting entails controlling what gets put on the political agenda, as well as what is absent from it, or unaddressed grievances. Lukes contends that this model of power is also insufficient, as it does not account for grievances that cannot be observed. Hence, in his first edition of *Power: A Radical View* (PRV), Lukes (1974) frames decision-making power as its first dimension, agenda setting power as its second dimension, and contributes a third dimension of power, which entails the control of invisible grievances—or the denial of people's "real interests" that are invisible. Power, states Lukes (2005),

can be deployed to block or impair its subjects' capacity to reason well, not least by instilling and sustaining misleading or illusory ideas of what is 'natural' and what sort of life their distinctive 'nature' dictates, and, in general, by stunting or blunting their capacity for rational judgement (115).

Lukes' contribution to this model of power (i.e. the third dimension of power) reflects his repackaged version of what Marx calls "false consciousness"—albeit without the same economic materialist basis for his analysis. He conceptualizes the third dimension of power as "the capacity to secure compliance to domination through the

shaping of beliefs and desires, by imposing internal constraints under historically changing circumstances” (ibid: 143-4); it entails the insidious ways in which power shapes people’s beliefs, preferences, and desires without their fully conscious consent. In other words, people hold ideas and convictions that they believe to be individually and authentically their own, but which are, in reality, externally controlled and determined for them. The third dimension of power is at work when people are unaware of this cognitive control; “as a result of mystification, repression, or the sheer unavailability of alternative ideological frames, subordinates remain unaware of their true interests” (Tilly, 1999: 594). In developing this paradigm in the second edition of PRV, Lukes interrogates other scholars’ conceptions of power and their critiques of his model presented in the first edition of PRV—as well as to critiquing his own previous conception of power.

In operationalizing this phenomenon, several indicators can be identified to illuminate the workings of the third face of power. Some of these indicators capture a lack of awareness of meso and macro power, while others capture the ways in which power is seen as favorable. The former comprises participants *naturalizing or normalizing the effects of power*. This does not equate to what Mi’Ari (1999) first termed normalized relations or attitudes to normalized relations between Palestinians and Israelis. Rather, it captures what Lukes (2005) calls conditions that become “intelligible and tolerable, or less intolerable, or indeed desirable” (132) to those subjected to it. Demystifying the third face of power in qualitative data analysis also entails identifying the *power counterfactual*. Counterfactuals are conceptualized as “scenarios in which some factors are held constant and others changed” (ibid: 72)—for analytical purposes. The analysis of these counterfactuals are also instructive in understanding the workings of

power on people's beliefs and values. In fact, *the third face of power is instrumental in facilitating a synthesis of the three respective literature streams*: it is the common thread that runs through all three, and thus serves as an adhesive that bridges the three streams.

Lukes' elucidation of three-dimensional power relies on this concept of a counterfactual, or the outcome of a situation in which the opposite power dynamic exists. In other words, if power produces a specific outcome, then the power counterfactual would be the outcome in the *absence* of the effects of power. While this is a seemingly straightforward concept, Lukes (2005) asserts otherwise: "the difficulties, peculiar to the three-dimensional view of power, first, of justifying the relevant counterfactual, and second, of identifying the mechanism or process of an alleged exercise of power" (48). This does not however, preclude an empirical study of power to be conducted, for as Lukes instructs, "empirical support is not beyond our reach. It is not impossible to adduce evidence—which must, by nature of the case, be indirect—to support the claim that an apparent case of consensus is not genuine but imposed" (ibid: 49). In other words, it is possible to provide empirical evidence in support of the conclusion that those subjected to power would behave differently in the absence of said power. This possibility informs this research study's qualitative approach to examining the effects of multi-scalar power, as experienced by participants in six CPR communities.

Lukes provides a blueprint for identifying the mechanisms of power by mapping out and explaining the dimensions or "features" of the third dimension of power. This blueprint illuminates how identifying the mechanisms of power entails first identifying "inaction rather than (observable) action...; it may be unconscious...; [and] power may be exercised by collectivities, such as groups or institutions" (ibid: 52). One of the ways in which operationalization is potentially elusive is "where the interpretations of observer

and observed differ” (ibid: 52). While the “unconscious” feature of the third face of power is applicable to those wielding power and those subjected to it, this study focuses on the experiences and perceptions of the latter.

Table 2.4: Summary of conceptual definitions

Construct	Conceptualization
Exceptional Governance	<ul style="list-style-type: none"> • A mode of governance in which sovereignty is compromised, leading to conditions of political stress; • Encompasses aspects of Agamben’s state of exception; militarization of water; and terms of Oslo II that render militarized water governance permanent.
Collective Action	<ul style="list-style-type: none"> • When a group of individuals work together to achieve a common objective (Olson 1965); • CPRs under common property regimes, whereby a group of users collectively manage the resource; • A regulatory mechanism by which users set up rules to determine who has access to the resource, and what type of access—as well as who contributes to its maintenance, protection, and use.
Power	<ul style="list-style-type: none"> • CI: resource allocation; resistance; rule adherence (Hall et al., 2014); • Three dimensional: decision-making (Dahl, 1957); agenda setting (including non-decision making) (Bachrach & Baratz (1962); control of invisible grievances (cognition, judgment, interests) (Lukes 1974, 2005); • Third dimension of power: “the power to ‘prevent people, to whatever degree, from having grievances by shaping their perceptions, cognitions and preferences in such a way that they accept their role in the existing order of things’” (Lukes 1974 in 2005: 11); • Mechanism of third dimension: “...leading those subject to it to see their condition as ‘natural’ and even to value it and to fail to recognize the sources of their desires and beliefs...works against people’s interests by misleading them, thereby distorting their judgement” (Lukes 2005: 13).
Agency	<ul style="list-style-type: none"> • Agency as the exercise of interdependence (Adger, 2003); • When “actors...strategize, innovate and negotiate in their engagement with institutions and management of natural resources” (Cleaver and de Koning, 2015: 8); • Embedded in routinized practices: opportunities/constraints for innovation and adaptation; space to shape institutions and promote change (Hall, et al., 2014).

2.2 Gaps in the Literature

The above review of the literature illuminates how each of the three streams has shortcomings that render them insufficient for examining CA institutions in the exceptional governance context of the West Bank. In sum, MI has three shortcomings:

- (i) it treats structures as merely “settings”;
- (ii) it does not sufficiently account for power; and

- (iii) it does not account for CA institutions in atypical governance conditions, specifically exceptional governance conditions.

In response to these shortcomings, CI does account for structures, power, and to a certain extent (i.e. via a few empirical CI studies), atypical governance conditions. However, it also has three shortcomings:

- (i) it does not provide a strong framework for understanding power;
- (ii) its alternative to MI's situational variables does not sufficiently account for the mechanisms of creating and maintaining CA institutions; and
- (iii) notwithstanding the few empirical studies on atypical governance conditions, it does not explicitly cover governance conditions wherein sovereignty is compromised or absent.

The exceptional governance literature on Palestine accounts for power and sets the foundation for studying CA under EG conditions. However, it too, has shortcomings that render it insufficient to serve as the theoretical framework for studying CA in the West Bank. In particular, the macro-scale water literature:

- (i) focuses on power but insufficiently addresses micro-scale power;
- (ii) largely overlooks community-level resource governance institutions (i.e. CA institutions vis-à-vis CPRs); and thus
- (iii) does not sufficiently address how meso or macro power affects micro-level CA institutions.

In contrast, the micro-scale literature—which addresses meso-scale and external power—does not thoroughly account for macro-scale (Israeli) power⁹⁶. Thus, each literature stream has valuable insights, which I draw from to create a critical framework to examine CA institutions in freshwater management in West Bank villages. In other words, I synthesize elements of each literature stream to inform my theoretical approach; however, I transcend all three to provide an alternative critical framework.

⁹⁶ Notable exceptions include De Donato (2018) and Braverman (2020).

This study’s approach foregrounds the voices of CPR users. In line with Bonilla’s (2015) invocation to “not simply...incorporate native voices, but to engage seriously with native *arguments*” (xvi), this study provides an extensive ethnographic account that revolves around research participants’ descriptions, perceptions, and analyses. In short, this study attempts to contribute to the burgeoning micro-scale water literature, while foregrounding participants and providing a more thorough analysis of multi-scalar power structures. The critical framework developed in this study, which takes CI as its point of departure, enables me to critically interrogate Israeli power as well as PA power. Palestinian Authority (meso-scale) power is conceived of as relative control, rather than authority, which is exercised via neoliberal policies imposed upon them, as well as co-management arrangements it has enforced upon CPR communities.

Figure 2.6: Contributions and gaps of literature

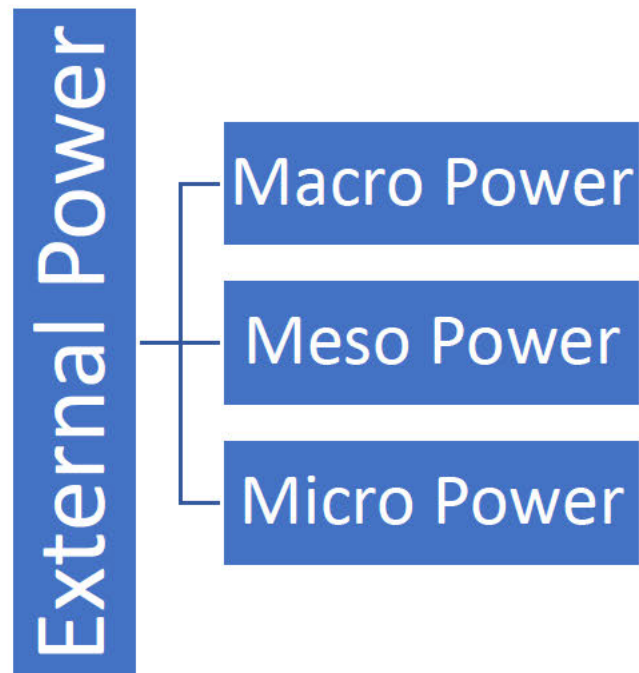
CA	CI	EG	MICRO
<ul style="list-style-type: none"> • Scale: micro, meso, macro • Scalar Focus: micro • Contribution(s): local co-operative resource institutions • Gap(s): structural power; thorough examination of historical/legal/political economy context 	<ul style="list-style-type: none"> • Scale: micro, macro • Scalar Focus: micro • Contribution(s): critical of: design principles, and lack of attention to structural power & agency • Gap(s): lacks alternative solid model; insufficient engagement with power & agency 	<ul style="list-style-type: none"> • Scale: meso, macro • Scalar Focus: macro • Contribution(s): provides historical/legal/political economy context; facilitates examination of structural power • Gap(s): insufficient examination of micro level dynamics—precludes focus on agency; greater emphasis on empirical than on empirical framings of power 	<ul style="list-style-type: none"> • Scale: micro, meso, external • Scalar Focus: micro • Contribution(s): provides historical/legal/political context of local water governance; facilitates examination of meso & external power • Gap(s): insufficient examination of macro power--insufficient analysis of impacts of Israeli colonization on CA institutions

2.3 Theoretical Framework

The above summary of some of the most salient studies within the three literature streams employed in this study reveals that each stream has shortcomings, or gaps. The choice of employing these literature streams revolves around each one's potential to fill in the respective gaps, which, in turn, provides the basis for my critical theoretical framework. As demonstrated in the literature review, exploring CA institutions in Palestine requires a multi-scalar approach. While some of the literature examines one or two water governance levels extensively, and briefly acknowledges the third, this thesis situates local water governance within a more comprehensive frame of structural power. This structure, as represented in Figure 2.7 below, is comprised of macro-scale power (embodied by Israeli settler colonial actors); meso-scale power (embodied by PA, PWA, and Palestinian municipality actors); and micro-scale power (embodied by CPR community members). All of these scales, and their respective actors, are impacted by an external source of power, which is embodied by international actors (e.g. IFIs, international development agencies, etc.). While this thesis does not thoroughly explore the impacts of external power, it does engage with it in three ways:

- (i) via the summary of micro-scale literature on the impacts of donor water projects on CA institutions (albeit not framed in these terms);
- (ii) via the ethnographic description of these projects and their implications—as told by the research participants themselves; and
- (iii) via the occupation literature's identification of anti-collectivism as the basis of neoliberalism, which, in turn, is used in this study to illuminate the politico-legal mechanisms through which this anti-collectivist framework directly undermines CA institutions—via Israeli power, Oslo, and PA policies (particularly the PWA 2018 Regulation).

Figure 2.7: Multi-level power structure



A brief examination of the concept of non-sovereignty in the literature review has demonstrated its aptness in classifying governance conditions in Palestine. This study does not elide this classification—in fact, we can readily locate Palestine on the spectrum of non-sovereignty in Figure 2.3 as a form of settler colonization. In other words, this study does not preclude the possibility of employing non-sovereignty as a framework for analyzing governance in Palestine. Nevertheless, this study proposes the use of a more general term—for analytical purposes. The reason behind employing exceptional governance—i.e. constrained sovereignty—rather than non-sovereignty, is two-fold: firstly, employing non-sovereignty would require an in-depth examination of Israeli settler colonization, settler colonies, and the ways in which the latter fit into Israeli power structures. This, in turn, would require an analytical starting point that precedes 1948, to the origins of Zionism. In contrast, this study is limited to a timeframe that begins with the establishment of the PA and the attendant geo-political zoning, which enables a

comparative methodological approach. In other words, the analytical parameters of this comparative approach require this starting point of Oslo, because it marks the temporal and politico-legal inceptions of the geo-political zoning that differentiated the politico-legal, economic, and agricultural conditions within the West Bank's cities/towns/villages. Thus, Palestine's non-sovereign status is only studied within the confines of a temporal—as well as spatial—cross-section, rather than in its historical entirety. The critical framework employed, which includes EG, lends itself to a broader exploration of non-sovereignty—specifically to CA in other non-sovereign situations. While this critical framework is more general than a settler colonial framework, it nevertheless facilitates a more specific exploration of the militarization of governance—and in turn, the militarization of water. Secondly, employing a settler colonial framework—as a form of non-sovereignty—does not lend itself as aptly to an analysis of the suspension of the law and the concomitant militarization of governance—particularly the militarization of water governance. The latter point should in no way be interpreted to mean that a settler colonial framework cannot be employed to analyze these phenomena—rather, that an EG framework captures the particularities of these more aptly. This more general conception of governance in Palestine—as elaborated below—is less specific than settler colonization, which in turn, facilitates a broader applicability to other contexts. These contexts are ones in which sovereignty is compromised, but do not necessarily entail settler colonization.

Using the term *compromised* sovereignty elicits Risse's (2015) conception of *constrained* sovereignty, and thus gives the impression that this is a benign governance situation, as is the case with sovereign states that have areas of limited statehood. However, this is not the case vis-à-vis this study's conceptualization of compromised

sovereignty—and thus should *not* be interpreted as such: it is not intended to dilute the gravity of Israeli control and the lack of Palestinian sovereignty. Rather, exceptional governance in the context of Palestine comprises acute governance conditions of settler colonization and military occupation, no parts of which are benign.

Accordingly, we can conceive of compromised sovereignty (i.e. exceptional governance) as a parallel—rather than an identical—concept to non-sovereignty, which can, in turn, be represented by a similar spectrum. This spectrum, as depicted in Figure 2.8 below, represents EG as a broad conceptual term that encompasses all the iterations of compromised sovereignty, ranging from a low to a high level. In this study, this spectrum encompasses all conceptions of compromised sovereignty that are applicable to the context of governance conditions in Palestine covered in the literature review: nested sovereignty, non-sovereignty, settler colonialism, and military occupation—in particular vis-à-vis water governance, which includes militarization, de-development, hydro-hegemony, and water apartheid. All of these conceptions can be framed as imbrications of EG conditions in Palestine.

Figure 2.8: Spectrum of compromised sovereignty



In situating this study within the reviewed literature, I use the term *exceptional governance* (EG) to encompass aspects of both Agamben’s state of exception theory, *as well as* the literature that problematizes water governance in Palestine. This latter body

of literature contextualizes institutions by providing a historical analysis of political and legal structures that substantially determine governance outcomes. Although this literature on water governance does not explicitly refer to the state of exception—nor even to EG—it illuminates aspects of economic (Roy, 1999), political (Lowi, 1993; Selby, 2003; Messerschmid, 2007; Zeitoun, 2008; Alatout, 2009; Gasteyer & Araj, 2009; Gasteyer, et al, 2012; Selby, 2013; Messerschmid, 2014) and legal (Elmusa, 1993; Daibes, 2003; Mason, 2011) structures that have shaped governance, and that align with aspects of Agamben’s state of exception. The exceptional governance literature also provides a political economy lens (Roy, 1995; Roy 1999; Roy 2014; Messerschmid, 2014; Turner & Shweiki, 2014), which illuminates how institutions work at a macro-level. This is particularly poignant in Roy’s (1995) theory of de-development, whereby unlike *underdevelopment*, the dominant Israeli economy and state policies preclude any possibility of genuine Palestinian economic development (Roy, 1999). While Roy’s work is specifically on Gaza, it can, and has been used as a conceptual framework to analyze all of Palestine⁹⁷ (see, e.g. Turner & Shweiki’s 2014 edited book). What is most salient in this theory is that the process of de-development unfolds as a result of a series of policies designed to preclude Palestinian development; of particular significance to this study vis-à-vis the policy of de-development is the confiscation of land and water resources (Roy, 2014).

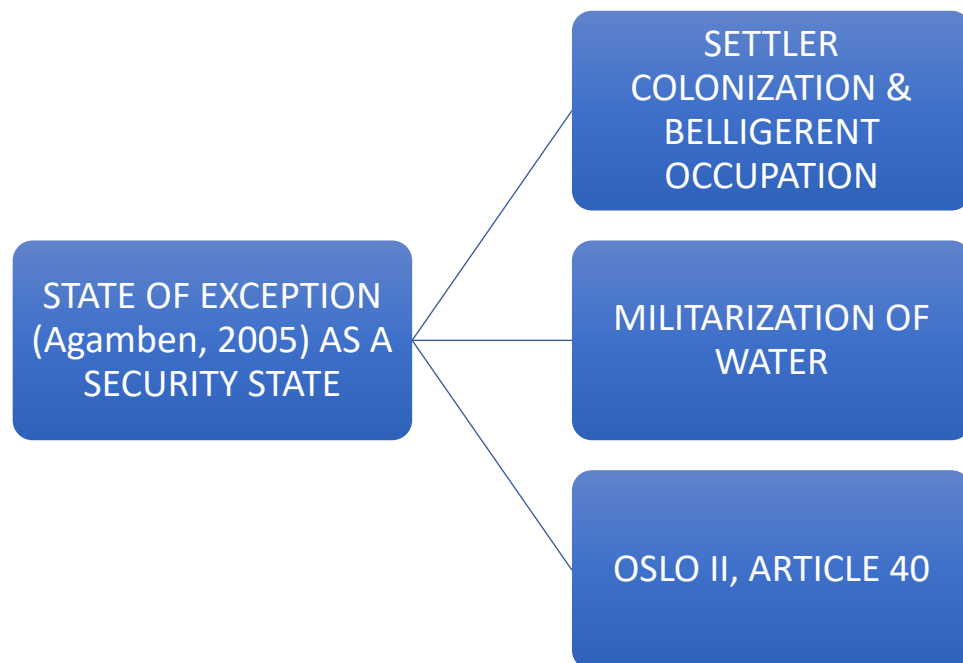
While Agamben’s theory is useful in understanding the Palestinian situation, it does not include military occupation as one form of the state of exception⁹⁸. Nevertheless, there are some aspects of the state of exception theory that are, in fact,

⁹⁷ Gaza is not part of this study, because of the impossibility of access for fieldwork—as Gaza has been under the duress of nearly impermeable (land, sea, and air) borders.

⁹⁸ Similarly, Mason (2011) argues that the field of warfare ecology overlooks this state of governance.

applicable to the Palestinian case. These aspects can be viewed as what Agamben classifies as *features* of the state of exception. These features include: (i) belligerent occupation (Mason, 2011; Al-Haq, 2013); (ii) militarization of water (Zeitoun, 2008; COEHRE, 2008); (iii) establishment of a security state (Agamben, 2005); and (iv) the suspension of some laws that solely applies to Palestinians. Figure 2.9 provides a graphical representation of how I draw insights from the above-reviewed literatures to create an exceptional governance framework:

Figure 2.9: Structure of exceptional governance



As discussed above, many of the exceptional governance studies on water in the context of Israeli colonization focus on the macro scale of the power structure that ultimately renders Palestinians relatively powerless in accessing and controlling their freshwater resources. However, they do not sufficiently examine the implications of colonial militarization of water on a micro-level, where communities across the West

Bank collectively manage their freshwater resources. The studies that do address the micro-level dynamics do not sufficiently account for Israeli power. In examining micro-level dynamics of co-operative water management in the West Bank, my study frames militarized water conditions as EG. Specifically, I seek to interrogate local dynamics (including power and agency) within water-dependent communities in Palestine—while approaching co-operation as a process embedded in historical, political, socio-economic, and cultural institutions and *structures*. This will enable me to explore what accounts for co-operation in exceptional governance situations. Water users are affected variously depending on spatial, institutional, and local governance conditions; thus, exploring their unique experiences with CA institution-building warrants academic inquiry as it will enhance our understanding of co-operation under political strife—specifically compromised sovereignty. In addition to this theoretical contribution, this study seeks to provide a platform for water-dependent communities to express their conditions in their own words. My ultimate academic goal is to create a framework that can be used to analyze community resource management in other contexts of political stress, including compromised political sovereignty.

2.4 Research Questions

In order to explore the main research question—i.e. to understand the effects of exceptional governance conditions on CA institutions in water management in West Bank villages —this research asks four sub-questions:

- 1) What are the conditions that shape the context within which CA institutions exist?
- 2) What are the institutional arrangements within each CA institution?

- 3) What are the power dynamics within, and surrounding, these CA institutions?
- 4) How do actors demonstrate agency given the multi-scaled power structure?

In order to examine the effects of EG on CA, this study employs a comparative analysis approach between Area C and Area A villages—whereby the former is classified as amounting to minimal EG conditions for the purpose of comparison. Accordingly, the main aims are to discover whether—and if so, how—CA outcomes differ between Area C and Area A villages. As outlined in the methodology section, the hypotheses were drawn up deductively and inductively: they were first created deductively based on the mainstream CPR literature, and then developed inductively after conducting the scoping research. The result of this process are the following hypotheses:

- 1) Exceptional governance (macro-scale power) conditions foster CA.
- 2) Asymmetrical power relations within the community (micro-scale) are embedded within village institutions—and reinforced by these power structures (particularly meso-scale).

Chapter 3 Background and Setting

3.1 Groundwater Resources in the West Bank

Palestinians' lack of sovereignty over surface and underground water has been well documented⁹⁹ and studied; nevertheless, Palestinians do have *some* degree of control—albeit quite limited—over their local resources, namely springs and shallow (<150m) wells. It is imperative to emphasize that this is *relative* control that is contingent upon political conditions, which vary spatially and temporally. As discussed, Article 40 of Appendix III of the September 1995 Israeli-Palestinian Interim Agreement (also known as Oslo II), addresses water, but leaves its resolution to be dealt with as a final status issue.

During my fieldwork, I sought to understand the ways in which spring water is affected. Based on numerous policy reports conducted by local and international organizations, I began my field research by inquiring about the diversion and contamination of spring water. While these reports (e.g. Amnesty International, 2009; Al-Haq, 2013; FOE International, 2014) address the contamination and diversion of spring water—resulting from Israeli settlers pumping directly from the source of the spring, and the Israeli state digging increasingly deep wells to extract aquifer water that Palestinians are legally (via Oslo II) barred from accessing—my field research¹⁰⁰ only revealed evidence of the latter. As the PWA illustrates, a “decline in groundwater levels...occurred...as a result of...drought and intensive pumping from the nearby Israeli

⁹⁹ See Al-Haq (2013); Amnesty International (2009); CESR and PHG (2003); COHRE (2008); EWASH (2010); World Bank (2009).

¹⁰⁰ It is important to note that this fieldwork was limited to six locations—and is not representative of all freshwater springs in the West Bank.

wells” (PWA, 2013: 12)¹⁰¹. Braverman (2020) points out that groundwater has become increasingly available for Israeli settlers, while concurrently becoming increasingly scarce for Palestinians. This is achieved through a discriminatory permit system whereby “Israeli authorities have allowed Jewish settlers [to drill wells]...and have even granted permission to situate them in proximity to existing Palestinian wells, a practice that has resulted in a decrease in water flow and an increase in its salinity (Dillman, 1989: 56)” (Braverman, 2020: 532). The PWA presents these spring flow fluctuations over a six-year period¹⁰², in terms of annual average discharge of “36 main springs in the North-eastern Basin” (PWA, 2013: 12), indicating an overall decline from 55.63 MCM in 2006 to 39.2 MCM in 2012. This renders the water table lower, and thus the flow of spring water weaker. However, this is only a sample of West Bank springs over a very limited time-series; more extensive data is required to assess the impacts of Israeli groundwater pumping on the specific springs that are included in this study—particularly data that reflects pre-Oslo figures in comparison to present figures. This data would have enabled me to assess the effects of Israel’s groundwater pumping on the specific water sources, and in turn, to triangulate the data provided by study participants.

The water literature summarized above has revealed that relative control means that in certain areas Palestinians can determine how they use the groundwater that is allocated to them under Oslo II. The West Bank contains three major aquifers, the Northern Aquifer, the Eastern Aquifer, and the Western Aquifer (see Figure 3.1). These provide all of the West Bank’s freshwater through springs, Artesian wells, and artificial

¹⁰¹ While “the decline in water levels varies from well to well depending on well location, hydrogeological properties and pumping regimes” (PWA, 2013: 12), the PWA has not published data on this variation. Moreover, there is no published PWA record on how *individual* wells and springs—in particular the six CPRs covered in this study—have been affected by Israeli groundwater pumping. This was confirmed through multiple attempts to uncover this data through personal correspondence with PWA officials, as well as other experts.

¹⁰² The PWA does not have published data of spring flow over a longer period of time—including more recent data.

boreholes. As aforementioned, there is a discrepancy between de jure water allocation provided to the PA by the terms of Article 40 of Oslo II (see below), and de facto utilization (see Table 3.1).

Table 3.1: Oslo II water allocation vs utilization

Use	Oslo II Allocations (MCM)				Utilization in 2012 (MCM)			
	WAB	NEAB	EAB	Total	WAB	NEAB	EAB	Total
Israel	340	103	40	483	≈411**	≈103**	150*	664
Palestine	22	42	54	118	28	23	53	104
Additional Quantity for Palestinian Development	--	--	78	78	--	--	0	0
Basin Total	362	145	172		439	126	203	

Adapted from PWA, 2013: 9.

* “This includes 100MCM from Dead Sea springs, which Israel prevents Palestinians from developing”

** “Since there are no updated figures from [the] Israeli side, the figures of 2011 are used here”

KEY: WAB: Western Aquifer Basin; NEAB: North(-eastern) Aquifer Basin; EAB: Eastern Aquifer Basin

Figure 3.1: Map of aquifers



Adapted from: 'Water and War in the Middle East' Info Paper no.5 , July 1996, Centre for Policy Analysis on Palestine/ The Jerusalem Fund, Washington D.C.

Palestinian Academic Society for the Study of International Affairs (PASSIA)

Courtesy of PASSIA: http://www.passia.org/palestine_facts/MAPS/WaterSources.html

Schedule 10 of Article 40 outlines the allocation of well and spring water for Palestinians' use; it also allocates groundwater to Israeli settlers in the West Bank:

Eastern Aquifer:

- In the Jordan Valley, *40 mcm to Israeli users*, from wells;
- *24 mcm to Palestinians, from wells*;
- *30 mcm to Palestinians, from springs*;
- 78 mcm remaining quantities to be developed from the Eastern Aquifer;
- Total = 172 mcm.

North-Eastern Aquifer:

- *103 mcm to Israeli users*, from the Gilboa and Beisan springs, including from wells; - *25 mcm to Palestinian users* around Jenin; - *17 mcm to Palestinian users* from East Nablus springs;
- Total = 145 mcm.

Western Aquifer:

- *340 mcm used within Israel*;
- *20 mcm to Palestinians*;
- *2 mcm to Palestinians*, from springs near Nablus,
- Total= 362 mcm.

All figures are average annual estimates.

The total annual recharge is 679 mcm (MFA website¹⁰³; emphases added).

It is important to view relative control over water within the context of the constraints placed on Palestinians by this significantly limited allocation. The following section provides brief profiles of the six villages in which this study's CPRs are located. The institutional arrangements of each CPR are described in detail in Chapter 5.

¹⁰³ Available at: <https://mfa.gov.il/mfa/foreignpolicy/peace/guide/pages/the%20israeli-palestinian%20interim%20agreement%20-%20annex%20iii.aspx>

3.2 Village Profiles

Apart from the CPR in Village C1, all CPRs in this study are freshwater springs. Figure 3.2 below maps the locations of 178 out of approximately 300 major springs in the West Bank. This map is from the PWA's first—and only—published hydrological survey of the water resources in the West Bank. While this survey also provides maps of wells in each West Bank governorate, it does not provide maps of springs in each governorate. Accordingly, the village profiles below contain maps of wells in the governorates within which the six CPRs are located. While this is not ideal, the anonymity of CPRs and villages (except for Battir) renders these maps suitable for the purposes of providing a general idea of the location of this study's CPRs.

Figure 3.2: Map of West Bank Springs*



Courtesy of PWA, 2000: 217.

*Note that this map contains 178 out of approximately 300 major springs in the West Bank.

3.2.1 Village Profiles: Area C Villages

The micro-scale water literature summarized above includes detailed descriptions of CA institutions vis-à-vis water management in Area C villages. Trottier (1999) describes the Al-Balad Spring in Battir, and the traditional institutional arrangements through which it is managed. De Donato (2018; 2019a; 2019b) also covers the institutional arrangements of Wadi Fuqeen, a village in Area C that is located near Battir. As discussed above, Area C villages are classified as having more acute EG conditions, whereby Israeli power is pervasive and conspicuous. Trottier (2019a) describes the direct effects of Israeli activity on Wadi Fuqeen:

the village of Wadi Fukin¹⁰⁴ has seen the flow of its springs decrease dramatically because of the construction of the settlement of Betar Illit and of the Israeli town of Tzur Hadassah. The entire recharge area of these springs lies within this narrow valley of 6km². (Haviv & Asaf 2005) The impermeable land cover created by the constructions above the village interfere with the recharge of the springs...as Wadi Fukin is an agricultural village relying on irrigation, the impact is severe (6-7).

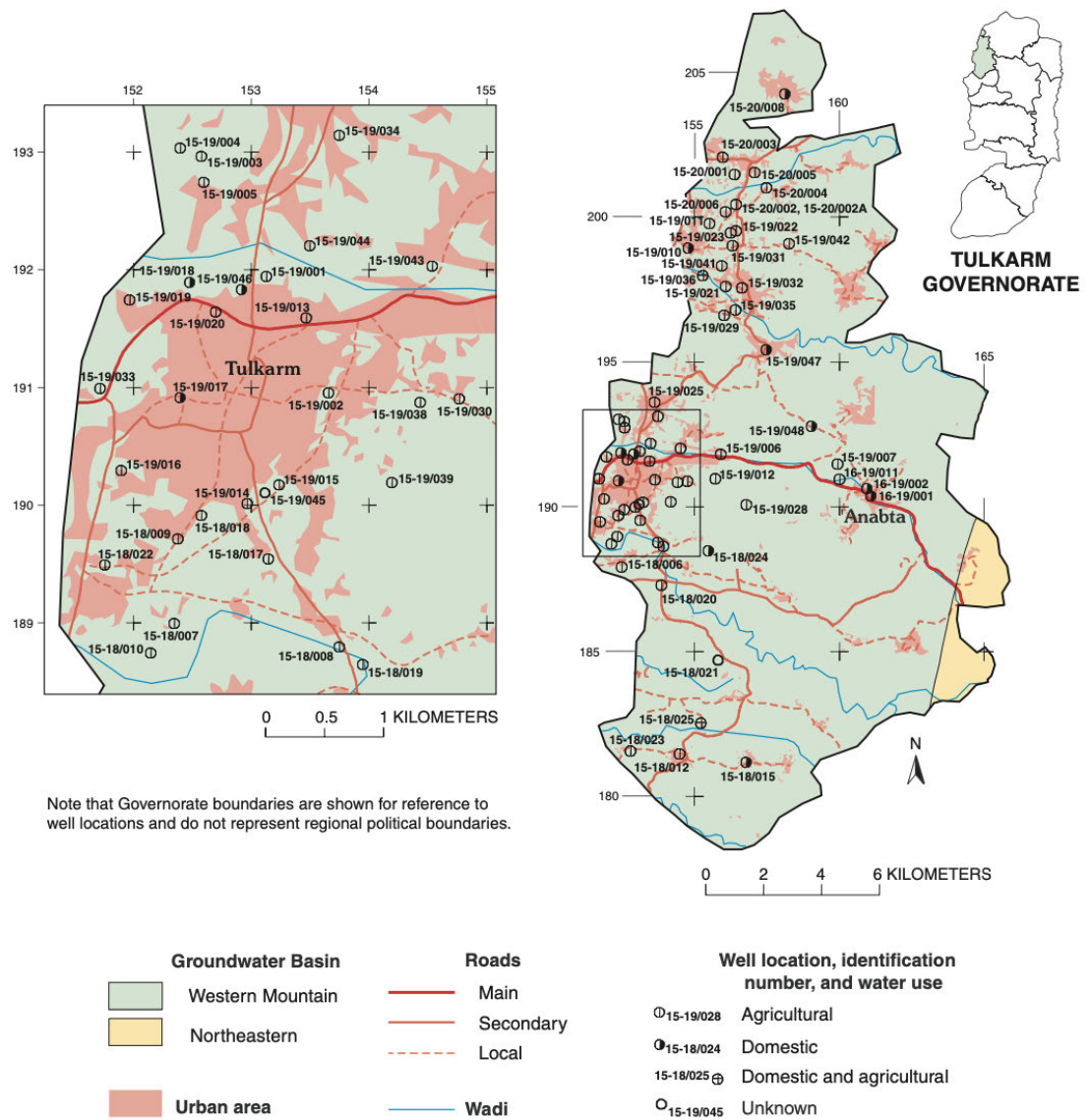
Braverman (2020) elucidates that “in Area C, where most of the West Bank springs are situated, such local practices have determined how the water that was allocated to them by the Israeli-imposed quota would be used (Trottier, 2007: 117)” (528). While the CA institutions in each village vary, the literature shows that institutional arrangements are based on traditional systems that require trust amongst CPR community members. These traditional systems include the reliance upon pools, water reservoirs, and cisterns, which are often perched upon a hill, and thus rely upon gravitational flow for irrigation: “a series of pools was built around the springs, and from these pools, systems of cisterns watered the land using gravity from the high point downhill to the terraces” (ibid: 533).

¹⁰⁴ Also transliterated as Wadi Fuqeen.

Village C1

As noted above, Village C1—located in the Tulkarem Governorate—contains the only CPR in this study that is a well or borehole, rather than a freshwater spring. The institutional arrangements are described in detail in Chapter 5.

Figure 3.3: Map of Wells in Tulkarem Governorate



Courtesy of PWA, 2000: 29.

Village C2 (Battir)

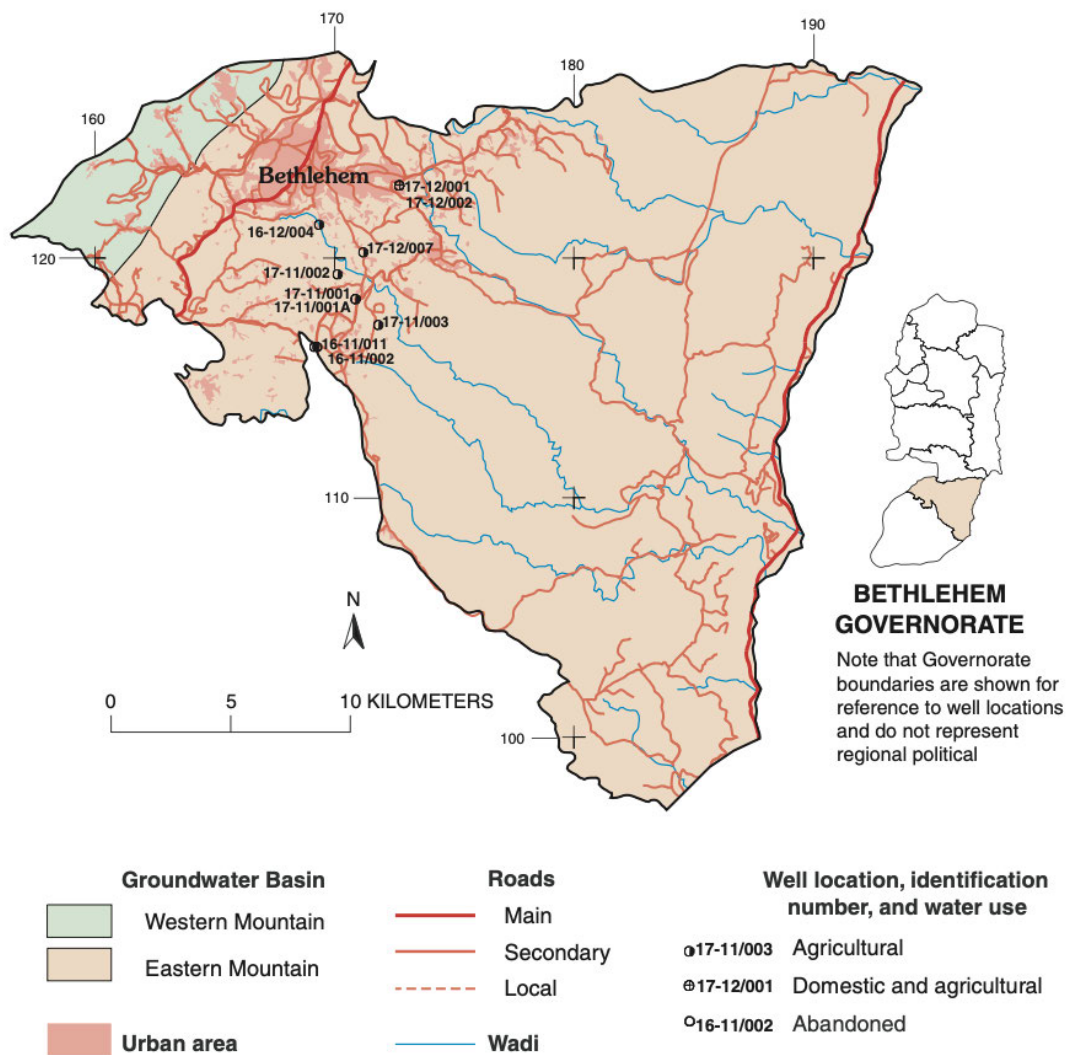
Battir, which is labeled as Village C2 in this study, is located in the Bethlehem Governorate. The institutional arrangements of the CA institution studied, as well as its designation as an UNESCO World Heritage Site are described in detail in Chapter 5.

Braverman (2020) illuminates how

UNESCO's celebration of local agriculture by declaring the terraces of the Palestinian village of Battir as a World Heritage Site (UNESCO, n.d.) was similarly appropriated by Israel's Nature and Parks Authority, which has been using this designation to undermine and even erase Palestinian indigeneity by replacing it with the proposedly older, and even more authentic, Jewish nativity (533).

This designation has also contributed to a burgeoning eco-tourism industry in Battir, which I explored extensively during my field visits.

Figure 3.4: Map of Wells in Bethlehem Governorate



Courtesy of PWA, 2000: 32.

Village C3

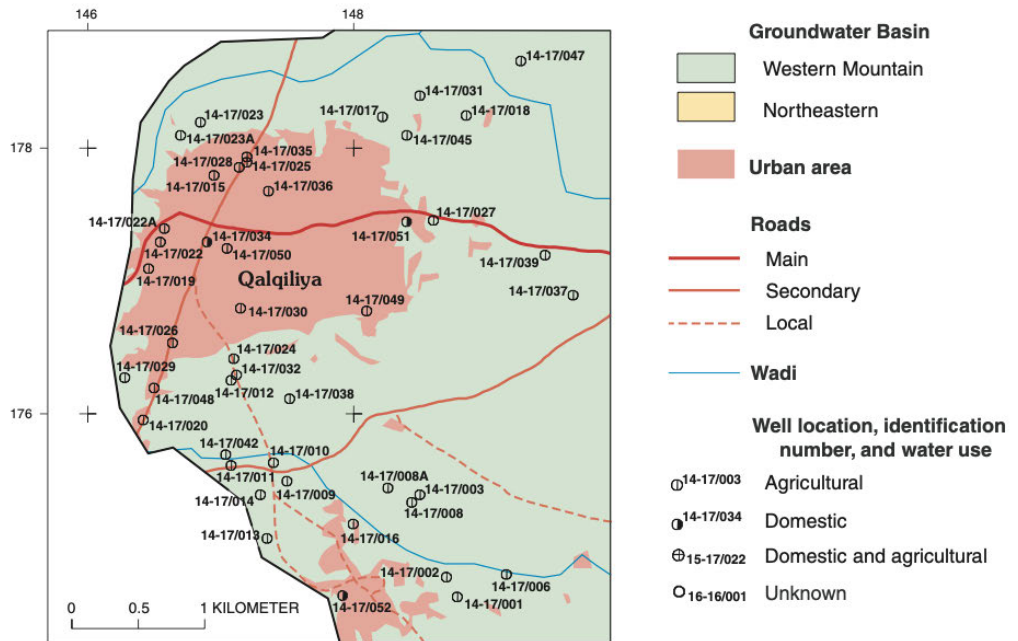
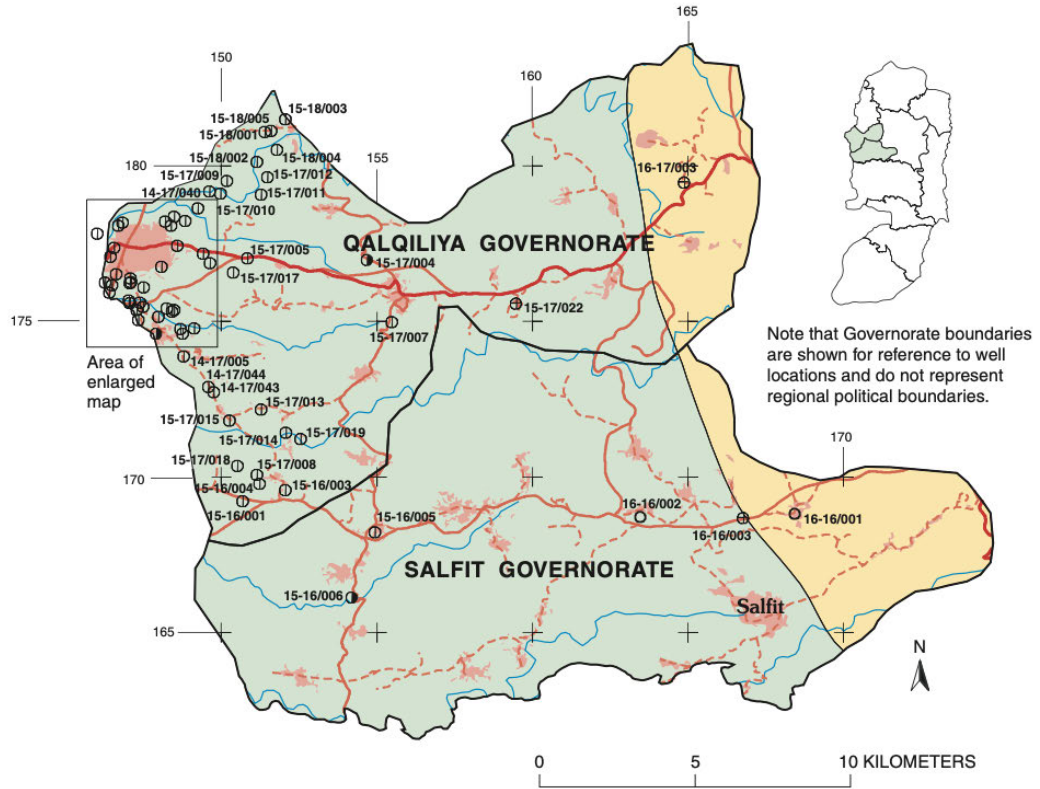
The CPR in Village C3—located in the Salfit Governorate—is impacted by the most acute EG conditions, due to its designation as a protected nature reserve. Braverman (2020) illuminates the implications of this designation by the IPNA, which, as discussed

in Chapter 2, has the effect of dispossessing Palestinian irrigators of their freshwater resources:

shortly after Israel occupied the West Bank in 1967, it began to designate areas as nature reserves and national parks. By 2011, Israel declared 20% of Area C in the occupied territories as nature reserves. Some two-thirds of the reserves were simultaneously designated as military firing zones, and only a small portion has been developed and made suitable for visitors. Palestinians who privately own lands situated in the reserves are usually not allowed to cultivate them and, in some instances, they are also not permitted access to their land (Kerem Navot, 2015). As Birzeit University scholar Penny Johnson (2019) notes: ‘The difference between a closed military area and an Israeli nature reserve seems to me [sic] that reserves are often declared near sources of water’ (74) (Braverman, 2020: 534).

The institutional arrangements of Village C3 are described in detail in Chapter 5.

Figure 3.5: Map of Wells in Salfit Governorate

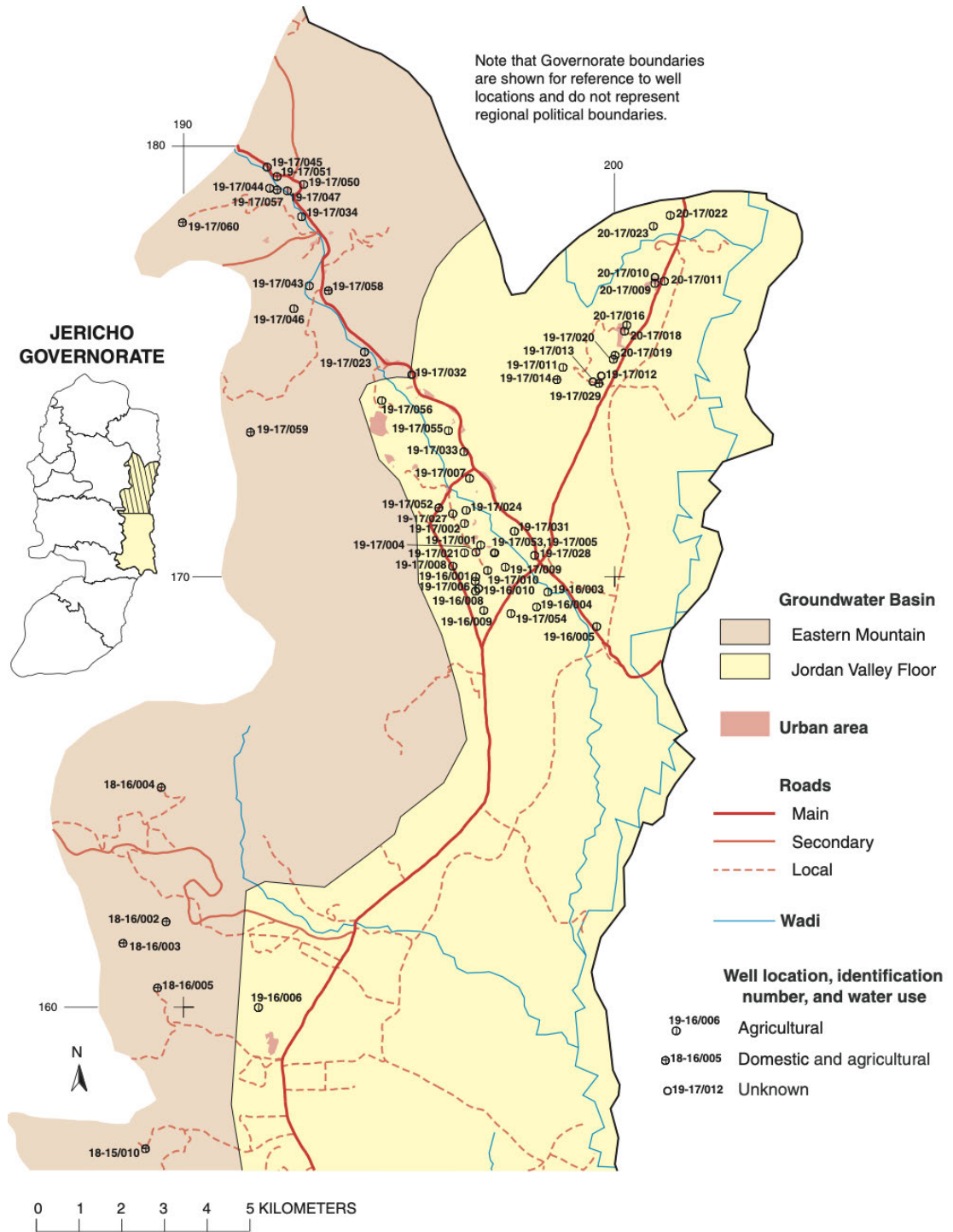


Courtesy of PWA, 2000: 30.

3.2.2 Village Profiles: Area A Villages

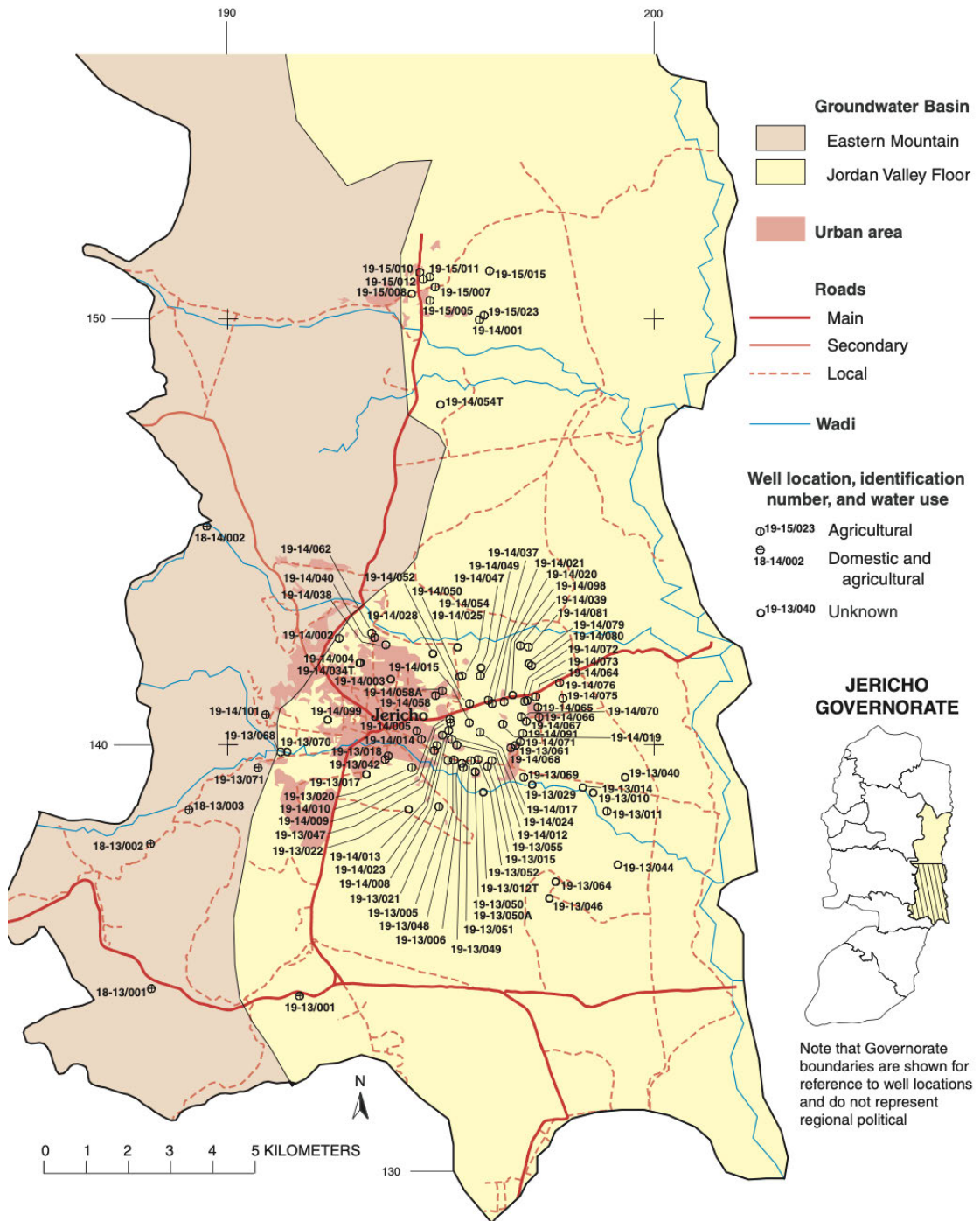
Since the three Area A villages are clustered in the Jericho Governorate, there is only one map depicting all of them. This map is divided into two parts, the northern part (Figure 3.6), and the southern part (Figure 3.7) for logistical purposes. The institutional arrangements of all Area A CPRs are described in detail in Chapter 5. The CPRs in villages A2 and A3 share co-management arrangements; nevertheless, they have variegated CPR communities, and thus variegated CA outcomes.

Figure 3.6: Map of Wells in Jericho Governorate (Northern)



Courtesy of PWA, 2000: 36.

Figure 3.7: Map of Wells in Jericho Governorate (Southern)



Courtesy of PWA, 2000: 37.

Chapter 4 Methodology

4.1 Methods

This chapter outlines the research strategy I have adopted throughout my research. The chapter will begin with a brief discussion of the “interpretive framework” (Denzin and Lincoln, 2008: 31) that informs my research, including the possibility of locating the critical potentiality within the liberal theories I utilize—particularly via a critical framework that takes CI as its point of departure. It then goes on to discuss my positionality as a researcher, followed by the study’s sample selection and research design. This is followed by an overview of the iterative methodological approach employed, and then a detailed account of the scoping research. This leads into my proposed hypotheses; briefly outlines the data collection methods I used; and then maps the analysis of this study’s findings—including qualitative coding and a discussion of process tracing to outline the basis of the causal chain mechanisms developed to draw research conclusions. Finally, this chapter outlines future research, research challenges, and provides some post-fieldwork reflections.

In approaching this research, I attempted to overcome the ideological limitations typically associated with the theories that frame my research. In particular, the interpretive framework I adopted throughout my research is a critical one. I apply this critical lens to both the CA literature and the EG literature, namely CI. As discussed above, the MI approach to CA is rooted in a liberal perspective. While Ostrom does challenge the traditional framings of people’s capacity to co-operate, she nevertheless adopts a liberal rational actor approach to understanding CA. Ostrom refers to political, economic, and social “settings” that set the backdrop to institutions. In contrast, and in

line with a more critical approach informed by—yet extending beyond—CI, I propose to frame these “settings” as “context”, which I reformulate specifically as *structures*. The research method I adopt is a qualitative one. It entails a combination of text analysis; quasi-ethnographic field observations; and semi-structured interviews conducted over phases, including several follow-up conversations with study participants. The concepts that inform this research are operationalized in Table 4.1 below.

Table 4.1: Operationalization of concepts

Concept	Operationalization
Exceptional Governance	<ul style="list-style-type: none"> • De-development policies of water & land confiscation; • Laws that militarize water; • Bans on installing or improving existing irrigation infrastructure—including bans on pumps, piped networks, reservoirs/pools, rainwater cisterns; • Infrastructure that limits or obstructs access to water, land, & markets—including Israeli settlements, wall, fencing, closed military zones, seam zones, checkpoints; • Interface points between Israeli settlers/soldiers & CPR communities.
Collective Action	<ul style="list-style-type: none"> • Formal & informal community-based water governance institutions—including form and structure of institutions, meetings, rules, monitoring, maintenance, co-management arrangements; • Cultural norms, traditions, & community relations that characterize trust & reciprocity amongst CPR users.
Power	<ul style="list-style-type: none"> • CI model: land & water <i>ownership</i>; <i>resistance</i> to the status quo—particularly apropos irrigation & cultivation conditions; <i>adherence</i> to CA institutional rules; • Lukes: understandings of power dynamics—including who makes decisions that affect CA institutions; how agendas are set, & by whom; an awareness of the constellations of power, as well as demonstrations of a lack of awareness of the effects of power
Agency	<ul style="list-style-type: none"> • CPR users being proactive within their CA institutions—including having long-term strategies, proposing & implementing new projects, and negotiating their interests within wider power contexts; • Adaption to EG conditions & changing irrigation/cultivation conditions (including climate conditions); • An acknowledgement of—and action based on—intra-community interdependence.

4.2 Positionality and Possible Bias

In approaching this field research, I was acutely aware of my positionality as simultaneously an outsider and an insider. This precarious position of being both from within and without the communities whose members and institutions I sought to understand is a relatively unusual one—although not unique. As discussed by Naryan (1993), who draws on other anthropologists’ experiences—of particular salience, Lila Abu-Lughod’s reflections on her positionality—some researchers “diverge [from such categories] as ‘native,’ ‘indigenous,’ or ‘insider’” (671), even while partially embodying these. While my position as both posed several challenges vis-à-vis establishing rapport with the participants, it also allowed me to take a more critical perspective than being an insider would have. My position as a non-farmer, non-male, non-native Arabic speaker, and non-hijabi¹⁰⁵ rendered me predominantly an outsider. Instead, I am a Palestinian-American researcher from a foreign (i.e. UK) university, female, and speak/understand Arabic at a professional level of proficiency. At the time of fieldwork, I was also considerably younger than most of the participants I interviewed—and clearly a native English speaker who sometimes required translation and/or clarifications. Sometimes this was due to my lack of language proficiency, while other times it was due to my ignorance of technical terms, as well as of different dialects. It is also worth noting that my city dialect further alienated me from the study participants, the majority of whom were farmers who spoke various village dialects. The city/village dialect tension dates back many generations, and unfortunately has been framed in terms of having, or lacking,

¹⁰⁵ Because I do not wear a headscarf, or *hijab*, which the majority of women in villages wear, it often led to the assumption that I am not Muslim (the majority religion in Palestine). Sometimes this assumption was explicitly confessed to me throughout my interactions with study participants. On a few occasions, I was explicitly asked about my religion.

class and/or sophistication; it is also associated with perceptions of vanity. These are very derogatory stereotypes that are perpetuated throughout society (including in formal educational institutions). Irrespective of my rejection of these stereotypes, I am nevertheless aware of the ways in which I was likely perceived by participants (see Mullings, 1999).

On another level, I am not the typical “outsider” farmers and irrigators are accustomed to encountering. I am not a development or NGO worker, journalist, or governmental agency employee. Thus, it was clear from the outset that they had little-to-nothing to gain from speaking to me—let alone welcoming me into their homes and farms. My age also seemed to be a possible obstacle; one incident stood out to me in terms of how difficult it was to question or challenge what I had heard. It was at times difficult to question the elder participants’ responses or challenge contradictory accounts from other participants, as I was acutely aware of norms vis-à-vis respect for elders. In addressing these positionality challenges, Naryan (1993) argues for a hybrid understanding of researchers who do not neatly fit into either category of insider or outsider. These “multiplex identities” (Naryan, 1993) require us “to behave with appropriate decorum and deference (cf. Abu-Lughod 1988)” (674) that outsiders may not be aware of—let alone feel compelled to observe. This requirement stems from a combination of self-imposed behavioral restrictions that I am acutely aware of in the field, as well as from the *implicit* expectations projected upon me by research participants, who inquire about my heritage (including my family and my clan)—which in turn, enables them to place me within their knowledge of Palestinian society. As illuminated by Mullings (1999), “not only were some of my personal attributes notably

gender and race¹⁰⁶, beyond my ability to direct, but also, the meanings that that these attributes conveyed changed with each person that I interviewed” (348). Audra Simpson (2014) also discusses this experience, whereby in the context of ethnographic work with Indigenous communities in Canada and the US, placing the researcher vis-à-vis their heritage precedes any formal data collection.

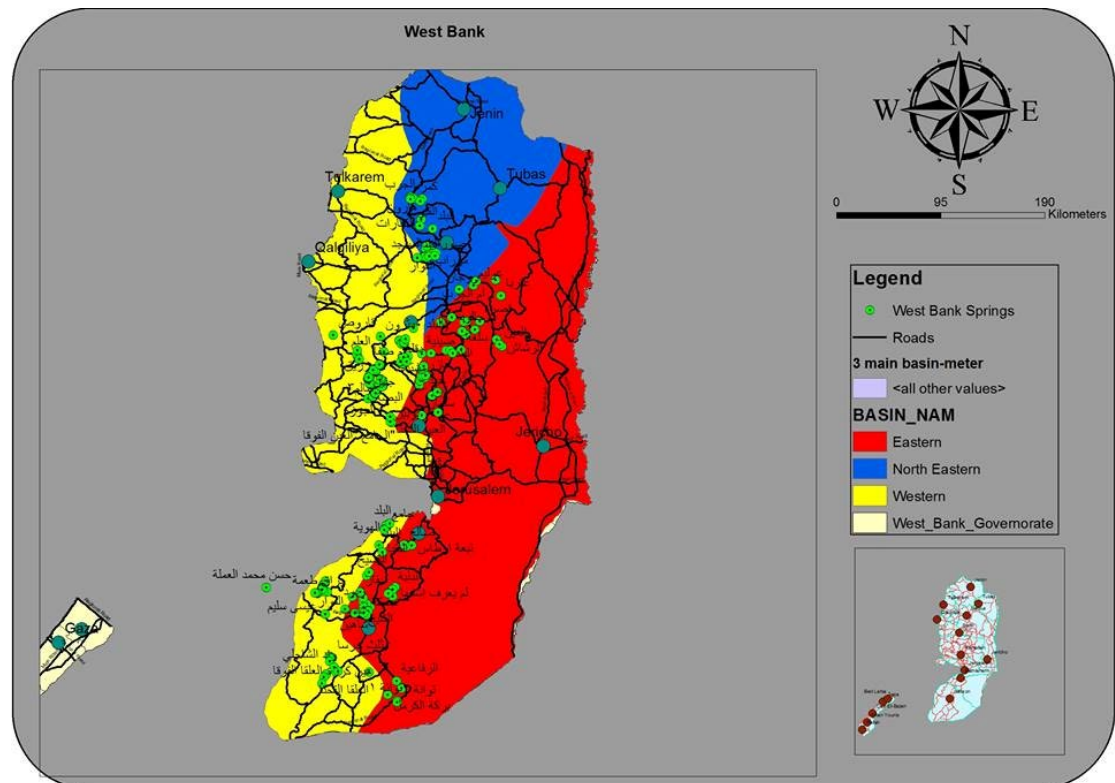
4.3 Population and Sampling

As individuals are (potential) claimants for water rights and have various needs according to geographical and socio-economic positionality, my study was targeted towards individual water users in the West Bank. My unit of analysis is water management actors, which comprised farmers/irrigators (as water *users*) and other water *actors*—including water experts, local governmental officials, and national governmental water officials. My sampling method was a phased combination of purposive and snowballing, respectively. Purposive sampling enabled me to identify local freshwater sources (i.e. springs and groundwater boreholes) that are used *solely* by Palestinians. It should be noted that these boreholes are artificially created but referred to as “Artesian Wells”—a misnomer—by community members. These water sources comprise CPRs present in the West Bank. Purposive sampling also provided access to individuals who were able to connect me to other water actors—which was the only way to reach the latter. Once I had built rapport with the gatekeepers in each study location, snowball sampling was the most ideal method to increase my sample size. In selecting my sample, the purpose was to locate communities that: i) are at least partially dependent

¹⁰⁶ In my case, race can more aptly be replaced by ethnicity, which is the same as those who participated in this research.

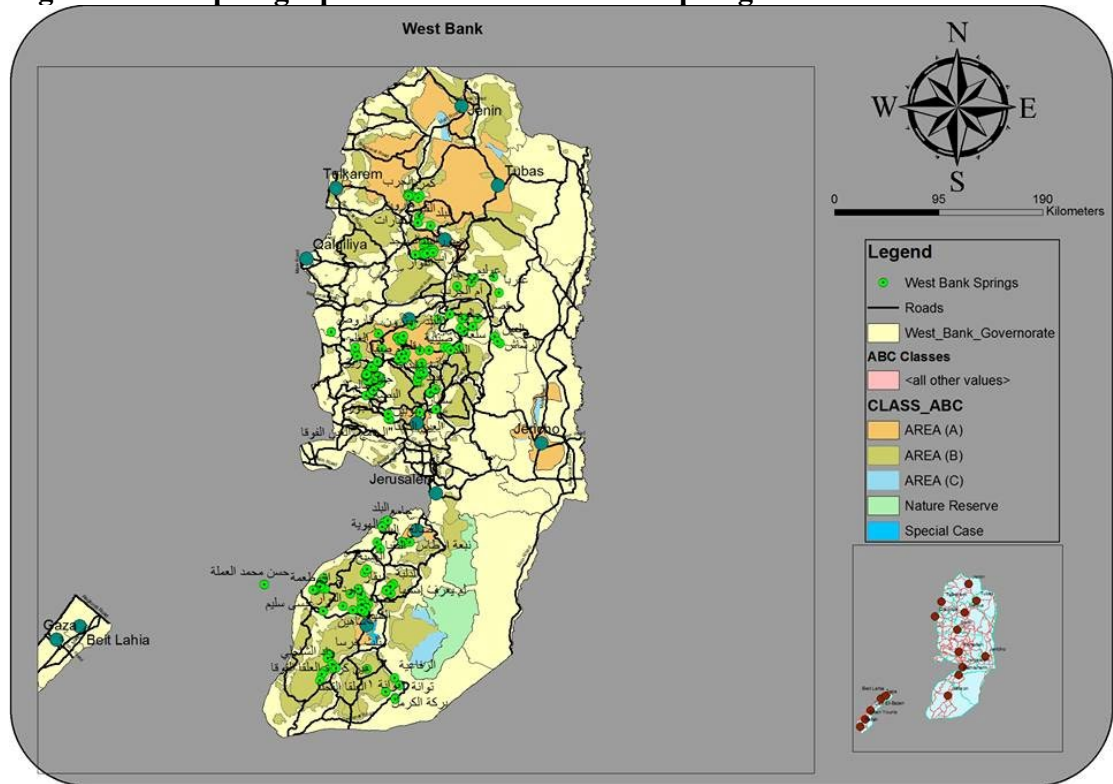
on a CPR, and ii) face water stress, in an EG context. While *freshwater availability* was the central criterion for selecting sample locations, another selection criteria was Area C towns and villages, as this captures the essence of EG. Finally, I selected communities that are both *solely dependent* on their CPRs, as well as those that are *partially dependent* on them—to varying extents. Through these combined methods, I selected six study locations: three in Area A villages (although two of these share a municipality) and three in Area C villages.

Figure 4.1: Map of groundwater basins and water springs in the West Bank



Courtesy of the Palestinian Water Authority (PWA).

Figure 4.2: Map of geopolitical zones and water springs in West Bank



Courtesy of PWA.

N.B.: the legend inaccurately demarcates Area C as the bright blue areas; rather, Area C lands span the yellow areas

4.4 Research Design

In order to evaluate the influence of EG on CA institutions through a qualitative research approach, I employ a comparative case study method (Yin, 2009). Studying communal water management in Palestine as an EG case requires the comparison between communities living under acute EG conditions with those that are not. Due to geopolitical conditions in Palestine, which render the entire landmass as “exceptional governance”—or a political situation in which sovereignty is compromised—the latter live under what I frame as “minimal” EG conditions. The politico-legal terms of Oslo II render less restrictive EG conditions in Area A—i.e. sovereignty is less compromised than in Area C villages. In conducting a cross-case comparison in a setting that lacks an absolute distinction between locations that are characterized by EG, and those that are

not, I approximate holding EG constant (embodied as Area A towns/villages). In other words, Area A villages *replace* study areas that would lack EG conditions for a more ideal comparison; in this way, I am able to *approximate* “controlling for” EG. Accordingly, this is a comparative case study between community water management in Areas C (more acute EG) and A (“minimal” EG).

4.5 Method

In order to achieve my research aims, I employ a qualitative research approach. This entailed a case study method that is primarily ethnographic. It included three phases¹⁰⁷:

1. Quasi-ethnographic observation (scoping phase: October-December 2015)
2. Questionnaire¹⁰⁸ (second scoping phase: August 2016)
3. Two phases of semi-structured qualitative in-depth (face-to-face) interviews:
 - April-May 2017
 - August-October 2017

The first two phases of research shed light onto people’s environment and daily experiences through overt observation as well as informal interviews; the aim was to uncover the nuances and complexities of water conditions and management dynamics. Since I did not live with communities, this was not a fully ethnographic method of participant observation (Whyte, 1973). Nevertheless, the qualitative case study method I employed enabled me to spend time observing community members—in their lands (farms/fields/greenhouses) and in their homes, over shared meals—and in turn, to capture the particularities and complexities of the sampled communities’ lived experiences

¹⁰⁷ All fieldwork was conducted in compliance with the LSE Ethics Code.

¹⁰⁸ The data collected was not included in the study.

(Stake, 1995). Based on this lived, local knowledge, I followed up with a qualitative questionnaire, which manifested in the field as semi-structured interviews conducted over two periods of time. During the first period, I did not tape-record our conversations, in an attempt to gain participants' trust and build rapport with them as an outsider. During the second period, I tape-recorded the majority of the interviews, except for instances in which participants did not want to be recorded (i.e. either at certain points, or for the entirety of our conversation).

4.5.1 Scoping Research

During the first phase of scoping research (October-December 2015), some of my field visits were not conducted as planned, due to political conditions that led to unpredictable checkpoints and road closures; thus, some field visits had to be cancelled or re-scheduled. Political volatility is arguably the only constant in Palestine, and thus road closures are common, affecting researchers (see Browne and Moffett, 2014) and daily life for everyone. Ultimately, I was able to visit two governmental agencies, two non-governmental organizations, and four villages with groundwater CPRs.

The scoping research entailed a series of formal and informal meetings with stakeholders in the West Bank. I began to gain access to these stakeholders with the most accessible resource: my personal contacts. The first contact was a researcher/statistician with the Palestinian Central Bureau of Statistics (PCBS), the PA's official statistics apparatus. I quickly learned that all of their water-related research (including maps and data) was either obtained from, or created in collaboration with, the PWA. This meant that my next site of inquiry would be the PWA. Consequently, I contacted their head of Research and Development Department, who then introduced me to other PWA

representatives. Obtaining data—including large scale, high-resolution maps to identify CPR-dependent communities in Area C towns/villages—from the PWA was particularly challenging. I then established a connection with a local non-profit organization, [REDACTED] [REDACTED] researcher I contacted introduced me to the director of the organization, who provided me access to their projects by allowing me to accompany their field workers on fieldtrips. This organization ultimately served as my gatekeeper, as they physically took me to CPR sites, as well as introduced me to community members that manage these CPRs in two towns, Village C1, and a neighboring village. Finally, I gained access to farmers in Village A1 and another village¹⁰⁹ through personal contacts, who in turn, introduced me to farmers in these areas. Each time I established a connection, I would meet with them (in their offices or farms) to explain my research project and proceed to ask informal questions. They also asked me questions about my research and at times attempted to re-direct my research focus on issues they believed to be particularly interesting or significant in some way.

Before entering the field to speak to farmers who rely on springs and boreholes for fresh groundwater to irrigate their crops, I developed a two-page questionnaire (see Appendix 1). This questionnaire enabled me to conduct interviews with farmers through a series of themes that were developed *deductively*, based on the parameters set by the CA literature (mostly notably indicators of resource users, resource characteristics, and governance systems—which include rules for acting collectively. These interviews did not go as planned—particularly in accompanied trips to Village C1 and a neighboring village—as it was difficult to interact with one single farmer at a time. The interviews

¹⁰⁹ These are also not identified to protect the anonymity of villagers.

took place in the presence of several farmers as well as the employees [REDACTED], the latter of which often chimed in during interviews. This had several effects: it changed the interview dynamic to a much more informal one; sometimes altered farmers' responses (particularly due to [REDACTED] engineer was overseeing a project that was building the community's water management (extraction, storage, distribution) infrastructure; and created interruptions and distractions that obstructed the interview process. This meant that I was not always able to ask all the questions I wanted to, but it also meant that I gained unexpected insights.

The first phase of what was meant to be fieldwork (August 2016), became the second phase of scoping research—due to the unsuitable research design, and thus the lack of fruitful data collected. I initially turned to a private statistical analysis organization that employed researchers across the West Bank. I met with the lead statistician of this organization to discuss their roles as gatekeeper and research assistant/translator. It is important to clarify that at this point in my research, I was attempting to conduct a mixed-methods approach. Consequently, I designed my research instrument based on the “situational variables” that were outlined by (mainly) quantitative empirical studies on CPRs. I explained my research, provided a draft questionnaire, and subsequently met with the lead field researcher on their team. We all met to translate and streamline the questionnaire—i.e. to re-frame certain questions based on their judgment of how participants would understand the questions. The field researcher and I began to visit various villages and speak to farmers in their fields and in their homes. This entire approach proved to be a waste of time for multiple reasons: (i) I later decided to conduct a *solely* qualitative study¹¹⁰, thus rendering all of the data

¹¹⁰ This decision was due, in part, to the infeasibility of selecting a representative sample of CA institutions.

gathered irrelevant; (ii) despite my criteria for study-location selection—namely communities at least partially dependent on spring water in Area A and Area C villages—accessing these specific communities proved to be too difficult to achieve through this organization; and (iii) due to age, gender, experience, linguistic—and possibly even cultural—differences, this researcher was unable to provide the type of research assistance (primarily gatekeeping) and translation I required. Nevertheless, this experience helped me to recognize that I could acquire more in-depth and rich data by employing a solely qualitative approach.

After returning from the field, I was able to *inductively* draft hypotheses, based on what I had learned from the farmers. As I continued to engage with the literature (particularly the CI literature), I re-formulated my hypotheses before returning to the field to conduct interviews. This taught me that my methodological approach is and will continue to be one that is deductive *and* inductive, and that there are merits to each.

4.6 Hypotheses

The research hypotheses were drawn up deductively *and* inductively: they were first created deductively based on the mainstream CPR literature, and then developed inductively after conducting the scoping research. The result of this process are the following hypotheses:

- 1) Exceptional governance (macro-scale power) conditions foster CA.
- 2) Asymmetrical power relations within the community (micro-scale) are embedded within village institutions—and reinforced by these power structures (particularly meso-scale).

The first hypothesis was drawn up deductively, based on the MI concept of conditions conducive to collective management of resources—*specifically the level of*

resource stress that fosters CA. As discussed in the literature review, Tachibana, et al., (in Otsuka and Place, eds, 2001) explain how a certain level of resource stress—on a spectrum from abundance to scarcity—is conducive to collective management. Accordingly, the first hypothesis is based on the literature that indicates a condition of water stress in the West Bank. This in turn, would foster collective management of local freshwater resources. Furthermore, the scoping research resulted in an inductively-generated element to this hypothesis: through observation and informal unstructured interviews, the scoping data indicated that in some villages, the maintenance of CA is a coping mechanism informed by solidarity between cultivators who expressed their commitment to *sumud*, or steadfastness in staying on the land and maintaining their traditional reliance on agricultural. As discussed below, this was not confirmed by the research results. Rather, collective management of local freshwater CPRs existed prior to the introduction of EG conditions. Nevertheless, the trajectory of CA was substantially impacted by the introduction of uneven EG conditions, leading to variegated outcomes.

The second hypothesis was also drawn up deductively, based on the MI and CI literatures; whereby the former frames CA institutions as embedded in wider governance systems, and the latter foregrounds power in its analysis of collective management of natural resources. In contrast to the MI literature that frames context as “settings”, the CI approach frames context in more structural terms, expressed through the concept of “power”. Accordingly, micro-level power is embedded within meso- and macro-level power structures; power dynamics and relations within CA institutions are embedded within—and reinforced by—larger power structures.

4.7 Data Collection

4.7.1 Fieldwork Phase I

It is important to note that while I obtained consent (which I confirmed on multiple occasions) from every single study participant across all phases of scoping and field research, to identify their respective villages, village councils, municipalities, co-operatives, and water user associations (WUAs), I chose to conceal these to protect my study participants. The sole village identified in this study is Battir (Village C2), because this village has extensive exposure to outsiders via their ecotourism and designation as an UNESCO World Heritage Site. In addition to this exposure to outside visitors, several members of the community are active in local politics and at times serve as informal spokespeople in the press.

During this first phase of field research (April-May 2017), I began in Battir—an Area C village in the Bethlehem Governorate—and covered the remaining (anonymized) five study locations. My gatekeeper in Battir was a personal contact who introduced me [REDACTED]¹¹¹, both of whom I interviewed. I spent two days there, staying at a guesthouse that was part of the emerging ecotourism infrastructure young villagers have helped create. I spent time in the fields, speaking to farmers I encountered along the way. During this visit—and each subsequent field visit—Battiris I spoke to recounted their history. Each person (gatekeeper, participant, and those who were not officially included in my research) had a different perspective about Battir’s current conditions and vision for its future; however, their pride in their past was the one consistently-displayed common characteristic amongst them. Battir has a unique history of resistance to Israeli

¹¹¹ This participant has since passed away.

colonization, which predates 1948. This includes a combined approach of civil resistance (Botmeh, 2006) and armed resistance to negotiate the inclusion of the historic railroad tracks that cut through the *wadi* (valley) of Battir. The mobilization of the villagers, led by a local leader Hasan Mustafa (ibid), set in motion a meticulously planned, concerted effort to foster a culture of co-operation that would endure for generations. The cultivation of this co-operative culture permeated all aspects of life, ranging from protecting their agricultural lands—terraced lands, located in the *wadi*, a considerable distance from residential areas in the hills—to rehabilitating the Roman aqueducts and spring water reservoirs. It is important to emphasize that several farmers explained that this culture of co-operation did not start with Hasan Mustafa, as the traditional Palestinian way of life is based upon co-operation. This tradition included many families building single-family homes collectively, whereby the women would fetch water for the men constructing these homes. Mustafa bolstered and promoted this culture, thus prolonging the history of co-operation, and consolidating it to become part and parcel of their village traditions.

Among the fourteen research participants (some of whom I interviewed several times), only three expressed that there was occasional conflict among the water proprietors. The remaining nine were adamant that conflicts are nearly non-existent. Upon further probing, neither group was mistaken: they each simply expressed their truth, based on their experiences. The first person who talked to me about conflict became another gatekeeper on my second two-day trip to Battir. He narrated a story about one water proprietor who was not a landowner, but rather a farmer whose family (and whose husband's family—albeit separately) rents land from various absentee landowners. Due to her under-privileged position, this woman and her family rented land from landowners

whose irrigation turns were connected to various clans; thus, they were compelled to water various plots of land on multiple days. Moreover, as renters, they are the last to receive water during each irrigation round. These semi-outsiders are thus marginalized on two fronts: economically and socially. The gatekeeper introduced me to this woman, who was reluctant to speak about this conflict at first, but quickly opened up. A teenager whose family owns land near one of her rented plots corroborated her account of experiencing conflict with the water proprietors. He had witnessed the water shortages she faced on numerous occasions, as the last recipient each day. These conflicts were described as being manifested in occasional arguments—but remained largely unaddressed resentment.

4.7.2 Fieldwork Phase II

During this second phase of field research (October-November 2017), I returned to all six study locations. I spoke to participants that I had met during the previous phase, as well as new contacts I had established. Some of these were made by walking through the fields (in Battir), while others were established through one of the gatekeepers from [REDACTED]—who also served as one translator during the previous phase. During this last fieldwork trip, I attempted to focus on Area A villages, which were ironically more difficult to obtain information about. This was partly due to their geographic (in the semi-arid climate of the Jordan Valley) and political (Area A—i.e. under full PA civil and security control) locations, but also the cultural context of these villages. These communities—unlike the Area C communities in this study—are not particularly harmonious. While they are still quite traditional socially, this is not the case vis-à-vis their property rights regimes. In particular, Village A3 and Village A2 springs, which are

located very close to each other—albeit in two separate villages—contain springs that emerge from public land. Unlike the Area C springs, which are managed as common property, these springs are managed through a hybrid system. As with other springs on public land, anyone can have access to the water (for drinking and husbandry purposes) as an authorized user; however, the spring water itself is owned privately. These springs were both historically managed as common property, with the traditional method of division according to clans and their respective land areas. However, today water rights and land rights are separate. The resulting property scheme is one of some landowners without water ownership rights, and some water owners without land ownership. This de jure hybrid system amounts to the spring itself being public property (and thus de facto open access for drinking/husbandry) but water units being owned privately. Unlike privately owned springs, these are not maintained privately—instead, in a confusing twist, they are managed in the traditional way. Water collected in reservoirs is maintained and divided by a *qanawati*, or canal operator, who himself is a farmer (although not necessarily both a landowner and water rights owner). The *qanawati* receives a very small income for this work and is responsible for holding all of the water ownership records.

What is most striking about these springs is that most of the participants I spoke to expressed that there is significant conflict amongst water users—both amongst water owners and between owners and authorized users, who divert spring water to their lands. They do so (which I witnessed) because they are either landowners or renters without water ownership rights. In both cases, they often cannot afford to acquire water ownership rights. This lack of trust among community members—while underplayed by

a municipal official I interviewed and spent a considerable amount of time with in the field—is in stark contrast to the generally high levels of trust amongst Area C villagers.

Table 4.2: Area C springs

Village/ Town	Governorate	Name of Spring	Institution	Participants/ Interviewees*
C1**	Tulkarem	Well drilled in [redacted] on private land to supply community water (profit for maintenance)	CA: Registered Co-op	4 CPR owners; 2 claimants
		[redacted]	[redacted]	3 private well owners
Village C2 (Battir)	Bethlehem	<i>Al Balad</i>	CA: Traditional	9 CPR proprietors; 1 claimant; 4 authorized users
Village C3	Salfit	<i>Al C3</i>	CA: Traditional	6 CPR owners; 1 authorized user

*This reflects the total number from research phases I and II.

*N.B.: Village C1 is the only village in the study that relies on well water—rather than spring water. Its inclusion is justified by its common property rights scheme, formal co-operative institution, and its unique geopolitical significance.

Table 4.3: Area A springs

Village/Town	Governorate	Name of Spring	Institution	Participants/ Interviewees*
Village A1	Jericho	Spring A1	Co-management	1 proprietor; 3 claimants
Village A2	Jericho	Spring A2	<u>Hybrid:</u> Traditional & Private	4 owners
Village A3	Jericho	Spring A3	<u>Hybrid:</u> Traditional & Private	3 owners

*This reflects the total number from research phases I and II.

*N.B.: the smaller number of research participants in Area A villages is due to the premature ending of fieldwork and inability to re-access the field after November 2017.

The main lessons I learned during the scoping research—which were instrumental during data collection—include: (i) property rights vis-à-vis land and water resources do not always overlap—instead, they are a complex result of laws imposed by multiple colonial governments; and (ii) institutions can have differing third-level governance systems—i.e. hybrid *or* community-based. In fact, each hybrid governance system is distinct and a unique outcome of institutional bricolage processes.

While the study sample is limited¹¹²—and is by no means representative of all springs or CA institutions in the West Bank—this does not preclude the value in the comparative approach employed. This is due to the data saturation achieved, which became apparent during the final data collection phase, and was confirmed in the analysis of coded data. Data saturation occurs “when the collection of new data does not shed any further light on the issue under investigation” (Mason, 2010: n.p.). As asserted by Dworkin (2012), “most scholars argue that the concept of saturation is the most important factor to think about when mulling over sample size decisions in qualitative research (Mason, 2010)” (1319). Mason (2010) also argues that the quality of data is another important “measure of its value” (n.p.). Due to the rapport developed with research participants by spending time with them in their fields, homes, and offices—which, in turn, facilitated open conversations—the data collected proved to be profound vis-à-vis its breadth and depth.

¹¹² It should be noted that the majority of micro-scale water studies summarized above do *not* disclose their sample size, or address data saturation. This is not surprising in light of Marshall et al.’s (2013) discussion of a 2003 study “that focused specifically on rigor in the IS field...[which found that] only 13% of articles describe the sampling strategy. Fewer than 38% included the number of interviewees and only 24% described the number of interviews conducted” (15). While this study did not include anthropological literature, it nevertheless provides a valuable insight about academia in general.

4.8 Analysis

4.8.1 Coding

Before entering the field to speak to farmers who rely on springs and boreholes for fresh groundwater to irrigate their crops, I developed a two-page questionnaire, the data from which was ultimately not included in this study (see Appendix 5). This questionnaire enabled me to conduct interviews with farmers through a series of themes that were developed *deductively*, based on the parameters set by the MI literature—most notably indicators of resource users, resource characteristics, and governance systems (including rules). The following pre-codes are based on the deductively generated themes:

Table 4.4: Deductively generated pre-codes

Theme	Pre-code
Number & distribution of water springs	Topography
Dependence on water springs & other freshwater sources	Water dependence
Property regime of land & water sources	Property type
Property rights vis-à-vis spring water: operational property rights	Water access
Property rights vis-à-vis spring water: collective choice property rights	Water ownership
Homogeneity of community	Insider/outsider
Direct effects of EG on spring water	EG direct

After returning from the field for my scoping research, I was able to *inductively* generate additional codes, based on what I had learned from the farmers.

Table 4.5: Inductively generated codes

Theme	Code
Refusal to give up farming (commitment to upholding farming due to the historical significance of agriculture as the economic mainstay)	Steadfastness (<i>sumud</i>)
Political solidarity with fellow community members who are struggling to stay on land	Internal solidarity
Political solidarity with fellow Palestinians who are struggling to stay on land	External solidarity
Indirect effects of EG on spring water	EG indirect
Knowledge—or perceptions—of conditions (access, EG conditions, topographic, ecological) & context (historical, political, economic, social)	Knowledge/perceptions

As I continued to engage with the literature (particularly the CI literature), I reformulated my theoretical framework before returning to the field to conduct interviews. This enabled me to deductively generate more themes, setting the basis for my interview questions. As aforementioned, my methodological approach is deductive *and* inductive, as there are merits to each.

Table 4.6: Deductively generated codes

Theme	Code
Politically determined access ¹¹³ to groundwater (ability)	Access
Indigenous governance: community-based monitoring (CBM) as strategy for sovereignty ¹¹⁴	Indigenous governance
Path dependence in institutional arrangements/property rights (particularly collective choice)	Path dependence
De-development: confiscation of land & water	De-development
LEK, political/geo-political & topographic knowledge of community members	LEK

The final version of this coding frame is in Table 4.7 below:

¹¹³ See Ribot and Peluso (2013) on access (ability) vs. property (right).

¹¹⁴ See Wilson et al., 2017.

Table 4.7: Coding frame

Parent Node	First level child node	Second level child node
Agency	Adapt Innovate Negotiate Strategize	
Collective Action	Co-Management & External Intervention Institutional Arrangements	Collective Choice Rights Maintenance Operational Choice Rights Rules
	Path Dependence Trust & Reciprocity	
Ecological Factors	Adaptation (to climate) Topography	
Exceptional Governance	Access	Land Markets Water
	De-Development Oslo	Hydro-hegemony Foreign Aid
	State of Exception	
Poignant Quotes		
Power	CI Power Model	Resistance Resource Allocation Rule Adherence
	Corruption Gender Knowledge Three-Dimensional Power	Agenda Setting Decision Making Invisible Cognitive
Solidarity		
<i>Sumud/Steadfastness</i>		

4.8.2 Process Tracing

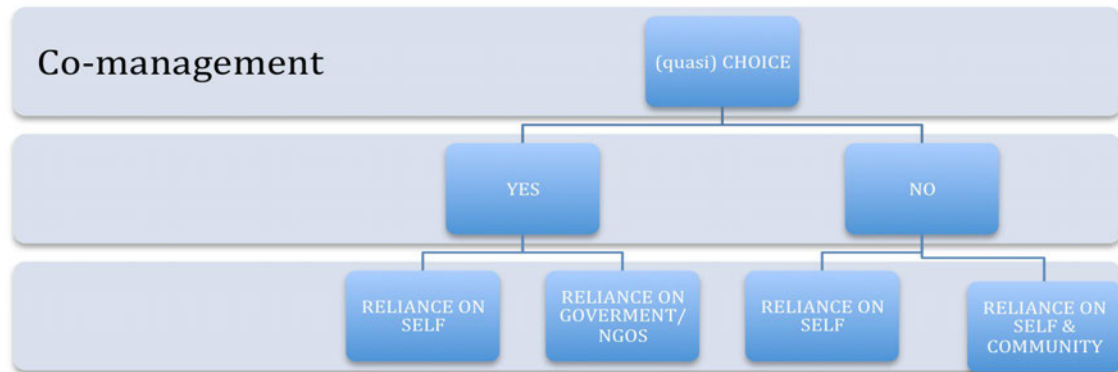
Establishing causality is always a contentious part of research in the social sciences, as we cannot perform controlled laboratory experiments to measure and test social phenomena. Causality is still more difficult to trace in qualitative research, where we do not use statistical techniques that allow for summarizing patterns and establishing associations with a certain level of control for the influences of other factors that may affect the outcomes of the cause. We can, however, attempt to understand causal mechanisms through *process tracing* (PT): instead of simply stating that the independent variable (EG) causes the dependent variable (CA), we can try to understand the *processes and mechanisms that underlie the hypothesized relationship*. Collier (2011) defines PT as the “systematic examination of diagnostic evidence selected and analyzed in light of research questions and hypotheses posed by the investigator” (823). Collier identifies three ways in which this method is, in fact, distinct: through (i) causal-process observations (CPOs)—which he associates very closely to PT itself; (ii) “static’ description”; and (iii) “sequences of independent, dependent, and intervening variables” (ibid). Process tracing requires the acquisition of four types of prior knowledge: (i) conceptual frameworks (i.e. CA, CI, EG); (ii) recurring empirical regularities (i.e. greater governance restrictions have numerous effects, which in turn seem to lead to greater levels of co-operation); (iii) “build(ing) [a] theory ‘by collecting carefully verified, interconnected hypotheses’” (Waltz, 1979: 2 in Collier, 2011: 824); and (iv) another theory with explanatory potential. While Collier stresses that description of the concepts is an essential prerequisite for carefully tracing the processes and mechanisms of causal connections between concepts, Beach (2016) problematizes this approach by arguing that

this results in “considerable ambiguity” (463). He proposes a greater focus on theoretical causal processes.

In examining the effects of EG on CA, not only are we “controlling”¹¹⁵ for EG by comparing areas A and C—but we are also trying to understand the causal *mechanisms* that lead to co-operation, and to identify possible confounding factors. The findings show that co-operation is more prevalent and effective in area C villages than in area A villages. This may be attributed to whether a community has the choice of co-management; while in Area A villages meso-level governance (i.e. municipalities) is not very effective, governmental (PA) agencies (and non-governmental organizations) still do operate there. The PA’s presence provides quasi-choice for people, who—despite many participants’ cynicism towards government—still believe it is the responsibility of these agencies to ensure effective water management. In Area C villages, there is an *unambiguous* lack of choice, which leads people to recognize the need to rely on each other. Figure 4.3 provides a graphical representation of this process.

¹¹⁵ Since it is not a controlled laboratory experiment, we cannot genuinely control for EG.

Figure 4.3: Process tracing



In attempting to understand the causal mechanisms that will shed light on the puzzle of CA in EG contexts, I am describing the dependent variable at a point in time. Process tracing sets the blueprint for determining causal mechanism chains in Chapter 6 (see Figures 6.2 and 6.3).

4.9 Future Research

If I am able to return to the field¹¹⁶ to expand upon this research, I will seek to understand the history of these CPR institutions. Although I repeatedly enquired about their establishment and evolution, I will seek to fill in some of the knowledge gaps I encountered among many participants—particularly in cases where these institutions date back many generations. I am fully aware that much of this history may not be recorded, in which case I will have to rely on whatever oral history is available. It is likely that the evidence will point to institutional path dependency, as the communities I

¹¹⁶ The most recently faced challenge is due to travel restrictions. When I was in the Palestine conducting fieldwork, Israel refused to extend my visitor's visa (in November 2017), cutting my work short. This also had implications for travelling back to the field to follow-up with research participants who I need to contact to clarify—and fill any data gaps in—the results.

studied do not seem to change their institutional arrangements often. The presence of path dependence does not preclude the existence of agency within these communities. My field observations and interviews revealed that younger generations seek to evolve and introduce contemporary ways of doing things. This was particularly apparent in Battir (Village C2), where there is a concerted effort to attract youth to farming that employs pro-environmental practices.

I will also seek to better understand the power relations within the participant communities. I will try to understand the gendered, socio-economic, and traditional forms of power that permeate these CPR institutions. In doing so, I am cognizant that these relations are embedded within cultural, religious, and socio-economic structures within these villages; accordingly, I do not expect institutional politics to drastically deviate from village politics.

4.10 Research Challenges

Among the most difficult theoretical research challenges was creating a sound theoretical framework that draws from—yet transcends—established theories, particularly vis-à-vis reconciling the incompatibilities between them. Empirical research challenges were less difficult, but certainly more numerous. Foremost was the challenge of understanding path dependency in the six CA institutions, as community historiography is patchy at best. Depending on oral history from elders who no longer farm—or from their offspring who do not possess historical knowledge—was the greatest barrier I faced in the field. Another empirical challenge was understanding intra-community power relations. While I spent as much time as possible with community members (water users and their families), it was difficult to be accepted as an insider. As

in any qualitative research, reconciling field observations with research participants' reported dynamics—and triangulating the collected data with official and academic evidence—is one of the less romantic challenges. While community members want to portray an idealized image of their community (and on rare occasions, a more exaggerated negative image of their occupier/colonizer), spending more time in the field allows one to read between the lines of power dynamics and personal interests, or the motivations of actors. In the final analysis, it will be difficult to understand causality given that EG conditions in Area A and Area C villages are not entirely contrasting. As aforementioned, EG conditions still exist in Area A villages, but are far less extreme. Tracing causality also requires historical knowledge of how these institutions were created and how they evolved with changing political conditions.

4.11 Methodological Reflections

Due to the time that has lapsed since the final phase of data collection, conditions have changed for the respective CPR communities. Foremost amongst these changes is the introduction of the 2018 Regulation concerning WUAs. As discussed in chapters 6 and 7, this will likely have severe implications for the CA institutions included in this study—as well as all organically-established ones throughout the West Bank. Similarly, some of the micro-scale water studies summarized in Chapter 2 were published subsequent to my fieldwork. While this study's approach does differ in important ways, the findings corroborate the insights provided by the micro literature.

In light of the access restrictions discussed below (section 4.11.2), I am able to retrospectively state that I would not have spent as much time during the scoping phase to seek a representative sample of CPRs. My incessant attempts to obtain a population of

CPRs that are collectively managed were fruitless. While representative sampling in qualitative research is not required, my initial research design of a mixed-methods study would have required this. Thus, being compelled to rely on a combination of purposive sampling and snowball sampling rendered a somewhat haphazard selection of study locations. The selected CPRs in Area C villages are all clustered in the Western Aquifer Basin, while those selected in Area A are all clustered in the Eastern Aquifer Basin; moreover, the latter are all clustered in the Jericho Governorate. It is important to note that my study sample is limited—and is by no means representative of all springs or CA institutions in the West Bank. This does not, however, preclude the value in the comparative approach employed in this study. As discussed in Chapter 6, notwithstanding the possible confounding factors, the variegated findings between Area A conditions and Area C conditions—most saliently co-management arrangements in the former—are consistently confirmed, and corroborated by the literature (in particular, the micro-scale water literature).

Another research challenge I faced is the lack of access to official¹¹⁷ geographic, topographic, and hydrological data; what I had access to is piecemeal: I was unable to obtain systematic data on spring flow for my study locations—in particular, time-series or longitudinal spring flow data. This would have enabled me to triangulate the data provided by study participants—and, in turn, would have strengthened the study’s findings and conclusions. It does not, however, preclude the accuracy or value in the findings. As discussed above, I was able to reach data saturation in all study locations.

¹¹⁷ “Official” refers to governmental data. Numerous interviews with PWA (and PCBS) officials have indicated that they do not systematically collect this data—i.e. for *all* villages and springs. Moreover, due to travel (visitor visa) restrictions, I was unable to reach Israel and thus access official Israeli records.

4.11.1 Gender

It is important to note that the only villages in which I was able to interact with female participants¹¹⁸ were in C2 and C3. While agricultural activities are often a family venture, gaining access to female cultivators was significantly more difficult than to their male counterparts. With a few exceptions in Village C2, all female cultivators I spoke to participated in this research as a result of being closely connected (often related) to one of the gatekeepers. While it is seemingly ironic that as a woman it was difficult for me to gain access to female participants, it is a reflection of a number of factors. In particular, this was due to my inability to spend more time in the field (as a result of travel restrictions). This would have enabled me to broaden and deepen my participatory methods and engage with CPR communities for longer, in order to bolster rapport with them. For instance, due to my repeated visits to Village C1 over a period of two and a half years, I was able to interact with female family members of research participants, and was invited into their homes. Had I been allowed the opportunity to do the same in the other villages, gender dynamics would have differed. As outlined in above, other characteristics of my hybrid (insider/outsider) status also complicated this access to women: I am not a villager¹¹⁹ (let alone from any of the study villages), I do not wear *hijab*¹²⁰, and I am not a native-Arabic speaker. In light of these reflections on gender, I am cognizant of the potential to perpetuate Orientalist stereotypes that are still prevalent in academia—however subtle they may be.

¹¹⁸ This does not include female family members of research participants in Village C1.

¹¹⁹ The cultural, linguistic, and normative (i.e. different cultural norms) status differences between rural and urban communities are often seen as a chasm in relatability.

¹²⁰ This does not imply that a hijab is required in villages; it is simply an acknowledgement that the lack of a hijab added another layer to my outsider status.

4.11.2 Access

The primary research challenge I faced was vis-à-vis access. Due to my citizenship status, I had to travel to Palestine (via Israel, who controls all borders) on a three-month visitor visa. At some points, I was able to renew this visa while remaining in the field, and at other times, I was compelled to leave and return several months later. During the final phase of research in the Autumn of 2017, my visa extension request was denied, with clear instructions that I could not return. The only way around this would have been to seek legal counsel, which was not feasible. This situation reflects governance conditions that are fostered by Israeli colonization, which complicate my ability to visit my ancestral homeland—and preclude my ability to reside there. This continued to pose a severe obstacle for my fieldwork, as I had to cancel my appointments to interview *qanawatis* in the Area A villages—and I could not complete my data collection. Due to similar travel restrictions faced by the translator, I was unable to reach my participants to ask follow-up questions.

Chapter 5 Results

5.1 Exceptional Governance in West Bank Villages

5.1.1 Exceptional Governance in Area C Villages

Village C1

Exceptional governance in Village C1 manifests in infrastructure that is noticeable via a visual scan of the cultivated valley. This infrastructure takes the form of an electrified and barbed-wired fence, which in turn comprises a section of The Separation Wall. This segment of the wall separates the cultivated valley—previously designated as Area C West Bank land in its entirety—into two distinct geopolitical zones: unaltered Area C West Bank land to the [REDACTED] of the barrier, and land annexed into what is called “The Seam Zone”, to the [REDACTED] of it:

the army has declared 74 percent of the areas on the ‘Israeli’ side of the Separation Barrier (between the barrier and the Green Line) as a ‘Seam Zone.’ These areas...were declared ‘closed military zones.’ A permit regime was imposed there according to which Palestinians may be present only if they have received authorization from the Israeli Civil Administration (B’Tselem, 2012).

The head of Village C1’s irrigation co-op explains that during the wall’s construction (2003-2006), [REDACTED] dunums¹²¹ of land were cordoned off and annexed into the Seam Zone by the Israeli state. While the land is still owned by Palestinian landowners, the political zoning change rendered their property, de facto, as part of Israel—and thus largely inaccessible to them. To gain temporary access, farmers must apply for a permit to enter this area through an agricultural gate, and only during certain hours of the day. Permits are temporary, not guaranteed, and often take weeks, or even months, to procure—often resulting in the forced abandonment of crops for extended

¹²¹ One dunum is the equivalent of one decare, or 1,000m².

periods of time. One participant, a member of the co-op and a private seedling nursery owner—who purchases water from a private well for his nursery—describes how he has dealt with the permit system: *“I can go [to my agricultural lands] with a permit; but if I go in the morning (6:00am), I have to be back by noon. If I do not come back at noon, I will have to wait until the evening; it is not worth it.”* (Recording #20). As a result, this farmer explains that his family’s *“land that is behind the wall, we leased it to our cousin who lives in the 1948 area [i.e. Israel]”* (Recording #20).

While access to agricultural lands has been compromised in Village C1, one group of respondents—three farmers who are not members of the co-op, but whose irrigation water comes from privately owned wells/boreholes—claim that aside from Israeli confiscation of land, Israel’s policies do not have a direct effect on their lands and water resources. The focus group participants asserted that Israeli officials or soldiers do not test the water quality; monitor amounts of water extracted; charge penalty fines for over-extraction; or damage their agricultural lands in any way. One participant explained that this is due to two reasons: *“1) it is because there are no settlements here; and 2) there is a lot of water here—we have the largest aquifer here. Isn’t that the case? [asking another farmer in the focus group]”* (Outside Irrigator 1 from focus group Recording #21). This respondent insisted that *“here, we do not have a problem; the water is strong. The problem is in the cities”* (Outside Irrigator 1, Recording #21). Another participant in this focus group stated, *“we do not have a problem with water; [but] we do not have a lot of land”* (Nursery Owner C1, Recording #21). Participant Outside Irrigator 1 elaborated on this claim: *“not anymore; the settlements expropriated a lot of land. Our problem [here] is not insufficient water but insufficient land”*. Insufficient agricultural land, due to land loss, was unequivocally attributed to the construction of The Wall: *“we*

all lost all this land that is ours...so the consumption of water decreased. We also lost olive [orchards]” (Nursery Owner C1, #21). “In brief, here we have extra water because we do not have sufficient land” (Outside Irrigator 1, #21).

The focus group participants explain how land-use zoning has changed, due to their inability to develop new lands, which in turn is due to Israel’s restrictions:

“in addition, the last twenty years, the amount of building construction increased” (Outside Irrigator 2, #21).

“It was not allowed to have construction on agricultural land; but now, without sufficient land, people have to do that” (Outside Irrigator 1, #21).

“You can see the difference between how it was in 1967 and now; this here is agricultural land” (Outside Irrigator 2, #21)

“Where the municipality now stands used to be agricultural [land]” (Outside Irrigator 1, #21).

The seedling nursery owner echoes this sentiment, asserting that the [REDACTED] wells/boreholes in the village—all of which were drilled before 1967—provide the cultivators with sufficient water. This farmer notes that upon leasing his land to his relatives on the [REDACTED] side of the wall, he provides them with water, since, he said, the water provided by the Israeli water company, Mekorot, is “expensive...*The Arabs of 1948*¹²² *themselves suffer from the water situation there. It costs [REDACTED] NIS/m³ for the cultivator there, and after a certain point it becomes [REDACTED] NIS/m³.” (Recording #20). The water he is referring to is water that is harvested and distributed by the co-op. This water is transported from the co-op’s well, to the storage pools/reservoirs, and then to annexed lands via a network of pipes, which lay hidden underneath the fence.*

The water pipes were installed underneath The Separation Wall, allowing farmers to irrigate their lands inside the annexed zone. Prior to the disclosure of plans to construct the wall, a construction contractor had informed the villagers of Israel’s plans. He

¹²² Palestinian citizens of Israel.

proceeded to advise them to establish an infrastructure for an underground irrigation system that would enable them to pump water from their reservoirs to their crops that would soon be enclosed. The co-op leadership heeded this contractor's advice, laying down pipes beneath the ground that would soon connect the enclosed lands to their water source. After the completion of the wall's construction, the co-op was able to secure funding through a development project [REDACTED], which completed this irrigation infrastructure—including two reservoirs perched at the top of hills, pipes that distributed water from the reservoirs, and electric water pumps.

Contrary to the focus group farmers' claim, the administrative members of the co-op asserted that the water available to them is *not* sufficient. According to the co-op head, the [REDACTED] m³/year that is allotted to them does not satisfy their irrigation needs for the [REDACTED] dunums of land their well/borehole supplies. Nevertheless, this is the sole water source the co-op members use to irrigate their lands. Coop Leader 1 noted that they consistently need more than the annual allotted amount. He stated that this amount was determined in 1967 and has not been altered¹²³: *"they gave us this amount based on how the climate was a long time ago, when the Israelis came in 1967. Jordan used to give water based on the climate"* (Coop Leader 1, #24). Upon being questioned about the discrepancy in their responses, the co-op head explained that the reason the water seems to be sufficient is because *"they do not have [a lot of agricultural] land"* (Coop Leader 1, #24). On one occasion, the co-op extracted more than the permitted amount of annual water: *"we took more, but not by permit; we violated"* (#24). The co-op treasurer, Coop

¹²³ Due to access issues outlined in chapter 4, this cannot currently be triangulated. This statement will be used as shorthand hereinafter.

Leader 2, explained that they were charged a penalty fine, which “*you go to the military court*” (Coop Leader 2, *ibid*) to pay¹²⁴.

Exceptional governance thus influences Village C1’s access to, and control of, water in multiple ways. Barred access to their CPR was averted, due to their adaptive strategy of installing pipes beneath the ground in anticipation for the construction of the wall. Nevertheless, control over their water is compromised primarily via infrastructure that hinders access to water sources. This account of a lack of water seems to be corroborated by the way in which the cultivators have adapted their farming practices to grow crops that require less water. In the early 1980s, all orchards in the valley were replaced with greenhouses, a transformation that is not viewed favorably by the cultivators:

all of these lands were planted with citrus [trees], stone fruit [trees], olive trees, and vegetables. But citrus growing is costly, so we could not continue with growing orange trees or citrus in general; and the big tunnels [i.e. large green houses] would get more revenue...Since 1984 [cultivation in green houses] has proliferated, and since then increasing up to now where there is no citrus at all; this is because the Israeli production was superior to ours in terms of quality; we cannot compete with them in this, so the whole plain [i.e. cultivated valley] moved away from citrus and olives to green houses and vegetables (Coop Leader 1, #26).

The farmers’ inability to compete with Israeli citrus, which flooded the market at lower prices, is a testament to how EG manifests in hindered access to produce markets. Coop Leader 1 says that “*Israel was open until they prevented our products from entering its markets*” (Coop Leader 1, #25). As a result, Village C1’s farmers sell their produce in West Bank markets: “*the ones [i.e. farmers] behind The Wall market to the [redacted] [i.e. to Israel]; and there are many markets [where we sell our produce]: Jenin, Nablus, Tulkarem, even Hebron*” (Coop Leader 1, #24). In addition to their inability to compete

¹²⁴ This cannot currently be triangulated.

with government-subsidized Israeli produce, the farmers have a shortage of labor. They also cannot afford to pay laborers competitive wages: *“the problem is that if he [i.e. a day laborer] works in Israel, he gets 150-200NIS; we cannot pay that much; we pay 60, 70, 100 [NIS]...In the winter, we cannot hire him all month, maybe 7-8 days. So he has to go work in Israel”* (M2, #21).

Similarly, the farmers cannot gain access to agricultural gases they deem necessary to their cultivation. The co-op head and treasurer explain how this affected the new land that the motor operator and guard of the well/borehole was attempting to rehabilitate:

we use gas to get rid of bacteria and viruses; they sterilize [by] spreading the plastic [sheets] on the ground, and there are hoses and gas...This kills all the germs, allowing crops to live; this sterilization saves [i.e. reduces amounts of] insecticides and pesticides, and produces a higher yield (Coop Leader 1, #24)

“The Israelis prevented us from having the original sterilization [gas]...they cut us off from all chemical substances” (Coop Leader 2, *ibid*). For a summary of EG indicators and their effects on CA in Village C1, refer to Table A5. 1 in Appendix 5.

Village C2 (Battir)

Unlike Village C1, Village C2 (Battir) is not surrounded by The Separation Wall. Instead, the valley of Battir is an area that was designated as no-man’s land under the 1949 Armistice Agreement. A fence cuts through the village’s cultivated valley, separating farmers from their agricultural lands (approximately 30% of the village’s territories). To the south of the fence lies the part of the cultivated valley that the villagers can easily access. This southern part of the village comprises cultivated lands, which are designated as Area C lands—whereas the residential areas south of the main road are designated as Area B lands. To the north of this fence lies one of the most unique aspects

of the built landscape of Battir: railway tracks connecting Jerusalem to Jaffa. Although this railway dates back to the Ottoman Era, under the Armistice Agreement, the tracks and The Green Line became one and the same. These congruent lines represent a history of resistance, negotiation, and compromise—which in some respects is unique to the village of Battir. One respondent described this landscape as unique to Battir: “*we have a different situation than other areas because we have the railroad tracks and a Green Line area; 200 yards on each side of the tracks are considered part of the Green Line*” (Youth Leader, #3). The railway tracks are now Israeli state property, which one participant claims that Battir did not have to cede control over:

we did not have to let the train pass, but we agreed to let them pass, in order to have our village completely. No Arab did that anywhere else; this is what Hassan Mustafa did. He confronted them and did it with the Arab Committee of the Armistice (Female Elder Leader, #7).

This respondent ardently argues that respecting the no-man’s land on either side of the tracks is imperative. Respecting the 1949 Armistice Agreement stipulations, would, she argues, prevent The Wall from being built in Battir, and in turn, prevent their lands north of the tracks from being confiscated by the Israeli state:

they established a rest area in an irrigated land [referring to a tent set up for hikers and tourists, less than 200 yards away from the fence—i.e. within the no-man’s land area]. This is a loss! Next to the tracks, which we have agreed not to encroach on, they want to build a wall! We won by not having a wall: not a wire wall; not a glass one; not an electric one, or any other kind of wall or construction! So now, people who want to invest and to normalize with the Israelis, they would say this is the line [i.e. the railway tracks] separating us from the Israelis [i.e. separating 1967/West Bank lands from 1948 lands]! But our lands are beyond the tracks; why should we give up this land, give it to them [i.e. the Israeli state] after 70 years—why should we? This area beyond the tracks concerns—belongs to—every Battiri¹²⁵, even if one has a piece of land as big as this book [points to a book on her desk] and has only one tree on it; it is his right, it is his land. So for the interest of some people from outside of the town who want to do tourism projects in partnership with Battiri people who are not cultivators, they took this [piece of] land and established a rest area on it...this is a private interest at the expense of a public interest...people met and agreed that this is unlawful. We have an international agreement between us and the

¹²⁵ A person from Battir.

Israelis by way of the Jordanians, that the Israelis have the right of passage without stopping; and they have the right to go beyond the tracks up to 200 yards in case there is a train accident or the train is attacked. We, the Battiris, are forbidden to be in that area, and they are not allowed to disembark from the train into the plots [al jinan] or anywhere else (Female Elder Leader, #6)

Not every villager sees the issue this way, however. While Female Elder Leader arguably represents the old guard of socio-politically aware and engaged Battiris, Youth Leader represents the new guard. Youth Leader is at the forefront of bringing change to Battir, with ecotourism at the heart of his efforts. Youth Leader situates this “tent” or rest stop within a larger strategy to challenge Israeli control over the land:

the tent...is 50 meters away from the tracks...[inside] the Green Line...From the time of our forefathers, no one had the courage to do anything down there; the only thing we were able to do was [build] the school. But the Israelis installed a metal fence for ‘public security’, built a wall around the school, demolished the old train station, and replaced it with electric generators. We did not react. [Then] we decided to do two things...so we have two problems: this tent inside the Green Line, we have danger from Israel. Why are we doing this? We have this policy of inching into this land and implementing something on the ground (Youth Leader, #12)

Notwithstanding these opposing perspectives, Battiris have avoided being surrounded by The Wall. This avoidance however, is not seen as guaranteed. This is one of the common fears amongst the villagers—who are not split on the issue of what they perceive to be an impending danger of their lands to the north of the tracks being confiscated by the Israeli state—but rather on the best strategy to avoid their fear from becoming a reality: that the fence would be replaced with The Separation Wall. While the fence cuts through Battir’s valley, it does not extend the length of the village. There is a break in the fence, which allows farmers to reach their lands to the north of the railway tracks. One retired farmer recalls the geopolitical situation that he had faced up until 15 years prior:

in 1948, they [i.e. Israel] did not occupy the Battiri land; they are on top of the [opposite mountain, belonging to the neighboring village, Al Walajah] mountain;

they have nothing in the valley. With the Rhodes Agreement, the Jews¹²⁶ wanted the train to pass; there were 3-4 kilometers that they did not occupy. They agreed with the Jordanians [who had jurisdiction from 1948 until 1967] that the train will pass but the lands beyond would still be cultivated. We [i.e. farmers] go all the way down, nobody restricts us (Elder Farmer, #8).

Referring to the lands beyond the tracks, Elder Farmer explains that these lands are now part of the Israeli state, *“but still we [i.e. Battiris] were able to enlarge the building despite the [Israelis], a school for boys”* (Elder Farmer, #8).

Overlooking this school, and the valley in which it stands with only a few other buildings, is an Israeli military jeep that is parked on the opposing hill, in the no-man’s land between Battir and the neighboring village, Al Walaja. Aside from this military presence, Battir’s only other contact with the Israelis takes the form of settlers who descend upon the cultivated lands. They are perceived by the villagers as representing a looming threat of the encroachment on their lands: *“all the people here understand that all the land in this area is threatened with confiscation...we are one location out of seven extending over 70 kilometers...which has six settlements around it”* (Youth Leader, #3). Youth Leader noted that this threat has been explicitly shouted at them by settlers who descended upon their cultivated lands, thereby solidifying the villagers’ perception into a more objective threat.

The area of land cultivated is dependent upon the amounts of annual rainfall—which in turn, determines the annual spring flow—leaving the farmers to adapt to weather conditions. One participant, a female farmer who leases lands and its

¹²⁶ Although the PLO explicitly distinguished between “Jews” and “Zionists” in 1968, not everyone adopts this distinction; rather, some people use the terms “Jews” and “Zionists” or “Jews” and “Israelis” interchangeably. Albeit clearly problematic, this is simply a linguistic conflation, not intended to be derogatory to the Jewish religion or Jewish people.

concomitant irrigation water, discusses the effects of particularly low levels of rainfall that year (2017):

they cannot cultivate all the land; there is not enough water. If I have two plots of land [for example], I will only cultivate one when necessary. We peasants understand water; when the spring is strong we can tell. This year the spring flow is weak. With the arrival of summer, the flow gets weaker. During March, we can tell if it is going to be weak or not (Female Renter, #5).

Elder Farmer, a retired farmer, asserts that overall, *“our spring flow is weaker because of the Artesian wells¹²⁷ they [i.e. the Israelis] built; it is much less now. The Jews¹²⁸ definitely affected our situation”* (Elder Farmer, #8). Elder Farmer estimates that the pumping of groundwater via “Artesian wells” has rendered the spring flow half of what it used to be¹²⁹. *“Although the water is much less, there are less people cultivating; there is no labor force to water and cultivate; the whole village used to cultivate; I was one who cultivated more than others”* (ibid).

Others do not believe that Israeli groundwater pumping has any effect on their springs. Youth Leader explains that Battir’s topographic location precludes their spring flow from being affected by groundwater pumping: *“we are on the upper aquifer in the Southern West Bank. [Even] when they pump at a depth of 600 meters, it does not have any effect on our water here”* (Youth Leader, #1’). Echoing this assertion, the older farmer, Male Farmer, states: *“no, here they do not affect the water—in our area, specifically, there are no effects”* (Male Farmer, #1’). Youth Leader explains that there are *“indirect impact(s)...first, we are not allowed to have water storage [tanks or pools/reservoirs] or wells...the second thing we tried to do is to have water pumps to*

¹²⁷ These are actually boreholes, which are artificially created, but referred to as “Artesian Wells”—a misnomer.

¹²⁸ Although the PLO explicitly distinguished between “Jews” and “Zionists” in 1968, not everyone adopts this distinction; rather, some people use the terms “Jews” and “Zionists” or “Jews” and “Israelis” interchangeably. Albeit clearly problematic, this is simply a linguistic conflation, not intended to be derogatory to the Jewish religion or Jewish people.

¹²⁹ This cannot currently be triangulated.

pump water from the area of the spring to the town here” (Youth Leader, #1’), which they are also restricted from doing. Instead,

Israel pumps [the groundwater] and sells it to us for our homes [i.e. for domestic use]...so imagine how much rain water is not used from October to May...it is our dream [to create another water reservoir/pool to collect spring water]...it is forbidden by the Israelis. We cannot take the risk of doing it and then they come to demolish it (ibid).

Exceptional governance influences Battir’s access to, and control of, water in myriad ways. Like Village C1, access to their CPR has not been obstructed, as evidenced by their ability to reach the spring and harvest their spring water. However, similar to Village C1, Battiris are prohibited from harvesting rainwater. Moreover, *control* over their water—i.e. rainwater, spring water, and groundwater—is compromised via the prohibition of building infrastructure to manage these resources. This includes installing water pumps and pipes, building reservoirs/pools, and drilling boreholes (see Table A5.2 in Appendix 5).

Village C3

Village C3 is the most acute case of EG out of all three Area C villages in this study. The landscape of this cultivated valley is conspicuously marked by [REDACTED] Israeli settlements encircling the *wadi*. These settlements are all perched on hills strategically located to surround and overlook the Palestinian village. These settlements directed their open-air sewage to flow down the hill onto another common property spring [REDACTED] [REDACTED] One cultivator described the situation in graphic terms: “[REDACTED] *there was an Israeli sewage well in Palestinian lands*” (Orchardist 1, Unrecorded #2). While this characteristic of EG improved, another one had worsened: the increasing prevalence of

[REDACTED]

[REDACTED] 2014). This is evidenced by the dual system of governance the IPNA imposes: one for settlers, and the other for the villagers—the latter of which includes regular inspections, surveillance, and aerial photographs. The Palestinian valley is a protected nature reserve, where Palestinian villagers are prohibited from changing the topography in the slightest way. In stark contrast, the surrounding settlements continue to expand ([REDACTED] 2014), with no building restrictions imposed on the settlers.

Prohibitions on changing the topography of the land, include being “*prohibited from digging [i.e. digging or turning over the soil]*” (Orchardist 1, Unrecorded #2). Prohibitions also include measures to protect their crops from being accessed and destroyed by wild boars—i.e. fencing in their agricultural lands with barbed wire (a practice common among Palestinian farmers) or setting up poison traps: “*we are not allowed to poison the pigs, or to place fences around our crops or trees to protect them. The Nature Authority says it harms the boars*” (Orchardist 1, Unrecorded #2). These regulations render the villagers incapable of installing pipes, building any structures—including creating water canals, new pools/reservoirs or cementing existing ones—installing electricity, and paving the dirt roads. One group of participants recount how all of the farmers collected money to [REDACTED]

[REDACTED]

[REDACTED] it was destroyed by the IPNA, since it constituted a violation of their regulations. Another participant in a group interview recounted how the IPNA uprooted [REDACTED] of his olive trees. Although these trees were not located in the cultivated valley, they were part of adjacent orchards. The compensation

for this loss was a choice between █████ USD and 5 sheep, which he described as futile: *“how can we benefit from these?”* (Orchardist 2, Unrecorded #2).

One particularly knowledgeable participant, who provided a tour of the cultivated valley, explained that the IPNA also prohibits any alteration of their spring and irrigation system. This includes the prohibition of cleaning, maintaining, or fixing the spring. Prior to the enforcement of these regulations, the spring was covered by a █████ bush, which served as a natural awning. This prevented the sun from hitting the spring, thus preventing the growth of algae. Under the topographic regulations, the IPNA removed the █████ bush and prohibited its regrowth. As a result, there is an overgrowth of algae, rendering the spring water unsuitable for drinking. The participants relay their frustrations with their intractable situation, expressing how absurd they believe IPNA regulations are: *“[the IPNA] says the farmers cannot move rocks, cannot extract water. They claim we do not have a right to water, that the water belongs to the fish and the algae”* (Orchardist 1, Unrecorded #2). The farmers’ grievances also include being prohibited from renovating their pool/reservoir and laying pipes from the spring to their reservoir. One research participant explains that when he installed water pipes, *“Israel ruined my pipes”* (AK, Unrecorded #1). Another participant in a group interview recounts how another *“farmer created a drip irrigation system and built greenhouses, but Israel [i.e. the IPNA] destroyed it all”* (Elder A1, Unrecorded #1).

The cultivators’ current water condition stands in stark contrast to what the Village C3 participants all delineate as a previously water-abundant valley. In contrast to Village C1 and Village C2, Village C3 farmers unequivocally believe that the water table has been reduced to due Israel pumping groundwater:

We are on a river, but Israel took everything; █████ █████ years ago, they pumped [the groundwater] 1,000m deep” (AK, Unrecorded #1). Another farmer relayed:

“the spring used to be enough for everyone. We could pump water anytime, and irrigate the land anytime. When the water declined [REDACTED] years ago, we were very upset and worried/frustrated (Orchardist 1, Unrecorded #2).

The resultant diminution has significantly diminished cultivation in the valley: *“we are supposed to irrigate the orchards every five days, this is what the trees require. So the trees get weak because every [REDACTED]-14 days is insufficient” (AK, Unrecorded #1).*

In short, EG influences Village C3’s access to, and control over, water in myriad ways. Access to their CPR is obstructed through the enforcement of IPNA regulations that result in the most severe conditions. In addition to being prohibited from harvesting rainwater and drilling boreholes to access groundwater, the villagers have noticed a significant reduction in their spring flow, thus hindering access to their CPR. Control over their CPR is not only hindered, as in Village C1 and Village C2, but is effectively non-existent. In addition to the prohibition of building infrastructure to manage their freshwater resources (i.e. installing water pumps and pipes, building reservoirs/pools, and drilling boreholes), even the most basic maintenance of their CPR is prohibited—including cleaning the spring or filtering the spring water before using it to irrigate their lands.

One participant contextualized their common grievances as part of the Israeli state’s political agenda: *“[REDACTED] or [REDACTED] years ago, we cemented the [previously dirt] canals, but they ripped them out. This is where the role of Zionism comes in.” (Orchardist 1, Unrecorded #2).* This participant demonstrated an intentional thoughtfulness and political analysis, explaining, *“there is a difference between Jews and Zionists. We are not against Jews, we are against Zionists” (ibid).* A participant from another group interview also discussed their grievances within a political context: *“Israel’s goal is to control the whole situation, [including] water—and for us to be under their control, and*

for them to sell water to us. Then they show the whole world that they give water to Palestinians” (AK, Unrecorded #1). Another participant asserted:

the settlers are not the problem; they do not know what their government does. When they pass through here, they ask why the roads are not paved, why we do not have houses or electricity...The nature authority [i.e. IPNA] is the problem. It's the fault of the [Palestinian] Authority. God forgive them. Sa'eb [Erakat]¹³⁰ signed everything (Orchardist 1, Unrecorded #2).

Another villager, who served as a gatekeeper—but is not a farmer—also contributed his political analysis:

the [Palestinian] Authority is strapped. Nobody read the Oslo agreements. They did not even have maps [when they negotiated the agreement]. The [Palestinian] Authority has no intention to invest in agriculture. The Ministry of Agriculture used to get 2.5% of the national budget. They kept reducing it until it became 0.03% of the national budget (Gatekeeper C3, Unrecorded, #1).

The first focus group participants also expressed that they “*face problems with marketing*” (Elder A1, Unrecorded #1) their produce, which includes pricing. Israeli produce floods the market, leaving “*no market for our citrus*” (ibid). While the farmers in Village C3 cultivate olive trees, the PA nevertheless “*imports olives and olive oil*” (AK, Unrecorded #1) from European countries, making it difficult for the villagers to sell their own products. These farmers declare that only 10% of their income is generated from farming. The second focus group participants also asserted that they “*are not dependent on farming, since it does not generate enough income; it only brings in ■■■■■ NIS/month. Me and my brothers have other jobs*” (Orchardist 2, Unrecorded #2). For a summary of EG indicators and their effects on CA in Village C3, refer to Table A8. 3 in Appendix 8.

¹³⁰ The lead Palestinian negotiator.

5.1.1.1 Summary of Effects of Exceptional Governance on Water in Area C Villages

The following table provides a summary of the above-outlined effects of EG on water in Area C villages:

Table 5.1: Exceptional governance indicators and their effects on collective action in Area C villages

Indicators of EG endogenous to CA institution		Indicators of EG exogenous to CA institution			
Effect on CPR		Cultivation Indicators		Other Indicators	
		De-development		Infrastructure	
<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>
<ul style="list-style-type: none"> ▪ Area C1: - electric fence and closed military zone surrounding CPR 	<ul style="list-style-type: none"> ▪ Paying fines in military court for over extraction ▪ Adaptive farming practices 	<ul style="list-style-type: none"> Range of infrastructure to block access and/or confiscate land: ▪ C1: wall/electric fence, seam zone, and agricultural permits 	<ul style="list-style-type: none"> ▪ Precarious access to agricultural lands ▪ Danger to cultivators attempting to access lands ▪ Adaptive farming practices 	<ul style="list-style-type: none"> ▪ General EG infrastructure: - Wall/electric fence - Seam zone - Checkpoints - Road closures - No-man's land - Settlements 	<ul style="list-style-type: none"> ▪ Hindered access to lands and markets ▪ Reduced cultivation ▪ Anticipated threat of settlement expansion
<ul style="list-style-type: none"> ▪ Area C2: no effect on spring flow reported; ban on pumps and reservoirs 	<ul style="list-style-type: none"> ▪ Agricultural development barred 	<ul style="list-style-type: none"> ▪ C2: fence and no-man's land; settlements; checkpoints 			
<ul style="list-style-type: none"> ▪ Area C3: significant bans on operational and collective choice property rights 	<ul style="list-style-type: none"> ▪ Severe water shortages ▪ Significantly reduced yield ▪ Complete lack of maintenance, cleaning of CPR 	<ul style="list-style-type: none"> ▪ C3: encircled by settlements 			
		Ban on groundwater extraction		Israeli state surveillance	
		<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>
		<ul style="list-style-type: none"> ▪ Area C1: ▪ Area C2: ban on extraction ▪ Area C3: ban on extraction 	<ul style="list-style-type: none"> ▪ Inability to develop water sources ▪ Inability to develop agriculture 	<ul style="list-style-type: none"> ▪ Military presence ▪ Satellite monitoring ▪ Monitoring groundwater pumped 	
		Military destruction of cultivated lands/crops		De-development policies	
		<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>
		<ul style="list-style-type: none"> ▪ C1: none reported ▪ C2: none reported 		<ul style="list-style-type: none"> ▪ Labor shortages due to inability to pay 	<ul style="list-style-type: none"> ▪ Barriers to marketing

Indicators of EG endogenous to CA institution		Indicators of EG exogenous to CA institution		
		<ul style="list-style-type: none"> ▪ C3: extreme case reported; unique to results but not uncommon in region 	<ul style="list-style-type: none"> ▪ Loss of sustenance; forced to seek alternative means of survival 	<ul style="list-style-type: none"> agricultural laborers competitive wages ▪ Importing produce ▪ Subsidies to Israeli farmers ▪ Israeli farmers insured
		Settlers descend on agricultural lands		
		<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	
		<ul style="list-style-type: none"> ▪ Area C1: none reported 		
		<ul style="list-style-type: none"> ▪ Area C2: periodic presence; reported as verbally aggressive and threatening 	<ul style="list-style-type: none"> ▪ Shriveled zucchini/ courgette ▪ Reduced yield 	
		<ul style="list-style-type: none"> ▪ Area A3: regular presence; reported as not antagonistic 		

5.1.2 Exceptional Governance in Area A Villages

Area A villages

The consolidation of Israel's control over water was accomplished via the geopolitical division of West Bank lands under Oslo II. While the PA's full civil and security control of Area A lands translated into the prohibition of Israeli entrance into these areas, this has not been the case in practice; there are numerous instances in which Israeli military officials have breached this agreement and crossed into the boundaries of Area A lands. The lack of real control over the boundaries and security of Area A lands renders the PA relatively powerless.

While Area A villages are also surrounded by Israeli settlements, these areas do not face land confiscation in the same way as Area C lands—as they are under full Palestinian civil and security control. Due to a higher degree of autonomy, the Separation Wall does not cut through these lands (or pose the threat of imminent construction), nor are there restrictions on housing development or donor projects. There are exceptions to the control over security matters, but not in ways that directly affect these CPR institutions. The governance conditions in these Area A towns/villages cannot be said to exist as mutually exclusive to EG; control over borders and resources is not completely void of Israeli restrictions. Area A villages are still regularly infiltrated, surrounded by settlements, and do not enjoy unfettered access to their resources.

While Israeli settlements have encroached on the Jordan Valley lands, they are further away from Area A towns/villages than from Area C villages. The resulting area of visually uninterrupted Palestinian lands renders Village A1 seemingly worlds away from the Area C villages in this study; the lack of conspicuous EG infrastructure is one of the biggest differences between Area A and Area C lands. This means that access to

their lands is not obstructed by fences, walls, buffer zones, checkpoints, or other obstacles. The other notable landscape difference in this valley manifests in larger plots of agricultural lands. The gatekeeper to the field in Area A villages explains the distinction between “surface” groundwater (“*miyah sat-hiyeh*”) that is up to 150m deep—and groundwater that is found below 150m (“*miyah jawfiyeh*”). The former is water that can be harvested via drilling, whereas the latter is understood as “*illegal; we cannot drill into miyah jawfiyeh*” (Gatekeeper A, Unrecorded #10).

Village A1

Village A1

Visible signs of EG infrastructure are negligible—if not entirely absent—within this landscape. This lack of visible EG infrastructure does not, however, apply to the surrounding areas; this town is situated amid Area C lands filled with Israeli settlements.

Notwithstanding Village A1’s lack of political infrastructure that characterize EG, access to—and control of—local freshwater resources is compromised by Oslo II limitations. While the study participants report that Village A1’s spring water has remained an unaffected source of freshwater, they also report limited access to groundwater. Referring to individual wells, one cultivator explains that “*the Israelis will not allow it [i.e. digging a well]; you need a permit first, and if you get it, then you need resources to do that...it is not easy: you need permits and then cultivators cannot take the risk of digging and then finding no water*” (N, #16)

While some cultivators receive external funding to dig wells on their private properties¹³¹, digging wells/boreholes is viewed as the responsibility of local government: *“the municipality has resources and is capable and already has the permits for the wells...four Artesian wells...maybe 100 [meters deep] maybe 80 [meters deep]”* (N, #16). Another cultivator—the head of the Village A1 Irrigation Association¹³²—asserts that the cultivators were permitted to drill boreholes/wells at a depth of 150m: *“even if we drill 1,000 meters deep, nobody will fine us”* (Elder A1, Unrecorded #10). Both of these cultivators attribute the PA’s inaction on drilling wells to develop more sources of freshwater to the readily available Village A1 Spring: *“the municipality does not care to drill bir jawfiyeh¹³³, because they have a spring”* (ibid); *“but the village council is not providing solutions”* (N, #16).

While community members do not perceive access to their CPR to be hindered, the substantial reduction in banana cultivation is a notable EG characteristic they refer to. One participant asserts that they previously cultivated [REDACTED] dunums of banana trees, which was reduced to [REDACTED] dunums. This is due to a reduction in water sources as well as to the substantial increase in salinity of their freshwater sources. For a summary of EG indicators and their effects on CA in Village A1, refer to Table A5. 4 in Appendix 5.

Village A2

Similar to Village A1 and Village A3, Village A2’s landscape lacks the physical infrastructure of EG; the surrounding Israeli settlements comprise an exception—as is the case in all Area A study locations. Settlement establishment and development are incessantly felt threats, which one cultivator notes they receive some support with: *“the*

¹³¹ This is according to some participants but cannot currently be triangulated.

¹³² At the time of fieldwork.

¹³³ A “surface” water borehole.

[Palestinian] Authority helped us protect some lands...that were threatened with confiscation” (NF, Unrecorded #12). Notwithstanding these settlements, there is substantially less¹³⁴ interaction between Israelis (soldiers and settlers) and Palestinians in the heart of the Jordan Valley villages that are located in Area A lands¹³⁵—which, in turn, seems to engender a belief among some research participants that Israel has “*no effect*” (Municipal Official, #18) on their water. This belief can also be attributed to the hybrid system of governance that determines water access and control—i.e. co-management. This cultivator, who is also a municipal official of villages A2 and A3, claims [REDACTED] [REDACTED]” (Municipal Official, #18). Notwithstanding this claim, the official explains that the Israeli state dug a “*well [nearby] about 500 meters deep*” (ibid), which he asserts did not influence their spring flow. He implies that spring flow had been declining due to increasing housing development in the area: “*what changed is the housing construction investment; it changed from that respect. So it is not that water is less*” (ibid).

While Village A2 participants do not perceive their access to their water resources to be compromised, they do believe that their agricultural production has been influenced by Israeli state policies. One cultivator notes that cultivation has, in fact, diminished:

it is getting less now; do you notice that in the winter, there is not much in terms of quantities? Zucchini/courgette is so expensive. People stopped planting it; its output also decreased: we used to get 20-30 boxes of zucchini per dunum. Nowadays we only get 3-5 boxes per dunum...nobody knows why. Did the Israelis tamper with that specific kind?...I do not know how...they tamper with the seeds. This disease did not exist before—we never knew it at all; it started appearing about thirteen years ago...they also introduced a disease called the European Disease...it is a virus that causes wrinkles. It is made by the pharmaceutical companies. It is all investment at the expense of the [Palestinian] cultivator...[we buy the seeds from] Arab companies

¹³⁴ Relative to villages and towns designated as Area C.

¹³⁵ This is not the case with Jordan Valley villages and springs located in Area C lands, which have been acutely affected.

who get it from the Israelis. [Even with our own seeds] the disease already spread. Even the [chilli] pepper is affected too, and the bell pepper, it gets all wrinkled...the leaves [get wrinkled]; it affects the output (Municipal Official, #18).

For a summary of EG indicators and their effects on CA in Village A2, refer to Table A8. 5 in Appendix 8.

Village A3

The political conditions in Village A3 are similar to those in Village A1. As in Village A1, there is an absence of *visible* characteristics of EG infrastructure. Nevertheless, this village is also situated within the sea of Area C lands filled with Israeli settlements.

Notwithstanding the same EG restrictions on water access and control, the co-management water governance system in Village A3 differs from that of Village A1 (see Section 5.2.2). While these water management systems differ, perceptions of water access are, like in Village A1, sometimes convoluted—or even contradictory. One cultivator explains that Village A3 “used to produce [REDACTED] m³/hour, but currently produces [REDACTED] m³/hour” (AY, Unrecorded #11), yet also asserts that Israel “does not affect our water” (AY, Unrecorded #11). The reason for this ostensible chasm can be attributed to the fact that “the [Palestinian] Authority extracts water for their police bases” (AY, Unrecorded #11). It can also be attributed to the nuanced ways in which power affects these cultivators’ perceptions. Another Village A3 cultivator makes a similar assertion about the Israeli state not affecting the spring flow:

I am sorry to say that the aquifer in Village A1 has problems in terms of water quantity...it does not [affect VillageA3] ...because it is far from the spring. I expect—hopefully I am wrong—that we will have an 80% shortage of water...the Jews¹³⁶ do not allow you to pump as much as you want. [They allow up to] 200m3. Also they do

¹³⁶ This particular respond used the terms “Jews” and “Israelis” interchangeably.

not have permits even for Area A...so if they discover a well, they come and cover it or close it. In addition to all this, we had a drought...[and salinity. The salinity count is] 5,000 and up; I say that if they allow the cultivators to dig at 300-400 meters deep, we may get sweet water—but the Jews do not allow that, and the [Palestinian] Authority does not allow it either. The Israelis come and measure how much water has been pumped; they also monitor by satellites and other technology to check if wells have been dug up (Date Palm Farmer, #13).

This lack of control is seen as a political failure that occurred during the signing of Oslo

II:

we do not want to talk political issues, but the ones who signed political agreements did not think what will happen in the long term; they signed an agreement that said Israel will be in charge of the aquifer water. They thought it was a simple matter—the brothers who signed the Oslo agreements. Unfortunately, it is not a simple matter (ibid).

While this farmer explains that those who rely on well water face greater problems than those who rely on the Village A3 Spring water, he nevertheless asserts that water is insufficient for all cultivators, irrespective of their irrigation source: “*nobody has extra water; for example, I have [redacted] minutes and I need them all—if not more*” (ibid).

Similar to responses in Village A1, substantial reduction in banana cultivation is the most oft-noted characteristic of EG that the research participants refer to. “*Ninety per cent of banana [trees] are extinct from Village A1...there are no more bananas because of the lack of water. The available water is barely enough for drinking*” (Date Palm Farmer, #14). Another cultivator notes, “*prior to 1980, I had [redacted] banana seedlings on my land. After 1980, this was reduced to [redacted] seedlings*” (AY, Unrecorded #11).

Difficulty in marketing their produce comprises another EG condition the research participants refer to:

we send it to the hisbeh [i.e. produce market] to the auctioneer and he auctions off the vegetables [implying that they get the lowest prices for their produce]. In addition, Israel fights us on this...[if] you go to Jerusalem...you would notice small boxes of tomatoes. The Jews¹³⁷ got it from Turkey. It is not the Arabs who got it. They brought the bananas from Lebanon and Somalia. The Israelis have their own farms

¹³⁷ This particular respond used the terms “Jews” and “Israelis” interchangeably.

in Turkey, Somalia, and the Sudan. When the price of tomatoes increased and thus would help the cultivator [implying it could help Palestinian cultivators], they would import it either from Jordan or from Turkey...I am sorry to say that the [Palestinian] agricultural sector is allocated only 1% of the government budget. The Israeli cultivator is subsidized by 60% from his government; whether it is for equipment he buys, or water he buys. Even if the seasonal harvest was bad, the government or the insurance company would compensate him completely; this is not the case for us (Date Palm Farmer, Recording #14).

For a summary of EG indicators and their effects on CA in Village A3, refer to Table A5. 6 in Appendix 5.

5.1.2.1 Summary of Effects of Exceptional Governance on Water Resources in Area A villages

The study participants in the three Area A villages report that their spring water has remained unaffected sources of freshwater. Participants in Village A1 refer to access limitations, while participants in Village A3 recognize limitations to access—as well as lack of control over groundwater. Participants in Village A2, however, maintain that there are no limitations to water access or control. Nevertheless, harvesting spring water and groundwater (via boreholes or wells) in the Jordan Valley is restricted, and ultimately controlled, by the limits set by Oslo II. Under Article 40, the PA is permitted to harvest 30mcm from Jordan Valley springs; 24mcm from wells in the Jordan Valley; and to further develop 78mcm from the Eastern Aquifer, on which the Jordan Valley is situated.

Table 5.2: Exceptional governance indicators and their effects on collective action in Area A villages

Indicators of EG endogenous to CA institution		Indicators of EG exogenous to CA institution				
Effect on spring		Cultivation Indicators		Other Indicators		
		Over extraction of groundwater		Infrastructure		
<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	
<ul style="list-style-type: none"> ▪ Area A1: no effect reported ▪ A2: no effect reported 		<ul style="list-style-type: none"> ▪ Israel pumping beyond 150m 	<ul style="list-style-type: none"> ▪ Water table lowered ▪ Water available above 150m is saline 	<ul style="list-style-type: none"> ▪ General EG infrastructure not visible, but surrounding entire Area A zone: <ul style="list-style-type: none"> - Surrounded by Area C lands - Surrounding settlements 	<ul style="list-style-type: none"> ▪ Anticipated threat of settlement expansion 	
<ul style="list-style-type: none"> ▪ Area A3: mixed perceptions on whether Israeli pumping of groundwater has any effect on spring flow 		Limits to groundwater extraction		Israeli state surveillance		
<i>Reasons/Manifestation</i>		<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>
<ul style="list-style-type: none"> ▪ Oslo II, Article 40 limits to groundwater extraction 		<ul style="list-style-type: none"> ▪ Inability to reach freshwater ▪ Inability to develop agriculture 	<ul style="list-style-type: none"> ▪ Satellite monitoring ▪ Monitoring groundwater pumped 			
Agro-sabotage		De-development policies				
<i>Reasons/Manifestation</i>		<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>
<ul style="list-style-type: none"> ▪ Area A1: none reported ▪ Area A2: belief that Israel deliberately unleashed diseased seedlings ▪ A3: none reported 	<ul style="list-style-type: none"> ▪ Shriveled zucchini/ courgette ▪ Reduced yield 	<ul style="list-style-type: none"> ▪ Middleperson/distributor auctions produce at low prices ▪ Importing produce ▪ Subsidies to Israeli farmers ▪ Israeli farmers insured 		<ul style="list-style-type: none"> ▪ Barriers to marketing 		

5.2 Collective Action in West Bank Villages

Prior to 1948, the majority of inland Palestinians were farmers, passing down land through inheritance. Contemporary land and water property rights bundles have changed with time—and are spatially variegated. In the West Bank, CPRs can be on public or private land, yet managed collectively under a common property regime. In some cases, the land on which the CPR is situated is public (e.g. in Village C3), whereby the CPR is open access vis-à-vis operational rights but common property vis-à-vis collective choice rights. In all six study cases, CA regimes allow outsiders to drink, wash, and fill up small containers of water. Some regimes also allow shepherds to bring their sheep [REDACTED] to drink from their CPR.

The origins of CA institutions in these six study locations are not uniformly identifiable. Whereas in some villages (e.g. Village C1) the origins are well known, in others (e.g. Village C2), they are described by community members as age-old. As is the case with the history of many phenomena in Palestine, there is a dearth of historiography. In most cases, study participants do not have historical knowledge on the origins of their land and water property rights regimes, CA institutions, or even precise information on more recent developments. My fieldwork results indicate that most information is unrecorded, assumed as age-old—and sometimes even perceived as insignificant to their daily lives, current CA institutions, or future possibilities. While not a historiographic study, it does attempt to fill in some gaps in the literature on the history of water management in Palestinian villages.

5.2.1 Collective Action in Area C Villages

Village C1

Property Rights: Operational and Collective Choice

Property regimes in Village C1 can be described as modern, where land and water resources are private property. Property rights over land are held in conjunction with property rights over water resources—i.e. there is no separation in ownership over these two. While the valley of Village C1 is comprised of fertile land, it does not contain water springs. Instead, the cultivators extract groundwater through boreholes, referred to as “Artesian Wells”—a misnomer—by community members. These boreholes or wells were drilled in [REDACTED], well before Israeli colonization of the West Bank. Ownership over the majority of these wells is comprised of a small group of individuals who form a company; one or more of whom owns the land containing the respective borehole. Owners may harvest the freshwater for their own cultivation purposes, sell the water to cultivators who do not have wells, or utilize the water for a combination of these purposes. The “Artesian Well” included in this study is on private land, but owned by a group of users as a CPR under a common property regime—i.e. while the land is private property, the well/borehole has become common property—and used to irrigate cultivated lands privately owned by farming families or leased from them. The water produced from this CPR is thus common property vis-à-vis operational and collective choice rights. Water extraction is monitored by Israel, and subsequently restricted, via water meters that measure flow. As outlined below, these restrictions render the integrity of property regimes compromised. This amounts to a *violation of their private and common property rights*.

Origins of Institutional Arrangements

The CPR community in Village C1 is one of the few communities that has recorded the origins of their CA institution. While the conception of CA occurred organically, it was not based on a traditional patrilineal (i.e. clan-based) system of managing water access and use. The co-operative is the brainchild of two villagers who decided to introduce a new model in [REDACTED]. The landowner¹³⁸, along with another villager¹³⁹, procured a grant [REDACTED], with the intention of providing a water resource for the farmers of Village C1. This grant enabled them to install a motorized pump and set the foundations of a co-operative irrigation association in [REDACTED]—just [REDACTED] years prior to Israel’s colonization of the West Bank. While the well once provided water to irrigate [REDACTED] dunums of land, this common pool resource now provides water to surrounding farmers to irrigate their cumulative [REDACTED] dunums of land. The two cultivators who had initiated this project only charged their neighboring peers for water pumping/extraction costs. Each farmer became a member of the common property regime: a shareholder with one vote in the co-operative. During its inception, there were [REDACTED] landowning members of the co-operative; *“now it is divided amongst [REDACTED] [due to] inheritance”* (Recording #20). Each of these landowners has a certain number of shares in the co-operative: *“there are different shares; some [have] one, some [have] two, some [have] half a share”* (Recording #20). This member claimed that the founders *“called it a ‘co-operative association for agricultural irrigation’ in [REDACTED] in order to get [financial] support [to set up] the borehole and motor...since at that time people’s [financial] situation was bad”* (Recording #20). Unlike the other

¹³⁸ The late grandfather of the cultivator who served as co-op director¹³⁸ when I first visited in 2015.

¹³⁹ [REDACTED] newly elected co-op director when I returned to Village C1 in 2017.

respondents who are also members of the co-op, however, this seedling nursery owner laments the establishment of CA in their village as compromising his family's private interests:

this motor for the association is on our land; my grandfather could have done it by himself alone, and I wish he had; but he asked people to buy shares in order to be able to irrigate their lands. Agriculture was not as developed [as it is now]. (Recording #20).

Another respondent, Coop Leader 1, recounted the origin story nostalgically:

my grandfather...had the idea of getting a motor; we dug in our [privately owned] land. He reached [redacted] meters deep. My grandfather told the digger, 'even if you have to go down 500 meters, you have to get the water' (Recording #23).

Coop Leader 1 describes his grandfather's persistence, stating that upon reaching ' [redacted] meters, they got to the water [table]. [redacted] " (ibid). [redacted]

[redacted]

[redacted]

[redacted]

The formalization of Village C1's CA institution, including the documentation and preservation of its history renders it a unique case in this study. This well-recorded and relatively detailed origin story was further contextualized as a lesson learned after Israel's founding. The head of the co-op explained that between 1947 and 1948 as the villagers' lands were being confiscated, some of the landowners were not present—either because they were in the surrounding area, or out of the country. Their absence was used

against the landowners, who were subjected to Israel’s 1950 Absentees’ Property Law¹⁴⁰, and therefore could not claim their property. As a result, Palestinians learned from this experience; in particular, Village C1 turned this lesson into action by establishing the co-operative as a preventive measure against the recurrence of land loss legalized by the Absentees’ Property Law. This enabled Village C1 landowners to register their lands as part of the co-op; while land title deeds were recorded under individual owners’ names, they were also registered as being serviced by the co-op—which, in turn, provided some protection against future Israeli confiscation.

Institutional Arrangements

The borehole, which is approximately ■■■m deep, has provided water to ■■■ landowners and ■■■ farmers¹⁴¹ who own/lease land in the valley. Each member of this co-op is charged for the electricity required to generate each unit of water (one cubic meter). Prior to electrifying the water extraction system, water was harvested using diesel power, what the locals call “*solar*”. The co-op eventually came to comprise ■■■ boreholes, situated miles¹⁴² apart. Cumulatively, these serve ■■■ landowners¹⁴³, some of whom rent their agricultural lands, bringing the total number of farming households completely dependent on the co-op’s ■■■ wells to ■■■. The ■■■ landowners comprise the membership of the co-op, although there are only approximately ■■■ active members. While the ■■■ landowners have ownership over water shares, the tenant farmers have access, withdrawal, and management rights over these water shares—rendering them water

¹⁴⁰ Commonly referred to as the Present-Absentee Law.

¹⁴¹ “Farmers” are not individual farmers, but rather a family unit—i.e. a farming household.

¹⁴² This cannot currently be triangulated; thus, the original borehole is the CPR included in this study.

¹⁴³ i.e. landowning families.

claimants. The groundwater the CPR produces is distributed to the irrigators at a rate of [REDACTED] m³/hour via a three-inch pipe. The daily production of water, occurring over a [REDACTED] hour period, is approximately [REDACTED] m³. Each farmer has a meter (gauging water flow) connected to the network, enabling the co-op board to monitor use, and charge accordingly. The farmers request certain amounts of water according to their needs; “*nobody takes more than they need; they each know how much they need*” (Coop Leader 1, Unrecorded #5). The water provided is sufficiently abundant to meet all users’ needs—it is thus harvested by each user [REDACTED], in accordance with crops’ irrigation needs. The main crops cultivated in the valley are cucumbers and the nightshade vegetables tomatoes, bell peppers, and eggplants/aubergines. Coop Leader 1 describes the type of cultivation as “*intensive agriculture*” (ibid) by means of raised beds in greenhouses with a drip irrigation network.

The motorized pump powers the extraction of water from the borehole in the valley through pipes leading to two reservoirs. The two reservoirs are perched on two separate hilltops overlooking the cultivated valley and distribute water via gravity irrigation: the water follows a gravitational force down the hill to the low-lying valley lands. Each farmer has their own meter and drip irrigation network on their lands, which are now cultivated with vegetables grown in greenhouses. “*There are [REDACTED] dunums of greenhouses*” (ibid). Coop Leader 1 explains the structure of their highly organized and advanced co-operative:

we have saved water with the [current] irrigation system. We have nitham dakhili: ‘amal, ‘idara, mali [an internal organization system: (for) employment, administration, and financial matters]. Our administration kafiyeḥ tawzee’ ilmiyah, muraqabit il’adadat, siyaneḥ lalshabakeḥ [(includes) the water distribution system, monitoring the water gauges, and network maintenance]. The financial si’ir ilmiyah, masareef ilsiyaneḥ, rawatib, mudaqiq alhisabat [(aspect includes) water pricing, maintenance costs, wages, (and) bookkeeper].

Prior to this more modern method of irrigation, the groundwater was distributed via open canals; “we received water by the hour between 4am and 8pm” (ibid). Prior to electrification, the system was diesel fuel-powered, which cost █ NIS/hour. Introducing an electricity-powered extraction/pumping system reduced the cost to █ NIS/hour.

Rules

The CA institution in Village C1 has the most well-established rules out of the six study locations. Since there is a relative abundance of water—i.e. although the cultivators had to adapt to diminished water, which was insufficient for their citrus orchards, their switch to vegetables grown in greenhouses rendered the available water sufficient for their *recalibrated needs*—available to the cultivators, the irrigation rotation schedule is not as complex as some of the other villages. The co-op members meet to discuss issues involving the irrigation network, financial issues, and leadership roles—including elections, which occur every █ years. National laws that regulate co-operatives require a minimum of 51% attendance to hold a vote and make decisions accordingly. Since there are █ members, this requires “*half plus one, which is █; but sometimes only █ or █ show up, in which case we say ‘ilmawjudeen bisidu [those present will do/suffice]*” (Coop Leader 1, Unrecorded #5).

Water prices vary for members and non-members, whereby the co-op charges the former █ NIS/m³ (approximately █ NIS/hour), and the latter █ NIS/m³ (approximately █ NIS/hour). Despite the above-outlined issue of payment evasion, this is not a persistent problem. Overall, payments are made in good faith, allowing the CA institution to run smoothly. Defection is generally perceived to occur as a result of extenuating circumstances beyond irrigators’ control. As an active member in the

community, Coop Leader 1 is involved in co-operative initiatives that assist ██████████ ██████████ in the village; this informs his consciousness and approach to addressing defection. Aside from financial difficulties, the most prevalent reason for defection stems from EG circumstances—i.e. the construction of the Separation Wall rendered access to lands behind the seam zone precarious. Due to this precarious access, many cultivators were unable to regularly maintain their crops, and thus could not generate sufficient income from irregular harvests. During the first round of fieldwork visits (April-May 2017), the co-op was ██████████ JD in debt due to irrigators not paying for the water they used. These defectors, who are from Village C1 and ██████████, could not access their

lands behind the wall, so they cannot cultivate their land and pay back their debts. The co-op have to pardon their debts, because these farmers lost their lands and cannot pay. Some farmers from three villages who lost their land died. Others came back recently since istislah [rehabilitation] in ██████████ and will now cultivate their lands...we will hire a lawyer to collect debt from the farmers who came back in ██████████ ██████████ (Coop Leader 1, Unrecorded #5).

The CPR itself is monitored and guarded by a *muraqib* [foreman], who is paid via the revenues generated through irrigators' water payments. The *muraqib*'s role also entails monitoring the meters connected to all irrigators' private irrigation networks: “we know how much each reservoir gets filled from the ‘adad [water gauge]. There is a *muraqib* who goes around to each ‘adad and records how much water each farmer used” (ibid). At one point, the co-op encountered a recurring issue with private water meters being destroyed. This was used as a way to avoid paying their water bills. In ██████████, the co-op addressed this issue by installing water meters that could not be tampered with.

Maintenance

Maintenance of Village C1's irrigation system is funded by the co-op's revenues, and carried out by a hired mechanic. Nursery Owner C1, the owner of a seedling nursery, and co-op member, asserts that *"before, we used to have a problem with the motorized pump every month; but now, it rarely malfunctions"* (Nursery Owner C1, Recording #20). Nursery Owner C1 describes other issues that the CPR users had faced [REDACTED] years prior to the first second of fieldwork in October-November 2017, during one of our several fieldwork interactions:

[REDACTED] motorized pump...was in bad shape for a year and a half; the pipes fell into the well...and no one knew how to pull them out. There were about [REDACTED] meters of pipes hanging there; some of the cultivators used [REDACTED], but the water was weak" (ibid).

Eventually, the co-op was able to hire a specialized mechanic who pulled the pipes out of the well and repaired the network by replacing the pipes.

Co-Management and External Intervention

While funding has been provided by a number of [REDACTED], since its inception, this CA institution was organically-created. While management of their irrigation system is solely conducted by the co-op, the co-op leaders assert that the PA does support the co-op in two ways: they help them with marketing their produce, and provide them with a tax exemption as a non-profit organization.

Despite the absence of a co-management arrangement, Village C1 has benefited from external intervention in the form of funding and infrastructure-development. In addition to the foundation grant, the co-op has sought and received funding to expand and modernize its infrastructure. The first reservoir/pool was built in [REDACTED], with funding

provided by [REDACTED]. This enabled the co-op to update its distribution network by replacing open canals with closed pipes running between the boreholes' pump and the reservoir—as well as between the reservoir and the individual plots of land.

In [REDACTED], the co-op received funding from [REDACTED] [REDACTED], in order to construct a new reservoir, rehabilitate the network, and reclaim [REDACTED] dunums of land directly adjacent to the CPR. Coop Leader 1 explains that this resulted in the expansion of cultivation: “*ruq’at il’ard ilzira’iyeh itwasa’at [the cultivatable land area increased]*” (Coop Leader 1, Unrecorded #6). The total cost of this project was \$ [REDACTED] of which \$ [REDACTED] was covered by the co-op from revenues it had generated. The reservoir, perched on a hill overlooking C1’s cultivated valley, has a capacity of [REDACTED] m³. During the early stages of this project, I accompanied one of the NGO’s employees responsible for coordination between all parties to Village C1. This was during the scoping research phase, and the first time I met Coop Leader 2, who was the head of C1’s co-op at the time. We spoke to the engineer responsible for constructing the reservoir and took photographs of the structure¹⁴⁴. During the first fieldwork phase, in April-May 2017, that very *reservoir was enclosed behind a barbed wire fence, cordoned off by the Israeli military as a closed military zone*. By the second fieldwork phase in October-November 2017, the barbed wire fence had been removed, and the co-op had regained access to their reservoir.

Trust and Reciprocity

¹⁴⁴ All fieldwork photos are excluded from this thesis to maintain the anonymity of villages.

Trust within Village C1's Irrigation Co-operative is depicted via two variegated accounts: those who belong to the co-op depict a high level of trust, whereas those who do not belong to the co-op claim the opposite. While the former group is adamant that community members have a high level of trust, the latter group portray a picture of corruption, fraud, and self-serving behavior. Notwithstanding this negative depiction, the participants who irrigate their lands from privately owned wells/boreholes assert that relationships between all cultivators in Village C1 are harmonious:

[we have] good relations; there is co-operation...no one interferes with anyone else; there is mutual help. If one [cultivator] knows more about cucumbers, one [cultivator knows] more about tomatoes, and one [cultivator knows] more about zucchini/courgette, they co-operate...and help each other (Outside Irrigator 1, Recording #21).

This spirit of reciprocity is bolstered by a legal structure that ensures the wellbeing of cultivators; Outside Irrigator 1 explained that even in cases where irrigators fail to pay their water bill to the respective well/borehole owner(s), they will still receive their water share: *"there is a law from the Authority which says you cannot disconnect the service even if he does not pay; if any motor disconnects the service on me, I, as a cultivator, can sue him. If my farm is ruined [as a result], he has to pay for it"* (ibid). For a summary of CA indicators in Village C1, refer to Table A6.1 in Appendix 6.

Village C2 (Battir)

Property Rights: Operational and Collective Choice

Property regimes in Battir are a combination of traditional and modern; while land and water resources are private property, they are predominantly acquired via a patrilineal inheritance system. Property rights over land are held in conjunction with property rights over water resources, as ownership over these two are not separate. Water

shares are owned by clans (*hamulas*) and divided amongst the families in each *hamula* in accordance with land area. One farmer explains:

as for the town's spring, we have a pool, and every 24 hours, from 6pm to 6pm the next day, the water is for the hamula. It is based on the families that have land in the fields; it is divided by hours: families have different amounts of hours (Male Farmer, Recording #1').

The terraced and cultivated hills and valley (*wadi*) in Village C2 (Battir) are irrigated from the *Al Balad* Spring. While there are two main springs in Battir, the largest one is the *Al Balad* Spring. The water flows from the reservoir downhill through open concrete canals. This spring water emerges from the ground on public property; the canals and reservoir are also public. Anyone can gain access to the water for drinking and husbandry purposes as an authorized user, as is commonly the case with springs that are not on private property. As one retired female farmer¹⁴⁵ narrated, “*anyone could collect water [in containers] on their heads for drinking and cooking*” (Female Elder Farmer, Unrecorded #4.1). However, the water collected in the reservoir is managed as common property amongst the farmers who cultivate land in the *wadi*. If outsiders seek to extract more than a reasonable amount of drinking water—for instance if people from neighboring villages extract water for irrigation purposes—they incur a fee. As is often the case in Palestine, the *Al Balad* Spring is a CPR that is open access vis-à-vis operational rights but common property vis-à-vis collective choice rights. In contrast to Village C1, the study participants in Battir assert that Israel does not impose an annual cap on their water extraction. This may be due to the difference in the nature of each of these freshwater resources: while the Village C1 irrigators pump groundwater via an

¹⁴⁵ Who is now deceased.

artificial borehole, Battiris utilize the spring water that is naturally available to them each year.

One respondent narrates the historical significance of water within a context of the value attributed to all natural resources: “*water, fire, and grazing grass (‘ushub) are public property. Anyone can pick fruit and eat from any tree. The same applies to water*” (Female Elder Leader, Unrecorded #4). While all villagers in Battir—comprised of eight clans—historically owned land, some landowners sold their plots, thus also selling their corresponding water shares. As generations of farmers began to divide their lands amongst their offspring, the resulting plots of land, called *mashakib*¹⁴⁶, decreased in size. Today, they are quite small, but remain cultivated and irrigated in the traditional way: terraced lands watered through surface irrigation. Although the previously large plots of cultivated land provided sustenance for Battiri families, the now small *mashakeb* are not sufficient for economic sustenance. For most of the study participants, farming provides only one source of income, which they are compelled to supplement.

Co-Management and External Intervention

The CA institution in Battir was created organically, and is currently independently run—i.e. there is no co-management system whereby the government is involved in the institutional arrangements. However, this CA institution was affected by a certain level of external intervention in 1998, with the introduction of funding from a few organizations. This first project was designed to partially replace the concrete-lined open canals with pipes, as well as install a water filter for the spring water to pass through before being distributed to irrigate the *mashakeb*. This was not the first attempt at

¹⁴⁶ The singular form of the term is *mashkabe*, while the plural form is *mashakeb*.

modernizing the irrigation system; it was preceded by an attempt by a cultivator who sought to introduce a drip irrigation network to replace the traditional surface irrigation via gravitational flow. This entailed an attempt to *“to store the water in a specific place [i.e. reservoir] in order to pressurize it”* (Youth Leader, Recording #1’). However, *“the water he collected was not much, a cubic meter or a cubic meter and a half; this was not sufficient...the other problem is that all the hoses got clogged after he watered four or five times”* (ibid). The external intervention followed this, in 1998, designed

to renovate and fix the canals and the pool. This was done by the Agricultural Relief (Committee); two projects that were complimentary to each other. But I can tell you that had they not come here, it would have been better...[because] they ruined everything (ibid).

An elder farmer elaborates that the *“water started clogging”* (Male Farmer, Recording #1’)—due to the open canals being replaced with a closed network: *“they installed plastic pipes with concrete on top, so if something gets stuck in the canal, you do not know how to open it”* (Youth Leader, ibid). The farmer adds: *“and water would be wasted”* (Male Farmer, ibid). The way the irrigators unclog the pipes is by using a metal rod and pushing it through the canal opening. Youth Leader and Male Farmer lament what they perceive as modernization being detrimental to their CA institution: *“when it was exposed, you can see anything that’s stuck...you just remove it and clean”* (Male Farmer, ibid) the canal. *“They ruined a system that is 2000 years old”* (Youth Leader, ibid). Youth Leader, [REDACTED], also contextualizes this from a technical perspective:

when you pour cement on a different material, it causes breakage in that material because it is weaker than cement. So if we remove it, it will break the original canal under it. This has a solution but it is very costly. It is as if you are dealing with an archaeological site; you have to do it with a small pick (ibid).

The way in which these villagers explain this intervention is as a deep chasm between their needs and the design of the project. One of the levels on which this chasm existed was that the irrigators were not consulted: *“unfortunately the people who were the essential supporters of the project were not from the town”* (ibid). In addition to the technical shortcomings and the lack of consultation with the CPR water users, there is also a perceived corruption that plagued the project:

“The people who did the project were not honest with the townspeople; they told them that they will install water filters—and they stole the money designated for the filters” (Youth Leader, ibid).

“And the covers of the manhole; the next year they were stolen. They sold them as scrap metal. Old¹⁴⁷ cultivators cannot keep watch over things; they irrigate and go home; and the cultivator has other things to do” (M, ibid).

In short, the critique of this project includes: a lack of optimal design (i.e. closed pipes that do not allow for irrigators to see water flow, blockages, clean algae build-up); a lack of technical competence (i.e. the project engineers lacking knowledge of the particularities of this CPR and their specific needs); a lack of sustainable maintenance and funding (i.e. filters not renewed; money for filters stolen); and a lack of follow-up (i.e. the water experts—who were viewed from the outset as incompetent—not returning to ensure the network was working smoothly). While this is a searing critique, it is not uncommon to hear similar assessments of other development projects in the West Bank.

Another project, jointly funded by the Battir Municipality, the Ministry of Tourism, and the United States Agency for International Development (USAID), *“was approved without the knowledge of the cultivators”* (Youth Leader, ibid). This project entailed *“the renovation of 1,600 meters of the sanasil¹⁴⁸, and renovation of 1,000 meters*

¹⁴⁷ This farmer is an older gentleman, and he is referring to other older farmers.

¹⁴⁸ These are traditional stone fences found throughout Palestine; they are constructed out of various sizes of stones carefully laid on top of each other, without an adhesive agent—although more modern *sanasil* are topped off with a layer of cement.

of water canals, and the maintenance of some sanasil to prevent their collapse; they have not collapsed yet, but potentially so” (ibid). This project was also perceived as being incongruent with what the villagers want, who addressed their concerns with the funders:

we complained about the municipality, USAID, and the Ministry of Tourism...we said that this project is changing the nature of the site, and did not consult the townspeople; it is destroying the site. We as the people of Battir do not want to be blamed later on; somebody should be responsible for this: either the municipality, the Ministry of Tourism, or the USAID. Or the center for the Preservation of Heritage, which is similar to Riwaq¹⁴⁹ in Ramallah (ibid).

This sentiment is echoed even in the case of a more positively perceived project, whereby a local NGO¹⁵⁰ treated greywater and wastewater in private homes:

[the NGO] did a pilot for water treatment units; they used some houses. The case was successful but there was no follow-up. The system needs periodic maintenance every four to five years to check the filters; they did not provide house owners with the capacity to deal with it. So what happened is that the wastewater would flow back into the house (ibid).

Origins of Institutional Arrangements

The precise origin of Battir’s CA institution is neither recorded nor known but is based on a traditional patrilineal system. The mechanism of water distribution is based upon the historical division to the original eight clans, whereby there are eight corresponding irrigation rounds/rotations. The cultivated valley situated directly beneath the *Al Balad* Spring has repeatedly been divided through a traditional—primarily patrilineal—inheritance system.

All research participant farmers explain that their water management system was inherited from past generations. One female farmer places the origins of their institution to “*the days of the elders; a long time ago*” (Female Farmer, Recording #1’), stating that

¹⁴⁹ Centre for Architectural Conservation, a local NGO.

¹⁵⁰ The Applied Research Institute of Jerusalem, an NGO in Bethlehem (see <https://www.arij.org/>).

“it has not changed” since. A retired farmer whose son became one of the research gatekeepers in Battir states: “I do not know [the exact origins] but before the 1940s” (Elder Farmer, Recording #8). Similarly, a prominent community member explains that their irrigation system existed prior to the *Nakbeh*¹⁵¹, and persisted afterwards. Youth Leader, a prominent community member—[REDACTED]—[REDACTED]—helps to provide a more precise origin story. This story is two-pronged: while the first component (i.e. the contextualization of a culture of co-operation) seems to be agreed upon by all of the study participants, the second component (i.e. the Roman origins of spring water management) seems to be a politically-charged point of contention. Youth Leader explains:

the fitra, or musharakeh (sharing) with each other existed historically. It is like if I have experience with something, I will help you with it, so that you can help me with something else you have experience with. For example, you are good at plowing, so you show me how to do it; we say ‘tooth on tooth’ (sin ‘ala sin) so nothing of the land remains fallow. I, on the other hand, know how to build stones better than you. I construct a sinsileh or your house walls and you can see how I do it. This is the mutual benefit because there was no money [involved/exchanged]; one thing in return for another. Second, this existed, and then Hassan Mustafa came in the 1950s and asked each family¹⁵² to provide five people for voluntary work. We call it ouneh [co-operation] here. So this [amounted to] 40¹⁵³ people; their exclusive job was to work in public places: to open a street, remove a sinsileh [stone wall], renovate a pool, build a mosque or school...without compensation. Their family had to provide their food and [meet]their other needs. If a family did not provide five people, then Hassan Mustafa would assign a certain task to a family. The stairs next to the pool were built by two families...He used to assign each family to do something voluntarily for the town...this used to exist [prior to Hassan Mustafa] but only within the same family, not for the public interest as a whole; it used to be a service in return for another service. People did not have money to pay [each other for services] ...Hassan Mustafa consolidated the concept of ouneh (co-operation): you and I will co-operate not to do something private for each other but for the whole town (Youth Leader, Recording #28).

¹⁵¹ The “catastrophe” when Palestine was colonized in 1948.

¹⁵² i.e. clan (often referred to as “family”).

¹⁵³ Five members of each of the eight clans.

H's narration contextualizes how the culture of *ouneh*, or co-operation, came to permeate and characterize life in Battir. While co-operation was part and parcel of traditional Palestinian life, Battir's brand of *ouneh* is unique: "*the lives of cultivators [inherently] has musharakeh*¹⁵⁴. *Why? We share in the seeds; I may give you some seeds this year, you will give me some next year. There is no accounting*¹⁵⁵ *here. It is just an arrangement between cultivators*" (ibid). It is now widely acknowledged that co-operation became part of the culture of Battir. Youth Leader asserts that this culture remained prominent "*until the 1980s. I can tell you that it was clear that the town's people were still like that during the first intifada*" (ibid).

This is the part of the origin story of Battir's CA institution vis-à-vis the *Al Balad* Spring that is undisputed. Another prominent community member, Female Elder Leader echoes this narrative of Battir's co-operative culture. Female Elder Leader and Youth Leader both emphasize the significance and pervasive nature of co-operation amongst the villagers. However, the origins of their CA institution comprise a contentious matter; while Female Elder Leader asserts that Hassan Mustafa initiated the village's co-operative water management system, Youth Leader traces this further in history. He asserts that the water measurement system, reservoir, and canals are all traceable to the Roman Era:

the ma'dud started during the Roman times using the sun system, from the morning to the evening. It was a measurement of time; we had a development since the Roman period from the use of shade until the afternoon, then the use of time, then it was changed to the use of the finger knot" (Youth Leader, Recording #1)... "*This is the traditional way; we cannot compare the Roman times with today. It started with Roman times, but how did the Romans divide the water, on what basis, I do not know. According to clans? Or families? I do not know—nobody knows* (Youth Leader, Recording #29).

¹⁵⁴ Translation: sharing.

¹⁵⁵ Or debt.

Youth Leader elaborates that this history is only partially recorded: *“what is written is that the system was collected [sic] to start with the measurement of the sun, then by the shade, then it was transformed to different distances; then we got it. I do not know which time period”* (ibid). He also explains that while there are similarities to the *“Andalusian system...the canals, the arches, the pools, and they way of transporting water from one place to another”* (ibid), one of the missing elements is a *“system for calculating water quantities...there is no ma’dud measuring system”* (ibid). This narrative falls in line with UNESCO’s account. Female Elder Leader, however, refutes the Roman origins of their CA institution: *“before the Nakba, Hassan Mustafa renovated the pool. It used to be small with lots of dirt; he made it what you see today; what the tourism people¹⁵⁶ call Roman. It is not Roman”* (Female Elder Leader, Recording # 7). Female Elder Leader’s argument rests on the presumption of a lack of evidence; in order to accept the Roman origins narrative, she says, one must

prove it first; have an archaeologist prove it. Or prove something else is Canaanite, Byzantine, so be it—but you cannot give guesses. They give stories that fit stories given by others¹⁵⁷. This is the problem that our people cannot comprehend. Why do you appease the Roman who is similar to the Hebrew history; why support such ideas? (ibid).

Another retired farmer, traces aspects of their CA institution to the Ottoman Era:

in the old days, at the time of the Turks, if [a particular plot of] land did not belong to anyone, no one would cultivate it. The Turks said this land has to belong to someone; it has to be taxed; so that is what they did. If someone has a baby boy, there is a thread—that is what we hear, we did not witness it—if the thread can go through his head, he has to take the ma’dud [i.e. a share] and then has to pay taxes (Elder Farmer, Recording #8).

Institutional Arrangements

¹⁵⁶ She is referring to UNESCO.

¹⁵⁷ Here she is implying the official Israeli, or Zionist narrative, which discredits the historical presence and contributions of Palestinians.

The freshwater spring emerges just below the main road in Battir. In the 1940s, Hassan Mustafa led an effort to rehabilitate and modernize the village's water management system. The reparations—which were done to decrease water loss— included constructing a stone fountain around the spring to facilitate access to the spring flow, as well as renovating the dirt-lined reservoir/pool by lining it with cement. The spring water, which now emerges from a man-made fountain spout, flows through a pipe to an exposed canal atop an arch that leads to the reservoir/pool. The water is transported downhill by gravitational flow before reaching the reservoir. There is an opening on the opposite end of the reservoir for the outflow of water to the *mashakeb* via open dirt canals. Mustafa's initiative included the construction of stairs adjacent to the canal, which facilitated cultivators' access to the reservoir, as well as to the cultivated plots of land, or *mashakeb*.

The cultivators are the descendants of the original eight clans of Battir, the majority of whom are landowners. All but one study participant are landowners who acquired their *mashkabe* via patrilineal inheritance. Since land and water property rights are connected, the cultivators do not pay for the irrigation water. In cases where cultivators lease plots of land, they are entitled to receive the associated water shares, which are proportional to the size of the land plots. Each round starts at sunrise and ends at sunset, spanning a total of eight days before the cycle is repeated. From sunset to sunrise, the reservoir is blocked off in order to accumulate water for the next round of irrigation; each farmer blocks off the water flowing from the reservoir to re-direct it to their respective cultivated plot, via open dirt canals.

As the limited number of land plots have been divided and re-divided over time, the number of water proprietors has increased. Thus, each round is divided amongst water

proprietors in accordance with the area of land each of them owns. One of the most fascinating aspects of this division system is that the translation of land area ownership into water units is done through a primordial method: the use of a dried bamboo-like stick, called a *ma'dud*, that grows in the wild all around this area. This stick is measured with a measuring ruler/tape, placed inside the reservoir at the beginning of each round, subsequently divided (via the aforementioned method), and graded with thorns. One participant, a retired farmer, explained how irrigation rotations work:

they start with the sunrise until sunset; let's say this is 12 hours—this is divided by 20, each [farmer] gets about 35 minutes. The next day a different person starts; he also measures and divides by the number of families. Now they use a metric scale; before they would use a stick; in the old days, you had to. Measure several times in order to derive a good measure. Now it is easier. That's how they work now, with the ma'dud; I do not know why they called it the ma'dud (Elder Farmer, Recording #8).

Thus, every eighth day, one person from a particular clan measures the existing stock in the reservoir and divides it amongst the cultivating families in their clan. Since the stock changes seasonally and in accordance with rainfall, the allotted time for each farming family varies accordingly. Each cultivator is responsible for being present to receive their allotted amount. This entails blocking off the flow from the previous irrigator's land and redirecting the flow to their own plot of land. While the process is meticulously calculated and executed, it is in no way a modern one: the open canals are only paved with concrete on the main line—i.e. the main canal that runs along the length of the cultivated valley—but dirt-lined on each farmer's land; moreover, the spring water follows a gravitational flow down the valley and is blocked off with makeshift barriers comprised of dirt, stones, and cloth. Furthermore, there are no gauges to measure or monitor the exact amounts of water each farmer uses. Rather, it is simply a division of the existing supply on any given day.

Rules

Similar to CA in Village C1, the CA institution in Village C2 (Battir) has well-established rules. However, unlike Village C1's CA institution, which is relatively modern, Battir has followed the same rules dating back to before any of the study participants can recall—i.e. well before their lifetimes. While the patrilineal property rights regime underlies the eight-day rotation schedule, this schedule varies according to the types of crops irrigated:

some crops you can water every four days, others every eight days. For example, eggplant/aubergines need water when (the plant) has fruits on it; when there are no fruits, there is no need for water (Male Farmer, Recording #1').

To clarify this point, Youth Leader explains: “*so it is not the case that I can use the water any time I want. You have to wait your hamula's turn. I cannot take anyone's water without their permission...they may give me water if they have extra*” (Youth Leader, Recording #1'). This variation in irrigation rotation occurs “*when you start planting vegetables in the summer—especially after it blossoms. So you have to increase the water: once every four days instead of every eight days*” (Youth Leader, Recording #29). This is arranged via informal negotiations between families whose *mashakeb* are adjacent to one another. This replaced more formal traditional negotiations via *diwans* [gathering of clan members], whereby “*each family has a mukhtar [head of clan]*”. Each *hamula* “*has a madafeh [guest house] where people of his family meet...on every occasion. Hassan Mustafa cancelled all of these diwans and established one square for all of Battir*” (Youth Leader, Recording #29). Thus, formal negotiations based on patriarchal clan-based traditions were replaced by less formal community-based discussions. During the 1950s, these discussions occurred in the main square, in

accordance with Hassan Mustafa's vision for extending a co-operative communal dynamic to all aspects of life. Currently these negotiations are even less formal, occurring on an ad hoc basis, often around the CPR or in the cultivated fields.

The irrigation rounds are conducted in tandem with the sunrise and sunset, which in turn are marked by the mosque's call to prayer: *"the day of cultivation starts from the morning, or sunrise, when the pool is opened until the evening, or sunset, when the pool is closed. You cannot water after sunset, or the Maghreb call to prayer, because now water is being collected for the use of the second hamula the next day"* (Youth Leader, Recording #1'). The rotation schedule is determined at the beginning of each year. There is no standard process by which this occurs: some years this is done during a meeting near the reservoir, while during other years, the process is less formal. In past years, as explained by a retired cultivator, *"at the beginning of the year, they hold a lottery to determine who would take the first week, who the second, etc. Then each one knows his turn according to the hamula's turn"* (Elder Farmer, Recording #8). In recent years, this rotation schedule is posted online for all irrigators to check; *"you memorize your turn"* (Female Renter, Recording #5). As abovementioned, the precise amounts that each irrigator receives is dependent upon the CPR stock on any given day, which fluctuates seasonally and in accordance with rainfall. While all irrigators are cognizant of everyone's shares, the elders from each respective clan are the most respected and trusted in the community. Based on this trust, an elder typically measures the reservoir stock on

any given day, and divides the water amongst their *hamula* according to each irrigator's¹⁵⁸ shares. Notably, these elders are women or men.

While Battiris assert that the Israeli state does not affect the abundance of their CPR¹⁵⁹, seasonal and climate variation do determine water flow, which in turn affect the division of resource units: *“the more rain, the more water we have from the spring. If there is more than 500mm/year, people do not have to divide the water; if less than 500mm, this affects the amount of water collected in the pool”* (Youth Leader, *ibid*). W explains that if the water is sufficient, *“it is not divided”* (W, *ibid*). During the second round of fieldwork visits, right before the beginning of the rainy season, *“the spring [was] at its weakest”* (Youth Leader, *ibid*). That particular year was not fruitful for the cultivators, as *“[it] did not bring sufficient rain”* (M, *ibid*).

When the CPR stock is so abundant that there is surplus water remaining after the rotation rounds are completed, the water owner—i.e. the *hamula*—can provide this water to another *hamula* at their discretion. They can either decide to provide the surplus to another irrigator *“or someone comes to ask the owner for it; [these decisions are] based on personal relationships...I may come and ask for it knowing that you will not use the whole amount and ask you for it; and it is up to the owner to say yes or no”* (Youth Leader, Recording #29). While this arrangement is carried out in good faith, not all irrigators perceive it to be favorable to them. One irrigator, who leases several plots of land from multiple owners, not all of whom are from the same *hamula*, identified the negative effects of favoritism. The interview with Female Renter began with her

¹⁵⁸ While this can be an individual irrigator, it predominantly implies a family: either a nuclear family (a household comprised of a married couple, their children, and any other family members who live with them) or several brothers (and their respective households) who divide their family share between them.

¹⁵⁹ This cannot currently be triangulated.

lamenting a situation occurring in real time, whereby another irrigator was infringing upon other irrigators' water rights. While it was unclear whether Female Renter was the holder of these rights, she was visibly upset by the situation, asserting that the perpetrator was aware of her transgression:

I have water [redacted] days a week; after that, the hamula shares with each other. If a family is done watering and there is some water left, it is given to other families of the hamula; priority is given to those families of the hamulas. So now how could she have water all week and I do not? I am not benefiting; why should I give her my water? (Female Renter, Recording #5).

The distribution of Female Renter's water shares is spread out over [redacted] non-consecutive days, whereby on "one day I get [redacted] [redacted]" (ibid). While these water shares are not sufficient, Female Renter ensures that her crops are sufficiently irrigated; she patiently waits until the end of each day to receive any surplus water that is not given to other irrigators: "*it is my practice that I will wait until the whole family is done watering until the end [of the day]; and [because of what I receive] in addition to my share, I get enough...thank God. Sometimes I am a little short but I make it up on a different day*" (ibid). Despite Female Renter's perception of patrilineal favoritism, she acknowledges that "*there is a system*" (ibid) of communal water governance that is indeed successful: "*if there was no system and no division of water, there are people who would want everything for themselves; but with the system, things work*" (ibid). Moreover, she acknowledges that this system is not monopolized or controlled solely by one person, family, or clan.

Contrary to the formal arrangements and laws that regulate co-op matters in Village C1, irrigators in Battir do not have formally scheduled meetings during which issues are addressed. This also applies to decisions made regarding their CPR. Rather,

¹⁶⁰ Plural of *ma'adud*.

irrigators create informal “oral rules” (Youth Leader, Recording #12), which are established on an ad hoc basis. “There are agreements among people. The first implicit agreement between the cultivators is that it is forbidden for anyone to build here in the *jinan*¹⁶¹” (ibid).

Defection is not a prevalent issue in Battir: Youth Leader asserts there is “no intrusion” (ibid) between irrigators on each other’s water shares; “no one infringes on anyone’s turn” (ibid). Instead, for the irrigators who rent land—with the corresponding water property rights—from a particular landowner, the rotation schedule can become confusing: “what happens is confusion because someone may have land from a different family than his, so when he comes to water, there is confusion” (ibid). These issues are addressed immediately in the field, by whomever is present:

*there is no one in charge—whoever is there [addresses the issue]; the person watering is the one in charge. (When) he finishes watering, he is no longer in charge...then the next person, etc...No one can build a house here; you can build from these rocks¹⁶² and up. Below the rocks are agricultural *jinayin*¹⁶³. The second agreement is that the *hamula* has the water for one day; disagreements happen when there are partners in water. How? For example, I have six pieces of land, so I have six *ma’adeed*¹⁶⁴—but the water (available) in the pool is not sufficient to give me the six *ma’adeed*. And there is someone [whose irrigation turn] is after me who has four shares; so if the person with the six shares takes all of it, there would be insufficient water left to cover the four. This creates a problem. So the question is: are the six *ma’adeed* all...[to be used on] the same day for the same family? Or are the six (*ma’adeed*) distributed to two or three families? Here is where the confusion happens. One may think that the six *ma’adeed* are for his family, but the land may not be for him—but the water is for the family. A family bought [the land] ...from a different family and its water [i.e. irrigation turn] is on a different day (ibid).*

This complex event occurs during times of water stress, whereby irrigators “want to benefit from the day” (ibid)—i.e. to maximize their own benefits, even if this entails the irrigator next in line not receiving their full share of water. When such issues arise,

¹⁶¹ The garden—i.e. the cultivated plots of land in the valley, as well as on the terraced hills.

¹⁶² He is referring to the stone *sinsileh* between the cultivated lands (Area C) and the rest of the village (Area B).

¹⁶³ Plural of *jinan*.

¹⁶⁴ Plural of *ma’dud*, the bamboo-like stick that is used to measure the water in the reservoir each morning.

“someone will shut off the water on him” (ibid). This is followed by the irrigators *“shout(ing) at each other a little, and that’s it...the next day, one tells the other to take his ma’dud [i.e. water share]; ‘when it is our turn, we will not give you water’. I witnessed such incidents”* (ibid).

Similarly, a retired female farmer, who has since passed away, asserted the farmers *“maintain the system; there is no fighting over the sharing of water”* (Female Elder Farmer, Unrecorded #4.1). Another responded, who is keen to project a positive image of Battir and consistently promoted the message that the villagers embrace a co-operative culture, claims *“there is no such thing as someone taking more than their share”* (Female Elder Leader, Recording #6). At a later point, in response to being questioned about a teenaged villager who narrated a scenario of encroachment, Female Elder Leader conceded that *“there are problems of encroachment”* (ibid). Female Elder Leader explained that in such cases, an informal confrontation occurs, which can entail various methods of holding the perpetrator accountable:

[the perpetrators] expose/embarrass themselves. So this guy [referring to example outlined by teenager] is told by people: ‘shame on you’. If the issue is big, they go talk to him; there is this case where someone allowed his sheep to graze on someone else’s vine next to the tracks; so a group of people went to talk to him and explained that what he did was wrong, and made him pay a fine. Other people may not accept a fine based on the belief that compensation is haram¹⁶⁵ (ibid).

Female Elder Leader summed up the accountability mechanism for defectors as entailing a *“financial and moral [penalty]; there is a moral penalty; they shame him”* (ibid).

Maintenance

¹⁶⁵ Forbidden (under Islam).

There are two arrangements for the maintenance of Battir’s irrigation network: one for the parts that are common property, and another for parts that are private property. The latter does not only pertain to canals on individual *mashakeb* (i.e. parts of the network that are private property), but also to the *sanasil*¹⁶⁶. Each irrigator is responsible for fixing damage to their private property, which is viewed as integral to the entire system; because the network is linked, canals on each cultivator’s private property affect canals on adjacent properties—particularly the downstream/lower lying *mashakeb*. Maintaining and cleaning the reservoir and concrete canals is done with funds collected from all water proprietors. Management of this process is not the sole responsibility of one actor; rather, any given cultivator can volunteer to address a specific issue: “*someone would volunteer to oversee the repairs, and then the expense is divided amongst the hamula based on how many ma’duds there are*” (Male Farmer, Recording #1’). Another female cultivator elaborates that payment is proportionate to one’s water property rights: “*the one who has three ma’duds will pay three times as much as the one with one ma’dud; the same way when the pool is cleaned*” (Female Farmer, *ibid*). While this system works efficiently, there is a hint of dissatisfaction with having to cover maintenance costs: “*[everything is] at the expense of the cultivator; there is no one who supports us*” (Female Farmer, *ibid*). Nevertheless, the cultivators navigate institutional arrangements with relative ease, making joint decisions in a harmonious manner: “*we are cultivators, so we see when something breaks down, and we inform each other*” (M, *ibid*). The female farmer echoed this, asserting that nobody objects “*because he wants his affairs to continue going smoothly*” (W, *ibid*). The late Female Elder Farmer explained: “*everyone paid their share for maintenance, and would only pay for others if*

¹⁶⁶ Plural form of *sinsileh*: the stone barriers or “fences”.

they are in need” (Female Elder Farmer, Unrecorded #4.1). While the irrigators do make joint decisions on maintenance issues, this does not take the form of formal meetings. Rather, the information is transmitted between irrigators quickly by word of mouth, and a consensus is easily reached.

Trust and Reciprocity

The foundation of a co-operative culture is one of the most notable characteristics of Battir’s CA institution. This co-operative culture (see section 4.7.1) informs interpersonal relationships; in particular, it informs the irrigators’ perceptions of trust and reciprocity amongst community members. This trust stems from a common belief that *“there is a public/common interest for everyone”* (Female Farmer, Recording #1’). Youth Leader provides historical context of the origins of this trust: *“it started on the basis of a day of cultivation dependent on water; this is where the concept of sharaka in water came. While watering, other people are doing other things: preparing the land, planting, etc. When watering is done, the next person starts”* (Youth Leader, Recording #1’). In other words, because cultivation requires a collaborative effort, community members recognize their interdependence, and thus co-operate to ensure irrigation is carried out efficiently. A retired female cultivator, explained that villagers historically helped one another in all areas of life. One instance of this is when villagers were building their homes: while the men did the physical construction, the women would transport water to the construction sites. This required multiple families to contribute to the construction and transportation of water, a demonstration of how interdependent the villagers’ daily activities were.

Youth Leader, who is one of the most significant gatekeepers to the community in Battir, qualifies the concept of co-operation in a way that echoed W's perception of the public/common good:

it is more a calculation than one of trust; if we are dealing with trust between people as a humanitarian issue, then there is 80-90% trust; but still there remains some lack of trust. Here comes the calculation of the quantities of the ma'adud. Whether I trust or not, I need to know how many ma'aduds belong to him (Youth Leader, Recording #29).

Notwithstanding this qualification, Youth Leader also illustrates a level of reciprocity that is unique amongst the study location communities; this is woven into his comments on water being too valuable for irrigators to accidentally miss their rotation turn:

we do not have people forgetting here. If a cultivator does not show up to water, someone from his family¹⁶⁷ would do it for him. He knows that his turn will not come back until another eight days, so either someone waters for him, or he delegates someone to do it. So mistakes rarely happen, maybe 1% (ibid).

Youth Leader expresses his belief that the social fabric of the village has been changing, particularly amongst the younger generations. Yet, he also illustrates a few anecdotes reflecting his experiences of generosity without expectation of compensation:

for example, they share seedlings together. I experienced that when I started planting. I would go ask for seedlings and it would be given to me for free by this woman...I am telling you this based on my own experience; I am not generalizing. Another experience I asked for manure from a man and he gave it to me, and he would not take money for it (Youth Leader, Recording #12).

Youth Leader also narrates a situation in which he was able to use someone's uncultivated/vacant land for a community project to introduce youth to cultivation as a viable means of generating income. The landlord did not request monetary compensation: "he did not want anything in return except to keep the land planted and

¹⁶⁷ i.e. clan.

taken care of” (ibid). These anecdotes are illustrative of the ways in which reciprocity permeates Battiri culture.

Youth Leader also elucidates reciprocity specifically within the CA institution. The cultivated lands beyond the railroad tracks are situated lower in the valley, significantly further away from the reservoir than the cultivated *mashakeb* that are directly beneath the reservoir. Due to the distance, cultivators are not able to redirect the spring flow immediately after finishing irrigating their lands—as they must climb up the hill to the reservoir. Ensuring that water is not wasted—and that the next irrigator in in the rotation receives their share on time—is a collaborative effort:

the cultivator who is next in line would be standing next to the pool and closes it when the ma’adud shows his share is done...before he shuts down the water, he calls out to make sure that the one down there finished watering...this is co-operation; he helped me, instead of walking all the way from the valley in order to shut down the water (ibid).

Notwithstanding this description of interdependence and reciprocity within their irrigation system, Youth Leader does not frame co-operation as utterly altruistic; rather, he qualifies it as being mutually beneficial: *“in practice, there is co-operation; [but] people will not say he watched the water for my sake; he wants his own interest; and the other person wants his own interest; but there was co-operation for both of our interests”* (ibid). For a summary of CA indicators in Village C2 (Battir), refer to Table A6. 2 in Appendix 6.

Village C3

Property Rights: Operational and Collective Choice

Property regimes in Village C3 are also a combination of modern and traditional; as in Village C2, while land and water resources are private property, they are acquired

via a patrilineal inheritance system. The most notable difference in property rights between Village C3 and Village C2 is that in the former, the entirety of land has been acquired via inheritance; moreover, all twelve landowning farmers¹⁶⁸ hail from a single clan. Property rights over land are held in conjunction with property rights over water resources. Village C3 contains [REDACTED] springs, [REDACTED] of which are privately owned, and [REDACTED] of which are common property on public land. One of these common property springs is a de facto open access resource [REDACTED] [REDACTED] *Ein*¹⁶⁹ *Al C3*, the CPR in this study, is an open access resource for drinking, but a common property resource for irrigating [REDACTED] plots of land owned by [REDACTED] respective farming families; this CPR is open access vis-à-vis operational rights but common property vis-à-vis collective choice rights. The gatekeeper to Village C3 explains that the collective choice rights vis-à-vis this CPR are “*not written in law*” (Gatekeeper C3, Unrecorded #1)—but rather “*became customary law (‘urf tareekhi)*” (ibid).

As is the case with the co-op’s borehole/well in Village C1, the Israeli state imposes an annual cap on water harvesting from *Al C3* Spring. The extraction is monitored, and subsequently restricted, via water gauges that measure flow. The limitations imposed by Israel include a *complete ban on water infrastructure and any type of activity that may alter the natural state of the spring and the public land* it is situated on. As described in detail in the EG section, these restrictions render the integrity of property regimes compromised. This amounts to violations of their private and common property rights.

¹⁶⁸ A farming household.

¹⁶⁹ *Ein* means spring.

Co-Management and External Intervention

Management of the irrigation system in Village C3 is independent, whereby the CPR users created and maintain institutional arrangements organically and without any external intervention. There are a few instances in which the CPR community received assistance via projects in the cultivated valley:

- (i) ████████ implemented a project in ████████;
- (ii) the Ministry of Local Governance set up a project to build canals in ████████;
- (iii) funding for *madakhat* [water pumps] worth ████████ NIS from international donors.

The participants explain that while they are not allowed to install a water pump or pipes near the point of emergence of their CPR, they can lay down water pipes in their own land, which originate from the reservoir.

Origins of Institutional Arrangements

Akin to the CA institution in Village C2, the precise origins of CA in Village C3 are not recorded or known. As in Village C2, their water management system is based on a traditional patrilineal (clan-based) system. The *Al C3* Spring water is divided based upon the historical mechanism of rotations amongst the ████████ families. Like Village C2, land is passed down through a patrilineal inheritance system. While the origins of Village C3's water management system is not known, one villager—who served as a gatekeeper—explains that the current system of “*co-operation resulted from water shortage. Farmers were faced with the need to divide the water*” (Gatekeeper C3,

Unrecorded #3). Due to this water shortage, “██████ people from the town, the municipality, and Lajnet Muzari’een Village C3 [the Cultivator’s Committee] ... met ██████ years ago to coordinate” and address the issue of water shortage. This led to the establishment of the current division and concomitant rotation schedule. The participants relay that it was not difficult to reach this agreement, because “*bishakil ‘aam, ilmuzari’een mitifqeen bain ba’ad [in a general sense, cultivators get along with each other]*” (AK, Unrecorded #1). Prior to facing a water shortage, the abundance allowed all farmers to irrigate their orchards according to their respective agricultural needs. HD explains that co-operation happened spontaneously: “*ta’awaniyeh tilqa’iyeh, ‘ashwa’iyeh [co-operation is spontaneous, random]*” (HD, Unrecorded #3). He contextualizes this as being directed by a “*logic of brotherhood*” that is part of “*farmer life as co-operative life*” (ibid).

Institutional Arrangements

The *Al C3* Spring, located in the cultivated valley of Village C3, serves ██████ farmers¹⁷⁰, all of whom hail from a single clan, rendering the internal fabric of this community relatively homogenous. The spring water flows through one main pipe connected to a water gauge, through the canals to each plot of cultivated land. The lands are mainly comprised of olive, pomegranate, plum, and guava orchards, but they also contain grapevines and wild thyme (*za’atar*). While the fruit trees require irrigation every five days, the available water is far from sufficient. The irrigation rounds occur every ██████-14 days, where each round lasts approximately one hour—although it can be as little as half an hour. While the rotations should occur every five days, the “*round may take more*

¹⁷⁰ Farming households.

than [REDACTED] days if the water is insufficient” (Orchardist 1, Unrecorded #2). The fruit trees, which require irrigation every five days, are weak due to insufficient water. One farmer explains that the water was once sufficient for their crops, and thus the farmers were once solely economically dependent upon agriculture. The mechanism of division is based upon the historical division of the [REDACTED] families, [REDACTED]. Due to water scarcity, each irrigation round typically only lasts for a short period of time. As one farmer lamented, “we wait all day to get half an hour of our share of water” (Orchardist 1, Unrecorded #2). Although the plots of cultivated land in the valley once provided sustenance for the [REDACTED] farming families, the output is no longer sufficient for economic sustenance. For many of these families, farming is not their main source of income. One farmer explained that farming “does not generate enough income; my brothers and I have alternative jobs” (Orchardist 1, Unrecorded #2). Instead, tending to their orchards is seen as a way to maintain a presence on their land (discussed below). This mechanism of division began when the spring water became insufficient due to Israel extracting the groundwater and thus reducing the spring flow. The farmers convened to address the problem of water scarcity, deciding to take turns.

Rules

While the CPR in Village C3 has been owned and managed collectively for many generations, the water was sufficiently abundant that the irrigators did not need to establish a formal management system. Thus, prior to the reduction in water flow, which in turn occurred as a result of Israel extracting the groundwater, the irrigators did not have access and use rules. However, once the CPR did not generate a sufficient flow to

irrigate the orchards, the irrigators decided to establish a management system. At the time of the fieldwork visit, the system in place had only been functioning [REDACTED] years. Thus, their CA institution became more formalized very recently, as an adaptive response to increasingly harsh EG conditions.

As is the case with the other CA institutions in the study, the relative abundance of the CPR is a major determining factor in whether rules are well-established. Although the orchards in the cultivated valley require irrigation every five days, the politically-induced water stress has rendered the CPR insufficient. The community members thus established the [REDACTED] day rotation schedule in accordance with their new reality. Sometimes the entire rotation “*may take more than [REDACTED] days, if the water is insufficient*” (Orchardist 1, Unrecorded #2). The research participants all emphasize that “*there is a common understanding between us*” (Orchardist 1, Unrecorded #2). Based on this understanding, problems do not become serious; if the irrigators do encounter a problem, they relinquish their share for the sake of maintaining harmony. As one participant explains, “*we relinquish our turn*” (Elder A1, Unrecorded #1). The irrigators see themselves as being supportive to one another, which accounts for their lack of formalized rules. When a cultivator sees that others need water, they allow them to irrigate for a longer period; the underlying reasoning is informed by necessity: “*‘alma’ mamnoo’ tumruq ‘an ard ‘atshan*¹⁷¹” (HD, Unrecorded #3).

While the initial organizing meeting was formal, the irrigators did not establish a formalized body to manage their CPR. Thus, they do not meet regularly or have leaders: “*there is no authority*” (AK, Unrecorded #1). Notwithstanding this lack of leadership or decision-making body, there is an external authority that imposes very stringent rules

¹⁷¹ Literal translation: “the water is prohibited from passing through thirsty land”.

upon the cultivators. The Israeli Parks and Nature Authority (IPNA) acts as the governing body for implementing Israel's political agenda (see Section 5.1.1). Ultimately, it is the IPNA that imposes rules that determine how Village C3's irrigators operate, although the CPR is common property—i.e. not public property. This common property regime has not precluded Israel from designating the CPR and the cultivated valley as part of the state's "nature reserve". This designation entails severe restrictions on the CPR owners—including on creating infrastructure for a water harvesting and distribution network, as well as maintenance of the CPR; the IPNA bars the irrigators from renovating the reservoir.

Maintenance

Maintenance of the CPR, specifically cleaning the reservoir, is conducted and funded collectively; all CPR users pitch in to cover costs. One research participant likens this resource to a residential property: "*we clean and maintain the pool together; we cannot tell the municipality to, because it's not their responsibility. It is like our home, it is our responsibility*" (AK, Unrecorded #1).

Trust and Reciprocity

Akin to the other two Area C villages, Village C3's participants speak about co-operation as being integral to the functioning of their CA institution. The participants vocalize and demonstrate that they are a close-knit community. In addition to their assertions like "*co-operation is good*" (AK, Unrecorded #1), the study participants move between each other's lands with ease and familiarity. Perhaps the sentiment that a "*logic of brotherhood*" (HD, Unrecorded #1) prevails amongst them is due to their familial

relations as belonging to the same clan; irrespective of the source of this cooperative spirit, their understanding and practice of reciprocity is notable. R frames it as “*tiybeh mawjudeh*¹⁷²” (Orchardist 1, Unrecorded #2) within the community. The gatekeeper to Village C3 describes this reciprocity via a popular idiom: “*one hand cannot clap alone*” (Gatekeeper C3, Unrecorded #3). AK elaborates on this by stating: “*if we put our hands in each other’s [hands]*¹⁷³, *we can do everything together*” (AK, Unrecorded #1). Elder A1 narrates an experience he had while working in an Israeli settlement, wherein his boss at the time—who was a Mizrahi Jewish Israeli originally from Egypt—relayed a metaphor for sticking together:

he told me and my brothers to each bring a twig. He took one twig and snapped it in half. He took two twigs together and broke them. He took three twigs but could not break them. He wanted to teach us to stand together, because united we are unbreakable (Elder A1, Unrecorded #1).

Ultimately, sticking together and maintaining reciprocity is not solely for individual survival; it is also perceived as being an act of political resistance: “*the goal is to remain tied to the land*” (AK, Unrecorded #1). The irrigators uphold the system together; the participants unanimously assert that there is no conflict over access to, or distribution of, the spring water. This small community of irrigators help each other out—particularly vis-à-vis their CA institution; when they notice that others need water, they will assist one another. This includes voluntarily providing more water to those who need more—even if this delays the rotation schedule. For a summary of CA indicators in Village C3, refer to Table A9. 3 in Appendix 9. The following table provides a summary of CA indicators in all Area C villages:

¹⁷² Literally translation: “kindness is present”.

¹⁷³ In other words, if they figuratively hold hands—i.e. literally stick together.

Table 5.3: Collective action indicators in Area C villages

Dimension	Results					
	Indicator	Result				
Property rights		<i>Village C1</i>	<i>Village C2</i>	<i>Village C3</i>		
	Type of property regime	Modern: land and water private property	Hybrid: land and water private property acquired through patrilineal inheritance	Hybrid: land and water private property acquired through patrilineal inheritance		
	Land and water property rights	Connected/appurtenant: land and water rights held jointly				
	CPR land rights regime	Boreholes located on private land	Spring located on public land	Spring located on public land		
	Operational rights	Common property	Open access	Open access		
	Collective choice rights	Common property	Common property	Common property		
	Cultivated land rights regimes	Owned or leased	Owned or leased	Owned		
Integrity of CPR property regimes	Property rights compromised	No effect	Property rights acutely compromised			
Origins of CA institution		<i>Village C1</i>	<i>Village C2</i>	<i>Village C3</i>		
	Founding	Recorded: ■■■■	Unknown	Current institutional arrangements est. ■■■■		
	Conception	Organically conceived by community members	Organically conceived by community members' ancestors	Organically conceived by community members' ancestors formalized by users		
	Impetus	To provide fresh water to villagers As protection from de-development policies	Unknown	As protection from de-development policies and intensified exceptional governance conditions		
	Startup costs	Grant from ■■■■	Unknown	None		
Formalization of institution	Formal: official registration as co-operative	Informal	Initially informal; currently formalized			
Institutional arrangements		<i>Village C1</i>	<i>Village C2</i>	<i>Village C3</i>		
	Resource Source of freshwater	Two groundwater boreholes Western	Freshwater spring Western	Freshwater spring Western		
	Resource (RU) units	Daily production: ■■■■ m ³ /day (■■■■ hours) \cong ■■■■ m ³ /hour	Spring flow = N.D.	Spring flow = N.D.		
	Irrigation network	- Water extracted from boreholes via motorized pumps to two reservoirs - Distributed through pipes via gravitational flow	Spring emerges from fountain, flows through pipe to reservoir via gravitational force. Distributed through open canals via gravitational flow	- Spring emerges from ground to reservoir, flows through pipe connected to water gauge - Distributed through open canals via gravitational flow		
	Distribution/rotation system	Low complexity: ■■■■ day rotation according to irrigators' needs. Based on proportional allocation of water	High complexity: 4- or 8-day rotation, according to crops' needs. Based on 8 clans, proportional allocation of water	Moderate complexity: ■■■■ 14-day rotation, according to adaption to water stress conditions ■■■■ proportional allocation of water		
	Users and property rights bundles	<i>Type of user</i>			<i>Property right holder</i>	<i>Associated property rights</i>
		<i>Village C1</i>	<i>Village C2</i>	<i>Village C3</i>		
		■■■■ farming households	Public (villagers, tourists)	Public (villagers, tourists, Israeli settlers, soldiers)	Authorized users	Access and withdrawal
		■■■■ landowners	Outsiders (irrigators)	N/A	Claimants	Access, withdrawal, management
	■■■■ active co-op members	Land-renting insiders	N/A	Owners	Access, withdrawal, management, and exclusion	
3 co-op leaders	Land-owning insiders (approx ■■■■ irrigators)	Landowners	Proprietors	Access, withdrawal, management, exclusion, and alienation		
Costs	<i>Village C1</i>		<i>Village C2</i>	<i>Village C3</i>		
	Members	■■■■ NIS/m ³ \cong ■■■■ NIS/hour; (for electricity-powered extraction)	No charge	No charge		
Non-members	■■■■ NIS/m ³ \cong ■■■■ NIS/hour	"Small fee" for irrigation	N/A			
Cultivation	<i>Village C1</i>		<i>Village C2</i>	<i>Village C3</i>		
	Raised beds in greenhouses. Irrigated through drip irrigation network.		Traditional agriculture on small <i>mashakeb</i> . Traditional system via flood irrigation.	Orchards and some mixed cropping Traditional irrigation system via open dirt canals		
Crops	Nightshade vegetables: tomatoes, bell/sweet peppers; eggplant/auergine; cucumbers		Seasonal vegetables, herbs (famous for <i>Battiri</i> eggplant/auergine); herbs (mint, parsley); peas	Fruit trees: olive, pomegranate, plum, guava Crops: grapevines, wild thyme (za'atar)		

Dimension	Results			
	Indicator	Result		
Rules		<i>Village C1</i>	<i>Village C2</i>	<i>Village C3</i>
	Rules	Formalized: well-established, recorded, and generally adhered to	Informal but complex: implement complex rules inherited from ancestors, but not formalized	Formalized and moderately complex: formally calculated and implemented oral rules, but not recorded
	Meetings	Formal meetings Decision-making requires 51% attendance	Informal meetings Occur on <i>ad hoc</i> basis, result in oral rules	After initial formal establishment meeting, informal meetings Occur on <i>ad hoc</i> basis, result in oral rules
	Defection Perception	Result of personal extenuating circumstances and/or exceptional governance conditions	Chasm between assertion of lack of defection and perception of occasional defection	Perception of lack of defection. Perception that high level of reciprocity leads to self-sacrifice, precluding defection
	Policies	Installed water gauges impervious to tampering Sought legal advice.	Informal confrontation, leading to: “financial penalty” and “moral penalty”	No perceived need for policies
	Monitoring	CPR guarded by hired foreman (<i>muraqib</i>) paid via co-op revenues. Main and individual gauges monitored by foreman	No formal monitoring. Irrigators present in field informally monitor	No formal monitoring. Irrigators present in field informally monitor
Maintenance		<i>Village C1</i>	<i>Village C2</i>	<i>Village C3</i>
	Repairs	Maintenance done by hired mechanics paid via co-op revenues	Maintenance done by hired experts paid via proportional contributions collected from CPR proprietors	Maintenance done by hired experts paid via proportional contributions collected from CPR proprietors
	Cleaning	<i>Muraqib</i>	Cleaning costs covered by proportional contributions from CPR proprietors	Cleaning costs covered by proportional contributions from CPR proprietors
Co-management and external intervention		<i>Village C1</i>	<i>Village C2</i>	<i>Village C3</i>
	Foundation	Organic/grassroots founding of CA institution	Organic/grassroots founding of CA institution	Organic/grassroots founding of CA institution
	Management	Managed independently by co-op leaders without external interference	Managed independently by proprietors without external interference	Managed independently by proprietors without external interference
	Funding	Funding sought by co-op leaders from governmental [redacted] and non-governmental organizations [redacted]	Funding from group of non-governmental organizations in 1998	N/A
	Summary	CA institution founding and functioning are organic and independent	CA institution founding and functioning are organic and independent	CA institution founding and functioning are organic and independent
Trust and reciprocity		<i>Village C1</i>	<i>Village C2</i>	<i>Village C3</i>
	Perception			
	Insiders	Perceived high level of trust amongst CA institution actors	Perceived high level of trust amongst CA institution actors, with one exception	Perceived high level of trust amongst CA institution actors
	Outsiders	Perceived corruption, fraud, self-serving behavior within CA institution	Initial assertion of high level of trust, followed by more nuanced understanding of trust/reciprocity	Perceived high level of trust within CA institution

5.2.2 Collective Action in Area A Villages

Village A1

Property Rights: Operational and Collective Choice

Property regimes in Village A1 are modern, whereby land and water resources are private property. Property rights over water are divided into two subtypes: *muftalah* and *basateen*. While *basateen* water rights are held and sold along with land rights, *muftalah* water rights are separate from land. In the latter case, one can own water shares without owning land—in which case they can sell water units to landowners who do not have water property rights. This arrangement does not entail selling property rights over water units, but rather “leasing” the water. The Jordan Valley contains springs and wells with varying combinations of property rights. There are also varying types of land property rights—including *sharaka*, a system of sharecropping that can have various permutations. Village A1 Spring is located on public land—and similar to the other springs in the study, this CPR is open access vis-à-vis operational rights but common property vis-à-vis collective choice rights. Notwithstanding this typical institutional arrangement, the collective choice rights are less straightforward. This is due to two unique characteristics of the Village A1’s CA institution: the separation of water and land property regimes, and the hybrid nature of water ownership. These render the spring water more of a commodity—i.e. a private good—rather than a community resource that is managed, protected, and valued by a community of cultivators.

One farmer explains that he receives water two to three times a week, totaling ██████ m³/week. “It takes three days to fill up” (F, Recording #16) the pool/reservoir on his property, lasting about five days. His water property rights are connected to his land property rights (i.e. *basateen* water), the latter of which he leases. Another participant,

OF, also receives [REDACTED] m³ of water each week, divided into two rounds. This farmer explains that he leases the land—and corresponding *basateen* water—from the Greek Orthodox Church, which owns a substantial amount of land in Palestine.

Although many of the participants do not believe that the Israeli state imposes restrictions on their water extraction, this is not entirely accurate. As discussed in Chapter 3, Oslo II formalized and legalized the limits to Palestinian water extraction, even in Area A territories. Ultimately, this compromises Palestinian sovereignty over freshwater resources in the Jordan Valley, rendering water property rights compromised—albeit to a lesser extent than in Area C territories.

Origins of Institutional Arrangements

The origins of the CA institution in Village A1 is unclear. The community of water users do not seem to have records of this. Nevertheless, their current management system is roughly described as traceable to the [REDACTED]. One farmer—who also owns a plant nursery in town—explains that

it is an old division...it is old, it is not new; the time of the Jordanians...and the British Mandate...from the Mandate, then the Jordanians, then the Authority [the PA, “Al Sulta”] maintained the same system. Whatever was put into law, Al Sulta adhered to, as did the Jordanians (F, Recording #17).

Another farmer—the head of the irrigation association¹⁷⁴—asserts that “*the municipality has always managed the spring, starting from the British Mandate to maslahat ilmiyah¹⁷⁵ to the municipality*” (Elder A1, Unrecorded #10). AS explained that the separation of land property rights from water property rights was also done under the British Mandate.

¹⁷⁴ At the time of fieldwork.

¹⁷⁵ The water authority—i.e. the Israeli Civil Administration’s West Bank Water Department.

Institutional Arrangements

The institutional arrangements of Village A1's CA institution are the most complex in this study— [REDACTED] 176. [REDACTED]



The spring “produces an average of [REDACTED] m³/hour [REDACTED] [REDACTED]” (Elder A1, Unrecorded #10), [REDACTED] [REDACTED]. This includes the two types of water, *basateen* and *muftalah*, which are distributed [REDACTED]. While “the municipality does not own” the spring, “as the town grew, since [REDACTED] it has used it for drinking water” (ibid). The “(Village A1) Municipality bought a small portion of *muftalah* water from the owners” (ibid). This farmer, the head of the Village A1 Association for Irrigation, [REDACTED] [REDACTED]. He explains that there are [REDACTED] water users, which includes land and water owners. Each cultivator has a personal gauge to monitor their water use, which is pumped via water hydrants (*masareef ildakh*).

176 [REDACTED]

¹⁷⁷ At the time of fieldwork.

Co-Management and External Intervention

Another farmer, who owns a plant nursery in Village A1, explains that [REDACTED] prior to my fieldwork, the cultivators of Village A1 established a water user's association (WUA). He explains that there was an agreement between the cultivators and the municipality that the latter would hand over control of the spring to the WUA. The WUA *"was established [REDACTED] years ago, before the network was done; they managed it for [REDACTED] years, then they stopped doing that, ending up with no association...[since then] the municipality manages it"* (F, Recording # 16). The agreement over management was not the only agreement reneged on; part of the deal of establishing a WUA was to provide cultivators with a lower price for water provision. According to F, the agreement was for the cultivators to receive [REDACTED] m³ out of the [REDACTED] m³ available flow—on the grounds that the municipality could manage the water source more efficiently and at a lower cost: *"despite the agreement between the association and the municipality that the municipality take [REDACTED]¹⁷⁸ cubic meters in return for reducing the price, and the cultivator gets [REDACTED] cubic meters. But they did not reduce the price—they increased it to [REDACTED] shekels¹⁷⁹"* (F, Recording #16).

The head of the WUA¹⁸⁰ clarified this co-management arrangement: in [REDACTED], [REDACTED] [REDACTED], which lasted until [REDACTED]. This project entailed the installation of a more modern water network—i.e. the installation of pipes, pumps, and gauges—in place of the previously open water canals. Elder A1 asserts this included [REDACTED] [REDACTED], which aimed to

¹⁷⁸ Due to access restrictions, the discrepancy in amounts [REDACTED] m³ vs [REDACTED] m³) cannot currently be accounted for.

¹⁷⁹ NIS, or New Israeli Shekels, the Israeli currency used by everyone in Israel and Palestine.

¹⁸⁰ While Gatekeeper A introduced Elder A1 as the head of the WUA, and the latter claimed this position, other A1 participants emphatically stated that the WUA has become defunct.

establish a WUA as a precondition for [REDACTED] authorization to implement the project. In turn, [REDACTED] placed negotiated conditions on the association: *“after negotiations between the municipality and the association, they decided to allocate 42% of the spring water to drinking [i.e. domestic purposes] and 58% to irrigation. The farmers surrendered”* (ibid). Elder A1 explains that the PA wanted the entirety of the CPR to be used for domestic purposes [REDACTED] [REDACTED]. Instead, the negotiations led to the prioritization of drinking water, followed by water for livestock, and lastly for agricultural irrigation. In practice however, *“the municipality actually takes 70% of the water, and despite the laws, the association does not play a decision-making role”* (ibid). This has resulted in what Elder A1 describes as a *“bad distribution system”* whereby the spring water is *“not even enough for drinking water”* (ibid). This is due to an unexpected rate of growth in Village A1, [REDACTED] [REDACTED]. However, *“now [the spring and surrounding area] is closed. Before, birds used to drink from it, and cats did. Now it is closed. No one can go in now. You saw it; water comes out and into the pipes”* (F, Recording #17).

Rules

Despite the hybrid property rights, marked by a more modern approach to property rights (as well as more modern infrastructure, and a general shift away from the traditional management of CPRs), the CA institution in Village A1 does not have effective rules. In Village A1, the rules are highly formalized within a co-management structure; however, a deep chasm between formalization and implementation renders CA

rules ineffective. Co-management does not only add complexity to their institutional arrangements; it also adds chaos and thus a lack of effective management. While each cultivator is provided with the irrigation rotation schedule—and is thus cognizant of the day and time that they will receive their share of water—sometimes cultivators forget to open the *qattir*¹⁸¹ to the canal leading to their reservoir/pool.

The CA rules changed when the Village A1 Municipality took control not only of the point of emergence, but also of monitoring and distribution of the spring water. The source of the spring is now enclosed and inaccessible to the CPR owners¹⁸²; there are no special privileges afforded to the owners vis-à-vis the operational property right of access. [REDACTED]

[REDACTED]. There are [REDACTED] *qanawatis* who control the spring water, which is enclosed in pipes—a more modern iteration of open canals. These [REDACTED] *qanawatis* are responsible for distributing the water via [REDACTED] outlets; however, since the municipality assumed control, there are now [REDACTED] outlets. This increase in outlets comprises a violation of the CPR owners' water property rights, whose water shares are significantly impacted.

While the CA rules are violated, the CPR owners are also disregarded by local government officials. In addition to the CPR owners having their WUA rendered defunct, they have endured years of corruption that has undermined their rights. The research participants express their belief that nothing can be done to rectify the situation, as there is a lack of transparency and lack of accountability. The only rules adhered to are the distribution of water shares and the correct times for each irrigator's respective round.

¹⁸¹ the metal gate/barrier with a lever that is used to block and redirect water flow in the canals.

¹⁸² [REDACTED]

Maintenance

Since the point of emergence of the CPR, the reservoir, and the immediate area of the network of pipes are all enclosed within municipality grounds, the municipality addresses maintenance and repair issues of this main infrastructure. As is the case with all CPRs in this study, Village A1 CPR users are responsible for repairs and maintenance of the irrigation system located on their respective private properties—i.e. the canals and individual reservoirs/pools on their lands.

Trust and Reciprocity

Trust amongst community members is one of the most delicate matters to discuss with participants. It requires two concomitant efforts: building rapport with each participant and asking the same questions multiple times in different ways. The latter is largely dependent upon the way in which the participant is introduced to the research and researcher; this, in turn, is dependent upon the gatekeeper who provides access to each participant. In some situations, the gatekeepers made brief phone calls to arrange meetings, while other situations entailed the direct involvement and presence of the gatekeeper. The delicacy of addressing trust is nowhere more apparent than in Village A1. This manifested as contradictory responses about trust within their community—i.e. oscillating affirmation and denial of the presence of trust and reciprocity—beginning with a clear affirmation, and then slowly admitting lack of trust, followed by a partial retraction of this admission. While this is a notable observation, it is not unexpected; it is arguably a “natural” desire to portray oneself and one’s community in a positive light.

Admitting a lack of harmony does not enable participants to paint a perfectly positive picture of their community.

Elder A was introduced to the research and researcher by a significant gatekeeper, Gatekeeper A, who is a well-respected figure in the larger community. Elder A1 was immediately forthcoming about the lack of harmony in Village A1, as well as the inefficiencies and corruption that taint their CA institution. One of the starkest assertions he makes is that the network's "*water pipes are supposed to include [redacted] openings*¹⁸³, but we found [redacted]" (Elder A1, Unrecorded #10). He asserts "*there are problems between farmers and the qanawatis*" (ibid), explaining that this is mainly due to rampant bribery leading to favoritism; irrigators who do not provide monetary bribes to the *qanawatis* are not given their due water ownership rights. He illustrates this point with an anecdote about a PA official who [redacted]. The cultivators discovered that he had been bribing a *qanawati* to irrigate his [redacted]. According to Elder A1, bribing a canal operator does not entail a hefty price; rather, it simply requires paying 50NIS to gain favor with any given *qanawati*. Elder A1 concedes "*there is co-operation between farmers*" (ibid), but it is impeded by the municipality's role in managing the spring.

In contrast to the narrative provided by Elder A1, F, a cultivator who owns a plant nursery, is reluctant to portray discord within the community. Rather than admitting to outright water theft via corruption facilitated by *qanawatis*, F portrays water loss as occurring as a result of poor management: theft "*is not possible; there are gauges everywhere...when a gauge breaks...it is not counting and the employee lets it run for two hours...that is mismanagement, when you open it for more hours. This would be*

¹⁸³ i.e. water hydrants within the water distribution network.

avoided if the gauges were working properly” (F, Recording #16). Notwithstanding this position, F echoes Elder A1’s view that the municipality taints co-operation amongst cultivators:

there is co-operation; there are meetings; there is everything...we consult and advise each other... We complain about water but the municipality does not do anything about it; but no one comes to tell them that they have mismanagement...before when we had [open] canals, neighbors would borrow [water] from each other. But now we have separate meters (ibid).

While it may seem counterintuitive to outsiders, research participants in all three Area A villages¹⁸⁴ share the belief that upgrading their traditional open canals to modern closed—i.e. piped—networks is detrimental; participants consistently assert that their CA institutions are less transparent, less efficient, and less fair. F describes conditions when the network was comprised of open canals: “*there was life; there was a spirit of water...before you would go all around town and it was all green; we used to have enough water; birds would drink from it; [REDACTED]*” (ibid). He contrasts this with the current situation: “*now you do not know where the water is going...after establishing the network, for the purpose of saving water, there is less now!*” (ibid). For a summary of CA indicators in Village A1, refer to Table A6. 4 in Appendix 6.

Village A2

Property Rights: Operational and Collective Choice

Property rights in Village A2 are also modern, whereby land and water resources are private property; property rights over water are separate from land. Akin to the *muftalah* water in Village A1, one can own water shares without owning land, meaning

¹⁸⁴ As well as in Village C2.

they can lease water units to landowners who do not have water property rights. Akin to Village A1, there are also varying types of land property rights, including ownership, leasing, and *sharaka*. *Sharaka* is also one of the property rights regimes apropos of water, whereby “*a cultivator will do a sharaka with the water owner on a specific percentage*” (Municipal Official, Recording #18)—i.e. the cultivator will share a portion of their agricultural output with the water proprietor. Village A2’s spring is located on public land, a CPR that is open access vis-à-vis operational rights but common property vis-à-vis collective choice rights. As is the case with Village A1 Spring, the collective choice rights are less straightforward than, for example, Village C2. Akin to Village A1, this is due to two unique characteristics of Village A2’s CA institution: the separation of water and land property rights, and the hybrid nature of water ownership. These render the treatment of spring water as a commodity (i.e. a private good), rather than a community resource that is managed by a cohesive community of cultivators.

The municipal official explains there are two types of water “hours”: one that lasts for a full hour, and another that lasts for [REDACTED] minutes. While the former costs [REDACTED] JD, the latter costs [REDACTED] JD, which generates a total of [REDACTED] hours. “*You pay one time, and you get [REDACTED] cubic meters every [REDACTED] days. This is [registered as a title deed] in your name; like Tabu¹⁸⁵, for life*” (Municipal Official, Recording #18). Another participant explains “*water is sold through a court, like selling land*” (Unrecorded, #12). The municipal official also explains “*water and land are separate...you buy water just like land*”, elaborating that this has always been the case, “*from when it was created*” (Municipal Official, Recording #18).

¹⁸⁵ *Tabu* is based on a Turkish word for registered title deeds to property. Its origins can be traced to the Ottoman Land Code of 1858.

Akin to water from Village A1, cultivators in Village A2 and Village A3 must build reservoirs/pools to store the water shares they lease or own. In cases where someone wants to purchase water shares without owning land, they have a few options: to buy land; to rent their water shares to someone else; or to “*send it to a different cultivator, give him a percentage, and plant in your own land if you are close by*” (Municipal Official, Recording #18). In other words, instead of paying rent to store one’s water shares, they can compensate for using another cultivator’s reservoir/pool via some of their water shares.

One farmer, who receives water every six days, for a duration of eight hours asserts: “*95% of farmers lease land from the [REDACTED] family¹⁸⁶...they have ruled the country since the Mandate*” (OF, Unrecorded #12). A municipality official, who is also a farmer, asserts that these semi-feudalist families no longer own large quantities of land and water in Village A2 and Village A3:

Dajanis and Husseinis¹⁸⁷ mostly sold their water; they do not cultivate, so they sold their water. Th [REDACTED]

(Municipal Official, Recording #18).

The municipal official explains that in addition to the Greek Orthodox Church being a large landowner in Village A2, the Coptic Church also owns and leases land and water to cultivators.

Origins of Institutional Arrangements

¹⁸⁶ One of several semi-feudalist families (mostly from Jerusalem) who are still socio-politically prominent, large landowners.

¹⁸⁷ Same as above.

Akin to most CPR communities in this study, Village A2's CPR community cannot precisely trace the origins of their CA institution. The dearth of historiography¹⁸⁸ renders knowledge speculative at best—but is also indicative of the CA institution's age-old origins. Although private water resources are not linked to common property resources, Municipal Official explains that “*most of the water in Village A3 and Village A2 was for the Husseinis and Dajanis; how they used to register [property rights] a long time ago, I do not know; they had a large quantity [of water]*” (Municipal Official, Recording #18). He adds that these semi-feudalist families owned large swathes of land, whereby “*there are some Tabu of 800 and 900 dunums for just one person*” (ibid).

Institutional Arrangements

Village A2 village is divided into two separate jurisdictional areas. During the first round of fieldwork visits, the village was under the jurisdiction of a village council that also served Village A3. During the second phase of fieldwork, the governance status of this village council had been elevated to become a municipality. The CPR community's rotation schedule, whereby each irrigator receives their share of water every [redacted] days, is based on an “hour” of water lasting a full temporal hour—i.e. 60 minutes. OF asserts that while he receives [redacted] hours of water, it is not sufficient. There are “*no less than* [redacted] *cultivators*” (Municipal Official, Recording #18) who irrigate their crops from the Village A2 Spring. The vegetables cultivated are mainly nightshade plants, including tomatoes, zucchini/courgette, and eggplant/aubergine; the fruits

¹⁸⁸ It should be re-emphasized that my fieldwork was cut short, forcing me to cancel scheduled meetings with *qanawatis* in Area A villages. These *qanawatis* likely would have provided historical knowledge of the respective CPRs—if not the precise origins of the CA institutions.

cultivated include citrus, dates, and guava trees. The irrigators each have a share of water that

is bought by [them] previously; for some it is registered in their name from the time of their forefathers; others have bought a share more recently; each cultivator knows when his turn is, which day. You go by yourself and open [the qattir] by yourself and open it at a specified hour; no one touches it then; if you have 15 hours, no one touches it while you have your turn (Municipal Official, Recording #18).

As with Village A1 and Village A3, the point of emergence of Village A2's spring is enclosed and guarded by the municipality. This may have reduced the occurrence of water theft directly from the source, but it rendered the CPR's status as open access vis-à-vis collective choice rights precarious; enclosing the point of emergence behind a locked fence with a municipality guard has rendered it inaccessible not only to CPR owners, but also to outsiders from the community. While the part of the network adjacent to the spring is comprised of water pipes, the remaining irrigation network is comprised of open concrete-lined water canals, thus allowing outsiders to access the water for drinking and husbandry purposes via the canals instead of directly from the spring's point of emergence.

The point of emergence is adjacent to that of Village A3, and since they are under the jurisdiction of the same municipality, part of the infrastructure is shared: the two springs are enclosed together behind the same fence, and thus monitored by the same guard. Similar to Village A3, the water is distributed via gravitational flow to the lower lying lands. The water is distributed to the irrigators based on a schedule created at the beginning of the year, just as is the case in Village A3: *"for distributing the turns, there is a committee. There is a person who organizes the turns if there are sales of shares. He changes the turn [accordingly] by way of the committee, not the municipality"* (Municipal Official, Recording #18). The committee head thus holds all the "water

records in his house” (ibid)—i.e. all of the title deeds to water shares are held by the committee head, which the municipality does not have access to. While the research participants explain that the committee head receives an annual payment for his role, the municipal official claims that *“he does not get anything in return...no one pays; he [i.e. each water owner] already bought it: it is registered in their name, it is like Tabu¹⁸⁹”* (ibid). The municipal official concedes that the centralization of knowledge and records vis-à-vis water property regimes *“is not good for the future because they are the only ones who know”* (ibid). He expresses his belief that the municipality should take control of water distribution and modernize the system:

we should think about this and come up with something better, and better programmed; on a computer, an easier method than a manual one. You never know what happens; no one would be able to know who [owns] what...I always think of that; this has to be learned by someone in case that person is not there anymore, God forbid...it needs a workshop [to teach to others] (ibid).

While community members refer to the head of this committee as a *“qanawati”*, the municipal official maintains that *“there is no qanawati”* (ibid). This is because the head of the committee is not a canal operator, as the modern iteration of his role does not include controlling the canals—i.e. adjusting the *qattirs*¹⁹⁰ to direct water flow.

Co-Management and External Intervention

During the first phase of fieldwork visits, in April-May 2017, villages A2 and A3 shared a village council, which played a minor role in co-management arrangements. In addition to collecting funds from the CPR users for maintenance work, the village council (*majliss qarawi* or simply *majliss*), harvested spring water on behalf of the PA. OF

¹⁸⁹ *Tabu* is based on a Turkish word for registered title deeds to property. Its origins can be traced to the Ottoman Land Code of 1858.

¹⁹⁰ the metal gates/barriers with lever that are used to block and redirect water flow in the canals.

explains that “█ percent of our spring water is taken by the PA for the police base” (OF, Unrecorded #12). Otherwise, the *majliss* has not interfered in their CA institution. However, by the second phase of fieldwork visits, the village council representing villages A2 and A3 had been upgraded to a municipality; this entailed constructing a new municipal building, voting in a municipal official, and enclosing the point of emergence of their spring behind a fence¹⁹¹—with a municipal guard to monitor it around the clock. This also entailed constructing an infrastructure around the point of emergence of the spring, wherein the “municipality co-operated with █ and rehabilitated about █ into pipes...after that it is the canals” (Municipal Official, Recording #18). Modernizing part of the network immediately adjacent to the point of emergence was due to

a lot of water loss from the A1 network; so we installed 20 inch pipes up to the area that has no water leakage...█ offered to close it all the way, but we were not encouraged to...people feel it is blessed when open: the birds drink from it better, animals drink from it...everyone [can] drink from it (ibid).

In setting up this new system, the municipality also began to harvest █ m³/week from Village A2’s spring as eminent domain. This water is quality tested by the Ministry of Health and distributed via a motorized pump to the residents of Village A2 as domestic water. The municipal official explains that domestic water is charged at a progressive rate, whereby █ m³ of water is charged at █ NIS/m³, █ m³ at █ NIS/m³, and any amount above █ m³ is charged at █ NIS/m³: “for *tarsheed* [rationalizing¹⁹²] the [water] use” (ibid). The municipal official also explains “we give water to Bedouins for drinking...they come and draw water...they draw for their sheep too” (ibid).

¹⁹¹ Since my fieldwork spanned this governance transition, I was able to visit village A2 and A3 springs before and after their enclosure.

¹⁹² i.e. making the water distribution process more efficient.

Although the municipal official claims that neither of these have affected drinking water, other research participants claim that this did affect them: OF and the other cultivators in the informal focus group express dissatisfaction that that ■ m³ was taken for use by the police base. While this dissatisfaction may not be vocalized or relayed to the municipality, the municipal official asserts:

we never tried to bypass people's decisions and we respected them. We did not belittle their agricultural role; we try to maintain it and go along with people based on slow developments. For example...although I have [i.e. the municipality] a shortage of drinking water, I will not draw more...I draw what is agreed on (ibid).

The municipal official represents this extraction as being approved by the CPR users, although he does not provide details of whether this took the form of a referendum or any other formal agreement. He nevertheless asserts “*there was justification because people wanted to drink clean water...[the CPR users] consulted amongst each other...[and we took it] like they say, 'from the head of the bunch'”* (ibid), resulting in each user losing a portion of their respective shares. The revenue generated from selling this domestic water is used to maintain the co-management arrangements supported by the municipality. In addition to this, the municipality “*bought ■ hours for ■ JDs...now we own it. And anyone wants to sell water, we try, as a municipality, to buy it”* (ibid), which produces ■ m³/hour.

Rules

While the CA institution in Village A2 does not have highly formalized rules, there is less of a perceived need for them. Unlike villages A1 and A3, where theft is reported as a widespread issue—albeit each in different forms—in Village A2, this is not the case. Perceptions of a lack of theft run the gamut from insiders to those with dual

positions (as CPR users *and* members of governmental bodies) to outsiders. The reasons provided for the lack of theft are that the CPR community is relatively smaller and homogenous—i.e. in contrast to CPR community in Village A3. Due to the lack of theft, Village A2 does not have a mechanism for accountability; there is no perceived need to establish a mechanism of accountability for defection.

Maintenance

During the first phase of fieldwork visits, maintenance of Village A2's irrigation network was coordinated by the *majliss qarawi* (village council). All CPR users contributed money proportional to their water shares, so that they collectively covered costs of repairs and cleaning. By the second phase of fieldwork visits, when the *majliss* had been upgraded to a municipality for villages A2 and A3, the latter became responsible for maintenance and cleaning of the part of the network enclosed behind municipal grounds (this includes the spring's point of emergence, water pipes, and water canals). In lower-lying sections that are not located on municipal grounds, the municipality nevertheless occasionally subsidizes rehabilitation of canals. As with all the other CA institutions, each irrigator is responsible for cleaning and maintaining canals that fall on their private property, as well as their private reservoirs/pools.

Trust and Reciprocity

Notwithstanding this complex yet centralized system, there is a perception that property rights are not the sole determinant of water distribution. Gatekeeper A, who

served as the initial gatekeeper to the three Area A villages in April-May 2017, asserts the amount of water each irrigator receives is not proportional to ownership, but rather is based on cronyism: while the “*schedule is given by [redacted], land area does not determine water. Water is determined by ‘ilaqat shakhsiyeh [personal relationships]; mu’adaleh shakhsiyeh [the equation is personal];*” (Gatekeeper A, Unrecorded #12). The municipal official paints a very different picture, however, asserting that “*the only thing that distinguishes us here is that no one encroaches on anyone else*” (Municipal Official, Recording #18). It is important to note that while the municipal official has an interest in depicting a well-functioning system, his perception is also shaped by his frame of reference as a cultivator from Village A2, where theft does not seem to be an issue. A similar line of reasoning is echoed by OF, an irrigator from Village A3, who claims water theft is not an issue for irrigators in Village A2. His reasoning is that the latter is comprised of a closer-knit community wherein members do not encroach on each other’s rights because they are homogenous. OF explains water theft in Village A3 as being unique: “*we only suffer from the theft of water in Village A3...no one steals in Village A2...people of Village A2 are more close-knit; the town is small, there are only [redacted] families¹⁹³*” (F, Recording #1). He elaborates that someone was caught stealing spring water in Village A2 in the 1980s and was immediately expelled from the community; that incident deterred any subsequent theft.

Similarly, the municipal official asserts intentional defection does not occur; in cases where an irrigator takes more than their share of water, “*it is out of kharbasheh [confusion/unintentional]; sometimes maybe kids would play with it, thinking that it is not flowing according to a [rotation] turn, so it ends up going into a different pool*”

¹⁹³ i.e. [redacted] clans.

(Municipal Official, Recording #18). He tells an anecdote about one particular irrigator who regularly defects, albeit unintentionally: *“there is this guy who forgets (sleeps) a lot; so his water comes to our¹⁹⁴ pool and damages it; this happened many times...his turn is after us; he does not open so the water keeps coming to us...he used to forget it all night”* (ibid). Close relationships amongst the cultivators help reduce cases of unintentional defection; *“we [all] know the turns so if I see that water is going somewhere else, I will call the cultivator and tell him...or if I see that the drain is clogged and water is flowing out, I will call him or unclog it myself; no one would pass such a situation and ignore it”* (ibid). The municipal official also asserts there is a high level of trust between cultivators, stating *“in general, the largest trust in this area concerns turns of water; nobody encroaches. The water is closed and opened on the minute”* (ibid)—i.e. irrigators respect each other’s rounds, down to the exact minute. This trust is extended to the *qanawati*, who is the sole actor responsible for ensuring that each irrigator is allocated the correct amount of water in accordance with their water property rights.

The municipal official contrasts this with untrustworthiness he attributes to the *qanawatis* in Village A1; this manifests in people using monetary bribes to gain favor with the *qanawatis*: *“there is manipulation”* (ibid). This became possible when Village A1 updated their water infrastructure from open canals to a closed piped network, which paved the way for a literal lack of transparency. According to the municipal official, intentional defection in Village A1 is not solely facilitated by corrupt *qanawatis*: *“I think it is the biggest mistake to close the water. First, there is lots of theft of water after that...it is plastic pipes and they draw from them”* (ibid). The municipal official echoes a common

¹⁹⁴ Here he is referring to his family’s reservoir/pool. While the municipal official relegated cultivation as a subsidiary activity to his municipal duties, his brothers are all full-time cultivators.

sentiment amongst participants from villages A2 and A3: updating their irrigation network by installing pipes would render transparency infeasible. In accordance with this reasoning, the municipal official explains: “*we the cultivators are fearful that they would make part of the municipality¹⁹⁵ or the Water Authority¹⁹⁶ on the basis that the water is not used; that is why they keep it with a committee*” (ibid). Thus, any mistrust that may currently exist amongst the community members would be significantly compounded by ceding control or allowing infrastructural changes to be made. For a summary of CA indicators in Village A2, refer to Table A9. 5 in Appendix 9.

Village A3

Property Rights: Operational and Collective Choice

As is the case in Village A2, property regimes in Village A3 are also modern, whereby land and water resources are private property. Akin to Village A2, property rights over water and land are separate. “*Agricultural water (ma’ zira’iyeh) is bought and sold*” (AY, Unrecorded #11). One farmer explains:

there are about [redacted] cultivators; but the water of Village A3 is privately owned...I buy water from Village A3; there is a committee; I might keep [the water] for a year [i.e. purchase it]; I may have it as an investment such that I can rent it out. Village A3 and Village A2 are the same. But unfortunately, the biggest quantities were sold to investors (Date Palm Farmer, Recording #13).

Since water and property regimes are separate, water distribution to these cultivators is not necessarily proportional to the land they each rent or own. Similar to villages A1 and A2, there are various combinations of land and water leasing and ownership. Village A3 Spring is also located on public land, a CPR that is open access vis-à-vis operational

¹⁹⁵ This is a notable claim being made by an official of the very municipality he is referring to; it reflects his dual interests as a cultivator, and as a governmental official.

¹⁹⁶ He is referring to the Palestinian Water Authority (PWA), which would entail shifting governance responsibilities from the local to the national level.

rights but common property vis-à-vis collective choice rights: outsiders “*can drink, sit there, wash*” (ibid). Like Village A1 and Village A2 springs, the collective choice rights vis-à-vis Village A3 are not straightforward; this is due to the separation of water and land property regimes, and the hybrid nature of water ownership. As is the case with the other two Area A springs, these render Village A3 Spring water to be managed as a commodity, rather than a community resource that is managed by a cohesive community of cultivators.

For Village A2 and Village A3 springs, “*when you buy water, it is not registered; it stays with the same cultivator until the beginning of the year*” (Municipal Official, Recording #18). The *qanawati* changes “*the whole schedule*” (ibid) at the beginning of each year, taking account of all the new water property rights holders. In other words, all purchases made throughout the year are only factored into the irrigation schedule at the beginning of each year. One farmer explains that the majority of cultivators rent water from the largest water owners: “*the (Greek Orthodox) Church owns about [redacted] hours a week...[which is] about 60% of the water...in the old days, it [the remaining water was owned by] the feudalists*” (Date Palm Farmer, Recording #13). This remaining water was previously owned by the [redacted] family, who sold their water shares “*to the municipality...[who in turn] made a storage tank from which it pumps water to the city of Village A1*” (ibid) as domestic water. This farmer attributes the present-day oligopoly to be a result of the water being “*sold at the time of hunger*¹⁹⁷. *Who had money at the time? The monasteries. They used to buy (the water)*” (ibid).

Origins of the Collective Action Institution

¹⁹⁷ i.e. during times of need, water owners sold their water shares as their sole option.

Akin to villages A1 and A2, the origins of the CA institution in Village A3 is unclear. While water records—including water title deeds—are held by the *qanawati*, it is unclear how comprehensive these are. Similarly, it is unclear when the water association was established; it is well known by the Village A3 participants that its founding predates 1967. Based on the research interviews, it is clear that their CA institution was created organically—i.e. without external intervention.

The original system of water management was based on a traditional patrilineal system, whereby irrigation rounds were rotated amongst the clans of the village. This system also included large landowners who leased lands to cultivators as tenants or sharecroppers. Due to the semi-feudalistic nature of property rights history, the springs in this area are managed via a mechanism that combines the lasting legacy of semi-feudalism and contemporary property rights. This does not preclude patrilineal inheritance, but it is not the predominant way in which water is divided and managed. Instead, irrigation rotations are based on water property rights (separate from land property rights); as outlined above, hybrid property rights regimes have produced a combination of patrilineal and modern management.

One farmer traces water harvesting from Village A3 centuries back:

this water of Village A3, even King Herodus and Hisham Ibn Abd al Malik, they used to take it to Hisham Palace...and from Village A2; there are canals and clay pipes that still exist now. Herodus also had palaces, swimming pools in the Lower Village A3. After that, the local people came...you know there were wars and earthquake—Village A3 was covered up [as a result], so they [rehabilitated] it; and so families¹⁹⁸ took ownership...they have weight in the Village A3 and Village A2; people did not have much and life was hard. So they started selling water to the rich people; some still own water until now, and others sold it to the big investors (Date Palm Farmer, Recording #13).

¹⁹⁸ He is referring to large landowning families, also referred to as “Feudalists”, although this is a misnomer, and can more accurately be referred to as “semi-Feudalists”.

This cultivator—a date palm cultivator who leases land and water in Village A3—provides a more recent history of water management:

the Village A3 canal was built in [REDACTED]. The one who built it was [REDACTED]¹⁹⁹; I cannot recall his name. He started it not out of love or concern for people; he bought a big part of the water and his lands were in the Lower A3—and so to provide it with the largest quantity of water, he built the [open] canal from concrete...we still have the same canal from [REDACTED] (ibid).

Institutional Arrangements

While Village A3's spring once produced a flow of [REDACTED] m³/hour, at the time of field research, it produced a flow of [REDACTED] m³/hour (AY, Unrecorded #11). [REDACTED]

[REDACTED]

[REDACTED]

The spring water is also divided concomitantly with the land division, whereby the spring is treated practically and jurisdictionally as two separate water sources. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The municipal official of the Village A3 and Village A2 Municipality explains: [REDACTED]

[REDACTED] *[spring] ...it is divided by turns ...every [REDACTED] days one [irrigator] gets his turn"* (Municipal Official, Recording #18).

¹⁹⁹ One of the large landowning families, also referred to as "semi-Feudalists".

²⁰⁰ [REDACTED]

Village A3's spring is adjacent to its neighboring spring, Village A2. Notwithstanding the proximity of these two springs, the institutional arrangements that characterize each CPR are considerably different. The main similarity to Village A2—unlike Village A1—is that the *qanawati* does not physically control the water canals; rather, he is simply responsible for creating and distributing an irrigation rotation schedule based on each owner's water shares. The *qanawati* provides this schedule “on January 1st, at the beginning of the year” (F, Recording #1) for “approximately [REDACTED]” (ibid) cultivators. The *qanawati* is compensated by each water owner; “he is paid [REDACTED] JD/hour/year...I bought [REDACTED] hours last year—this is equal to [REDACTED] minutes, so I pay him [REDACTED] JD/year” (ibid). While the *qanawati*'s responsibilities are not limited to creating and distributing the irrigation schedule, F claims he does not always fulfill his other duties: “he is supposed to keep the canal clean, but he does not. Sometimes he cleans; other times he ignores it. But, honestly speaking, no other *qanawati* has done as good a job as he has” (ibid). Village A3's *qanawati* also serves as the head of a committee “for the owners of the water. It is called the Water Committee for Village A3” (Date Palm Farmer, Recording #13), which Date Palm Farmer explains was established in the [REDACTED]s. This is separate from the cultivators' association, which serves all cultivators, irrespective of whether their irrigation water is sourced from the spring or the aquifer.

Although water property rights are hybrid, marked by increasingly modern property regimes, the water committee membership is clan-based. Date Palm Farmer explains that one family established the committee and chose “one (member) from each family” (ibid), which now total [REDACTED] members. He laments: “unfortunately, since the committee was formed by the [REDACTED] family, they still head it; they still hold all the records. That is the agreement” (ibid). Nevertheless, members of each clan are not chosen in a

traditional patrilineal manner whereby the eldest male represents the entire clan; each member is “*not necessarily the oldest, but the most knowledgeable*” (ibid), with the most experience. The municipal official elaborates that the head of the committee²⁰¹ is determined by patrilineal inheritance, and only changes hands on a generational basis: “*the same person stays in that position...it is not like a committee that has a headquarters...[but] anyone who buys and sells [spring water] goes to him to register with him...before him, it was his father in that position*” (Municipal Official, Recording #18). While this position is not acquired through a merit-based selection process, the role does entail complexity that requires a high level of competence. The municipal official confirms this complexity by conceding, “*I, no matter what, am incapable of doing the scheduling*” (ibid).

Irrigation rotation occurs every [REDACTED] days; each irrigator is responsible for opening the *qattir* to redirect the water flow to their property. The water flow is directed from the network’s main canals to the ancillary canals through “*a metal piece called a qattir. It is like a door; you open and block [the water flow]; [REDACTED]...when our water comes, [REDACTED]; that’s the distance*” (ibid)—i.e. it takes up to [REDACTED] for the water to flow between each plot of land. However, if plots of land are close to each other, the water flow can reach the next plot within a few minutes. Irrigation times can also change annually, even when one’s ownership remains constant. This occurs when water shares are purchased and the *qanawati* creates a new irrigation schedule to account for new property rights holders; the change results from the adjustment to the trajectory of

²⁰¹ While the municipal official maintained that the head of the committee is not a *qanawati*, the other participants did refer to him this way—although the modern iteration of his role does not include serving as a canal operator per se.

the water flow. The municipal official asserts the particularities of this mechanism are too complex to explain:

[the qanawati] organize(s) the turns and changes it when there is a sale...it is hard for you to know because [REDACTED] the distances are reduced; for example, my water is for 20 hours for this whole year. Next year I will take it for 19.5 hours...it gets less in the distance. For example it has to do with distribution. It gets less so the other person does not get hurt...this happens in distribution. It is in the distances on the canals...it needs a lot of explanation; it is hard for you to understand (Municipal Official, Recording #18).

Each irrigator has a reservoir/pool on their plot of land that they fill for a certain amount of time that corresponds with the water shares they own. In turn, the irrigator's have a motorized pump that fuels the distribution of the water from their respective pools through their individual network of drip-irrigation pipes.

Co-Management and External Intervention

As with Village A2, during the first phase of fieldwork visits, Village A3's CA institution included the joint village council, which played the same role in co-management of its CPR. This joint *majliss* became a municipality by the second phase of fieldwork. Akin to Village A1, the municipality for Village A2 and Village A3 constructed a protective infrastructure around the source of the two springs. This includes fencing around the premises, with a locked gate protected by a guard. Only municipality employees have access to enter the grounds—i.e. they are the only ones with CPR access rights as defined by Schlaeger and Ostrom (1992). The infrastructure constructed around each of the two springs includes a motorized pump that fuels the distribution of the spring water in two directions: for each respective spring, a portion of the water is distributed to the irrigators, while a fraction of the water is tested and distributed to the village for domestic purposes. As is the case vis-à-vis Village A2's spring, the municipality extracts

█ m³/hour from Village A3's spring as eminent domain: "we take about █ m³/hour for drinking...so it is tested by the Health Department every week" (Municipal Official, Recording #18). The municipal official explains how the spring water is distributed by gravitational downstream flow:

each spring flows according to its own insiab [gravitational flow]—not pressurized through a pump—until it reaches the pool. Before, they used to cultivate using dawaleeb [water wheels²⁰²], not by use of pumps or hoses; they cultivated by insiab: he opens the water on his land and waters. That's how it used to be. Until now, there are still turabiah [dirt] canals (ibid).

In addition to the water allocated as eminent domain, the municipality purchased █ hours from their CPR for █ JDs. This was more expensive than the spring water the municipality had purchased from Village A2's spring, due to the greater spring flow; whereas the municipality receives █ m³/hour from A2's spring, they receive █ m³/hour from A3's spring.

In addition to paying a guard who protects these CPRs, the municipality is responsible for maintenance and cleaning of the reservoirs, pipes, and canals that comprise the respective water networks. "The municipality...does the cleaning and maintenance for the canal. We clean out stones and other debris...every four to five months" (Municipal Official, Recording #18). Maintenance costs of the network are covered by the municipality, while each individual irrigator is responsible for funding repairs on their private property:

sometimes we get funding to rehabilitate canals. But canals do not need work often because it is made of concrete; it takes a long time before you need repairs. When water flows over concrete, the latter gets firmer. If there is any damage [on an individual's property], he will fix it (ibid).

²⁰² I am currently unable to contact research participants to confirm this translation—i.e. to ask if this is "water wheels" or a "shadoofs".

Date Palm Farmer asserts cultivators pay for repairs by providing a contribution that is proportionate to their water ownership—unless the latter is small:

for example, someone who has five minutes, you are not going to ask him to pay for a small amount like 10 shekels. But for the big cultivators, one would pay 100 shekels, another one [would pay] 200 shekels, etc. If the needed repairs are big, we go to the association, or the UNDP, or such, or the cultivators' union...at one time it was the village council or the Village A3 Water Committee (Date Palm Farmer, Recording #13).

Rules

Despite the more modern property regimes, the CA institution in Village A3 does not have well-established rules. In fact, it is perhaps²⁰³ the most chaotic CA situation out of all six study locations. Water theft is the most prevalent issue that the CPR users are unable to effectively address. While the source of the spring is guarded and monitored by the municipality, each irrigator is responsible for monitoring their own property. One farmer explains how he keeps monitoring the water flow during his irrigation round, irrespective of the time of day or night: “I keep going back and forth” (F, Recording # 1). While this may deter some from stealing water, this is not always the case, as he has experienced theft. However, confronting thieves is a politically complicated issue; F implies that political solidarity precludes any type of aggressive confrontation. In this case, political solidarity is expressed between internally displaced people from 1948 and 1967. Another farmer, a nursery owner, also chimes in, reinforcing the idea that political solidarity complicates accountability vis-à-vis water theft:

F: “what can one do? Our fathers, when they came here in 1948, settled here.”

SF: “they are naziheen²⁰⁴ from the mountains of Hebron.”

F: “we have ‘bread and salt’ between us; what can we do?”

SF: “we have mutual respect between us.”

²⁰³ This chaos is comparable to that in Village A1.

²⁰⁴ *Naziheen* are internally displaced persons (IDPs). In this case, the IDPs from Hebron were likely displaced during 1967.

F: “we can report them to the authorities and imprison them if we want” (Recording #1).

Notwithstanding this solidarity and accompanying sense of a need to protect the perpetrators, F’s perception is that reporting theft “*is useless*” (ibid). Yet he also perceives negotiations or respectful discussions with perpetrators to also be futile: “*this does not work anymore*” (ibid). AY echoes this perception, asserting “*there is no punishment for water thieves; we have told the police before, but there is no punishment*” (AY, Unrecorded #11).

In line with this perception that defectors cannot be held accountable by law enforcement officials, F believes that even the more traditional methods of addressing problems—which were once viewed to be effective—are also futile: “*what can the qanawati do? Nothing*” (ibid). Similarly, F states that telling the *mukhtar*²⁰⁵ “*does not help*” (ibid). It is important to note that traditionally, farmers would address issues with each other directly; sometimes this entailed reprimanding or shaming them. Being shamed in front of others is considered to be embarrassing and affects one’s reputation, or their family’s reputation, and is thus preferably avoided. Yet even the traditional methods of seeking external intervention is perceived to be ineffective: the *qanawati* is no longer perceived to be an effective liaison, and the *mukhtar* is no longer perceived to be an effective mediator.

While the CA institutions in the Area C study locations are significantly affected by the relative abundance of their CPR, the direct relationship between well-established rules and abundance is not the same in Area A locations. Adaptation to the reduced availability of water, as well as the increased salinity of groundwater, have been well-

²⁰⁵ A *mukhtar* is an elder from each clan who acts as an ombudsperson for social affairs, serving as a spokesperson or mediator. The role has become more symbolic in modern times.

documented in the Jordan Valley. Yet the adaptive practices have not been effectively extended to CA rules; reduced water abundance has not forced CPR owners to implement more stringent rules. This is certainly the case in Village A3. Village A3 CPR owners have not unified as a community, arranged formal meetings, or established accountability mechanisms for defectors.

In situations where irrigators neglect to show up to open the *qattir* onto their property to fill their reservoir, they simply do not receive their share of water during that rotation. However, this also has implications on the previous irrigator's property: "*if he forgets his water with me, he ruins my pool...you have to stay attentive to your water until the other person comes to stop it*" (OF, Recording #16). In such situations, an irrigator's reservoir/pool overflows and floods their land. Due to water stress however, "*in the summer, there is no problem; we worry about wintertime...in the summer nobody forgets their water*" (ibid).

Trust and Reciprocity

It is common for the research participants to initially claim that community members have a high level of trust towards one another. In accordance with this trend, F, a farmer who rents land and water in Village A3, claims there are "*no problems*" (F, Recording #1) amongst irrigators. He asserts that each irrigator is cognizant of the amount and timing of their irrigation round, and irrigators trust each other to respect each other's water rights: "*of course I trust [the qanawati], since I know my share. I know I have [redacted] hours*" (ibid). However, upon being questioned about water theft, F concedes that it exists, explaining, "*that is a problem we have; the theft started 30 years ago*" (ibid). He elaborates that the perpetrators are cultivators from Village A3 who at one time

had water ownership rights, but no longer do; “*their parents had a share but it was sold by the parents*” (ibid). F explains how theft is carried out: “*the canal is higher than the land; he can simply use a hose and start drawing water...or he lifts the qattir*” (ibid). In contrast to the small and tight-knit community in Village A2, the CPR community in Village A3 is significantly larger, “*and we are dealing with a long distance for the canal, about [REDACTED] kilometres, parts of which are rough terrain. It’s hard to monitor all the hoses. Sometimes there are up to [REDACTED] hoses*” (ibid) which are used to steal spring water.

During one field visit, the municipal official of Village A2 and Village A3 was providing a tour of the two springs, network of canals, and surrounding grounds. Shortly after the municipal official painted a picture of trust and harmony amongst the two communities—claiming that water theft was not an issue—we passed a parked vehicle with a hose protruding from it, leading to the canal. Prior to this scenario, the municipal official had asserted that such a transgression “*is forbidden...it happened [before] and we stopped them*” (Municipal Official, Recording #18); after witnessing the theft, he conceded that water theft was indeed occurring—as it was clear that the perpetrators were not simply using the spring water for drinking or husbandry purposes, the two collective action access rights afforded to outsiders. This provided a rare glimpse into the complexity of capturing trust and harmony within a community. In particular, it illuminated the problematic ways in which research participants portray their communities to outsiders. My positionality as an outsider, who in turn is tasked with portraying the nuances of their communities, adds yet another layer of complexity.

The ambivalence towards portraying discord and mistrust is also demonstrated by Date Palm Farmer, a date palm cultivator who asserts there are “*no problems*” (Date Palm Farmer, Recording #13) vis-à-vis defectors. *Even “if any small problem happens,*

it would be solved in the most simple way...for example, one takes someone else's water by mistake; you do not fight him—you explain that it was by mistake, and you replace the water for him” (ibid). Date Palm Farmer discusses defection solely in terms of being accidental—not intentional water theft. Similarly, he asserts the majority—i.e. “*about 80 percent*” (ibid)—of community members assist one another as a co-operative gesture: “*for example, if there is a broken Sabara, I may go fix it myself without going back to anyone...even if it is not in my land. First, I would consider it as a humanitarian work; second, it is for the public interest*” (ibid).

However, during the first field visit, upon interviewing a cultivator from Village A3 with a gatekeeper who is highly respected in the Jordan Valley, the picture painted was one of discord and mistrust. AY, who cultivates banana trees and vegetables in greenhouses, explains that “*theft started after 1980, when they got drip irrigation and pipes*” (AY, Unrecorded #11)—i.e. when they upgraded the traditional flooding irrigation to a more modern network. He also attributes the source of the issue to a changing social fabric: “*the co-operatives have failed. The ways of life have changed; the nature of people has changed*” (ibid). For a summary of CA indicators in Village A3, refer to Table A6. 6 in Appendix 6. Table 5.6 provides a summary of CA indicators in all Area A villages while Table 5.7 provides a comparative overview of CA indicators between Area C and Area A villages.

Table 5.4: Collective action indicators in Area A villages

Dimension	Results						
	Indicator	Result					
Property rights		Village A1	Village A2	Village A3			
	Type of property regime	Modern: land and water private property	Hybrid: land private property. Water private property or <i>sharaka</i>	Hybrid: land private property. Water private property or <i>sharaka</i>			
	Land and water property rights	Two arrangements: <i>basateen</i> (appurtenant) and <i>muftalah</i> (separated)	Separated: land and water rights held separately	Separated: land and water rights held separately			
	CPR land rights regime	Spring located on public land	Spring located on public land	Spring located on public land			
	Operational rights	Open access	Open access	Open access			
	Collective choice rights	Common property	Common property	Common property			
	Cultivated land rights regimes	Owned or leased (majority)	Owned or leased (majority)	Owned or leased (majority)			
	Integrity of CPR property regimes	Property rights acutely compromised by co-management arrangements	Property rights compromised by co-management arrangements	Property rights compromised by co-management arrangements			
Origins of CA institution		Village A1	Village A2	Village A3			
	Founding	Unclear: reported around [redacted] s or [redacted] s	Unrecorded and unknown	Pre-1967. Possibly as early as [redacted]			
	Conception	- Original institution: organically conceived by community members. - Updated institution: co-management and WUA [redacted]	Organically conceived by community members' ancestors	Organically conceived by community members' ancestors. Possibly by one landowner in [redacted]			
	Impetus	Unknown	Unknown	Unknown			
	Startup costs	Unknown? N/A	Unknown	Unknown. Possibly funded by large landowner in [redacted]			
	Formalization of institution	Formal: official registration as WUA in [redacted]. Defunct since [redacted]	Informal	Informal			
Institutional arrangements		Village A1	Village A2	Village A3			
	Resource	Freshwater spring	Freshwater spring	Freshwater spring			
	Source of freshwater	Eastern	Eastern	Eastern			
	Resource units (RU)	Daily production: \cong [redacted] m ³ /hour	Spring flow = N.D.	Daily production: \cong [redacted] m ³ /hour			
	Resource system (RS) Irrigation network	Point of emergence and first part of network housed in municipality property and guarded. Pumped and distributed to irrigators [redacted]. [redacted] Irrigators have individual gauges	Point of emergence and first part of network enclosed and guarded by municipality. Spring water flows through wide, stone/cement-lined open canals, to water pipes, to open canals and distributed to the cultivated lands via gravitational flow. Each irrigator redirects water flow to their lands by closing/opening a metal gate to canal (<i>qattir</i>). Water is collected in individual reservoirs and stored to be used at each irrigator's discretion	Point of emergence and first part of the network enclosed and guarded by municipality. Spring water flows through wide, stone/cement-lined open canals, to water pipes, to open canals and distributed to the cultivated lands via gravitational flow. Each irrigator redirects water flow to their lands by closing/opening a metal gate to canal (<i>qattir</i>). Water is collected in individual reservoirs and stored to be used at each irrigator's discretion			
	Distribution/rotation system	High complexity [redacted] <i>qanawatis</i> distribute <i>basateen</i> and <i>muftalah</i> water via reported [redacted] irrigation openings [redacted] of [redacted] are authorized). <i>Basateen</i> water receive [redacted] m ³ /week	Low complexity: irrigation rotation every [redacted] days. O irrigation "hour" lasts for 60 minutes. Schedule created by head of committee, sometimes referred to as a <i>qanawati</i>	Moderate complexity: irrigation rotation every [redacted] days. O irrigation "hour" lasts for [redacted] minutes. Scheduling entails high level of complexity			
	Users and property rights bundles		Village A1	Village A2	Village A3	Property right holder	Associated property rights
			[redacted] users	Approx [redacted] users	Approx. [redacted] users	Authorized users	Access and withdrawal
		Type of user	Public (villagers, tourists)	<i>Sharaka</i> users	<i>Sharaka</i> users	Claimants	Access, withdrawal, management
		Water leasers ²⁰⁶	Water leasers	Water leasers	Water leasers	Claimants	Access, withdrawal, and management
Water owners ²⁰⁷	Water owners	Water owners	Water owners	Proprietors	Access, withdrawal, management, exclusion, and alienation		
Costs Members	[redacted]/m ³ \cong NIS/hour; (for electricity-powered extraction)	Full irrigation hour = [redacted] JD [redacted] minute irrigation "hour" = [redacted] JD	[redacted] minute irrigation "hour" = [redacted] JD	[redacted] minute irrigation "hour" = [redacted] JD/hour to <i>qanawati</i>			
Non-members	N/A	N/A	N/A	N/A			
Cultivation	Orchards and greenhouses. Irrigated through drip irrigation network	Orchards and greenhouses. Irrigated through drip irrigation network	Orchards and greenhouses. Irrigated through drip irrigation network	Orchards and greenhouses. Irrigated through drip irrigation network			
Crops	Fruit trees: banana, date palm	Fruit trees: banana, date palm, citrus, guava	Fruit trees: banana, date palm, citrus, guava	Fruit trees: banana, date palm, citrus, guava			
	Crops:	Crops: nightshade vegetables: tomatoes, zucchini/courgette, eggplant/aubergine	Crops: nightshade vegetables: tomatoes, zucchini/courgette, eggplant/aubergine	Crops: nightshade vegetables: tomatoes, zucchini/courgette, eggplant/aubergine			

²⁰⁶ de facto: access and withdrawal.

²⁰⁷ de facto: access, withdrawal, and alienation.

		Results		
Dimension	Indicator	Result		
		Village A1	Village A2	Village A3
Rules		Village A1	Village A2	Village A3
	Rules	Co-management formalized: meticulously calculated and recorded, but not adhered to. WUA formalized: established in [redacted], became defunct in [redacted]	Informal: rules are inherited from ancestors, but not formalized. Users hold each other accountable	Informal: rules are inherited from ancestors, but not formalized
	Meetings	Meetings ²⁰⁸	Meetings ²⁰⁹ Committee makes decisions independent of users. "Qanawati" position acquired through patrilineal inheritance	[redacted]-person committee makes decisions independent of users. Membership is clan-based. "Qanawati" position acquired through patrilineal inheritance
	Defection	Defection within WUA ²¹⁰	Lack of intentional defection. Occasional mistakes/neglect and children's playful interference.	Lack of accountability for water theft. Traditional accountability and law enforcement mechanisms are ineffective
	Perception	Municipality illegally increasing irrigation hydrants from [redacted] to [redacted]. Bribery to gain favor with qanawatis. Municipality providing 50% of water shares while still charging full price		
	Policies		Community members informally address each other	Chaos due to ineffective rule implementation
	Monitoring	CPR guarded by municipality	No formal monitoring. Irrigators present in field informally monitor	No formal monitoring. Irrigators present in field informally monitor
Maintenance		Village A1	Village A2	Village A3
	Repairs	Maintenance done by hired mechanics paid by municipality	- First fieldwork phase (April-May 2017): village council conducted repairs by collecting money from all irrigators - Second fieldwork phase (October-November 2017): upgraded to municipality, which funds repairs on parts of network located on public/municipal grounds	- First field fieldwork phase (April-May 2017): village council conducted repairs by collecting money from all irrigators - Second fieldwork phase (October-November 2017): upgraded to municipality, which funds repairs on parts of network located on public/municipal grounds
	Cleaning	Cleaning and water testing done by municipality	Same as above	Same as above
Co-management and external intervention		Village A1	Village A2	Village A3
	Foundation	Co-management imposed on community members	Organic/grassroots founding of CA institution. Municipal management began later ²¹¹	Organic/grassroots founding of CA institution. Municipal management began later ²¹²
	Management	Managed by municipality	Point of emergence and first part of network located on municipal grounds, inaccessible to CPR users. Municipality appropriates [redacted] m ³ /hour as eminent domain, allocated for domestic purposes	Point of emergence and first part of network located on municipal grounds, inaccessible to CPR users. Municipality appropriates [redacted] m ³ /hour as eminent domain, allocated for domestic purposes
	Funding	Funding provided [redacted] to rehabilitate network and set up co-management arrangements	Municipal funding for network maintenance	Municipal funding for network maintenance
	Summary	CA institution founding and functioning via external interventions	CA institution founding is organic. Co-management only at point of emergence and public grounds	CA institution founding is organic. Co-management only at point of emergence and public grounds
Trust and reciprocity		Village A1	Village A2	Village A3
	Perception	Mixed perceptions: assertion of trust and reciprocity. Simultaneous admission of corruption (including bribery), and of conflict between cultivators and qanawatis	Perceived high level of trust amongst CA institution actors. Perceived as uniquely lacking encroachment on each other's rights (also attributed to maintaining network of open canals)	Mixed perceptions: assertion of mutual respect. Simultaneous admission of theft problem originating 30 years prior to fieldwork
	Outsiders	Notable lack of trust, coupled with competing interests. Perception of corruption	- Gatekeeper: perceived property rights as not being honored due to cronyism. - Participant from village C3: perceived high level of trust and lack of encroachment	Perceived theft problem

²⁰⁸ Due to restrictions discussed in Chapter 4, I am currently unable to ask research participants follow-up questions to fill some gaps in the data (including aspects that are unclear).

²⁰⁹ Same.

²¹⁰ Same.

²¹¹ Same.

²¹² Same.

Table 5.5: Comparison of collective action indicators in Area A and Area C villages

Dimension	Results		
	Indicator	Results	
		Area C	Area A
Property rights	Type of property regime	Modern: land and water private property. Some land acquired via patrilineal inheritance	Hybrid: land private property and water private property or <i>sharaka</i>
	Land and water property rights	Connected/appurtenant: land and water rights held jointly	A1: Two arrangements: <i>basateen</i> (appurtenant) and <i>muftalah</i> (separated) A2 & A3: Separated: land and water rights held separately
	CPR land rights regime	C1: Spring located on private land C2 & C3: Spring located on public land	Spring located on public land
	Operational rights	C1: Common property C2 & C3: Open access	Open access
	Collective choice rights	Common property	Common property
	Cultivated land rights regimes	Owned (majority) or leased	Owned or leased (majority)
	Integrity of CPR property regimes	C1: Property rights compromised by exceptional governance C2: No effect reported C3: Property rights acutely compromised by exceptional governance	A1: Property rights acutely compromised by co-management A2 & A3: Property rights compromised by co-management
Origins of CA institution		Area C	Area A
	Founding	C1: [redacted] C2: Unknown C3: Current institutional arrangements: [redacted]	Unknown or unclear. All pre-1967.
	Conception	Original institution: organically conceived by community members or their ancestors	Organically conceived by community members' ancestors. Co-management arrangements all imposed post-[redacted]
	Impetus	C1: As protection from de-development and to provide freshwater to villagers. C2: Unknown C3: As protection from de-development and exceptional governance	Unknown
	Startup costs	Grant [redacted] Unknown Original iteration: unknown. Current iteration: none	Unknown
	Formalization of institution	C1: Formal: official registration as co-operative C2: Informal C3: Initially informal. Currently formalized	A1: Formal: official registration as WUA in [redacted]. Defunct since [redacted] A2 & A3: Informal
Institutional arrangements		Area C	Area A
	Resource	C1: [redacted] groundwater boreholes C2 & C3: Freshwater spring	Freshwater spring
	Source of freshwater	C1: Western C2: Western C3: Western	Eastern
	Resource units (RU)	C1: Daily production: [redacted] m ³ /day ([redacted] hours) ≈ [redacted] m ³ /hour C2: Spring flow = N.D. C3: Spring flow = N.D.	A1: Daily production: ≈ [redacted] m ³ /hour A2: Spring flow = N.D. A3: Daily production: ≈ [redacted] m ³ /hour
	Resource system (RS) Irrigation network	C1: Water extracted from boreholes via motorized pumps to two reservoirs. Distributed through pipes via gravitational flow C2: Spring emerges from fountain, flows through pipe to reservoir via gravitational flow. Distributed through open canals via gravitational flow. C3: Spring emerges from ground to reservoir, flows through pipe connected to water gauge. Distributed through open canals via gravitational flow.	A1: Point of emergence and first part of network housed in municipality property and guarded. Pumped and distributed to irrigators [redacted]. Irrigators have individual gauges A2 & A3: Point of emergence and first part of network enclosed and guarded by municipality. Spring water flows through wide, stone/cement-lined open canals and distributed to the cultivated lands via gravitational flow. Each irrigator redirects water flow to their lands by closing/opening a metal gate to canal (<i>qattir</i>). Water is collected in individual reservoirs and stored to be used at each irrigator's discretion
	Distribution/ rotation system	C1: <u>Low complexity</u> : [redacted] day rotation according to irrigators' needs. Based on proportional allocation of water C2: <u>High complexity</u> : 4 or 8-day rotation, according to crops' needs. Based on 8 clans and proportional allocation of water C3: <u>Moderate complexity</u> : [redacted] 14 day rotation, according to adaptation to water stress conditions. [redacted] proportional allocation of water.	A1: <u>High complexity</u> : [redacted] <i>qanawatis</i> distribute <i>basateen</i> and <i>muftalah</i> water via reported [redacted] irrigation openings ([redacted] of [redacted] are authorized). <i>Basateen</i> water receive [redacted] m ³ /week A2: <u>Low complexity</u> : irrigation rotation every [redacted] days. One irrigation "hour" lasts for 60 minutes. Schedule created by head of committee, sometimes referred to as the " <i>qanawati</i> " A3: <u>Moderate complexity</u> : irrigation rotation every [redacted] days. One irrigation "hour" lasts for [redacted] minutes. Scheduling entails high level of complexity. Schedule created by head of committee, sometimes referred to as the <i>qanawati</i>

Dimension	Results				
	Indicator	Area C		Area A	
Institutional arrangements	Users and property rights bundles	Type of user		Associated property rights	
		Area C		Area A	
		C1: ■ farming households	A1: None	Authorized users	Access and withdrawal
		C2 & C3: public	A2 & A3: public		
		C1: ■ landowners	A1: Water leasers ²¹³	Claimants	Access, withdrawal, and management
		C2: Outsiders (irrigators)	A2: Water leasers and <i>sharaka</i> users		
		C3: N/A	A3: Water leasers and <i>sharaka</i> users		
		C1: ■ active co-op members	None	Owners	Access, withdrawal, management, and exclusion
	C2: land-rending insiders				
	C3: N/A				
C1: 3 co-op leaders	A1: Water "owners" ²¹⁴	Proprietors	Access, withdrawal, management, exclusion, and alienation		
C2: land-owning insiders (■ irrigators)	A2 & A3: water "owners"				
C3: landowners					
Costs	Area C		Area A		
	C1: ■ NIS/m ³ ≅ ■ NIS/hour		A1: ■ /m ³ ≅ ■ NIS/hour		
	C2: No charge		A2: Full irrigation hour = ■ JD ■ minute irrigation "hour" = ■ JD		
Non-members	C1: ■ NIS/m ³ ≅ ■ NIS/hour		A3: ■ minute irrigation "hour" = ■ JD		
	C2: "small fee" for irrigation				
	C3: N/A		N/A		
Cultivation	Area C		Area A		
	C1: Raised beds in greenhouses. Irrigated through drip irrigation network		Orchards and greenhouses. Irrigated through drip irrigation network		
	C2: Traditional agriculture on small <i>mashakeb</i> . Traditional system via flood irrigation				
Crops	C3: Orchards and some mixed cropping. Traditional irrigation system via open dirt canals				
	C1: Nightshade vegetables: Tomatoes, bell/sweet peppers; eggplant/aubergine; cucumber		A1: Fruit trees: banana, date palm Crops:		
	C2: Seasonal vegetables, herbs (famous for <i>Battiri</i> eggplant/aubergine); herbs (mint, parsley); peas.		A2 & A3: Fruit trees: banana, date palm, citrus, guava Crops: nightshade vegetables: tomatoes, zucchini/courgette, eggplant/aubergine		
C3: Fruit trees: olive, pomegranate, plum, guava Crops: grapevines, wild thyme (<i>za'atar</i>)					
Rules	Rules	Area C		Area A	
		C1: Formalized : well-established, recorded, and generally adhered to		A1: Co-management formalized : meticulously calculated and recorded, but not adhered to WUA formalized: established in ■, became defunct in ■	
		C2: Informal but complex : implement complex rules inherited from ancestors, but not formalized		A2: Informal : rules are inherited from ancestors, but not formalized. Users hold each other accountable	
	C3: Formalized and moderately complex : formally calculated and implemented oral rules (not recorded)		A3: Informal : rules are inherited from ancestors, but not formalized		
	Meetings	C1: Formal meetings. Decision-making requires 51% attendance		A1: N.D. ²¹⁵	
		C2: Informal meetings. Occur on ad hoc basis, result in oral rules		A2: N.D. ²¹⁶ Committee makes decisions independent of users	
		C3: After initial formal establishment meeting, informal meetings occur on ad hoc basis, result in oral rules		A3: N.D. ²¹⁷ Nine-person committee makes decisions independent of users	
	Defection Perception	C1: Result of personal extenuating circumstances and/or exceptional governance conditions		A1: Defection within WUA: N.D. Municipality illegally increasing irrigation hydrants from ■ to ■. Bribery to gain favor with <i>qanawatis</i> . Municipality providing 50% of water shares while still charging full price	
		C2: Chasm between assertion of lack of defection and perception of occasional defection		A2: Lack of intentional defection. Occasional mistakes/neglect and children's playful interference	
		C3: Lack of defection. High level of reciprocity leads to self-sacrifice, precluding defection		A3: Lack of accountability for water theft. Traditional accountability and law enforcement mechanisms are ineffective	
Policies	C1: April-May 2017: Installed water gauges impervious to tampering October-November 2017: Sought legal advice		A1: N.D. ²¹⁸		
	C2: Informal confrontation, leading to "financial penalty" and "moral penalty"		A2: Community members informally address each other		
	C3: No perceived need for policies		A3: Chaos due to ineffective rule implementation		

²¹³ de facto: access and withdrawal.

²¹⁴ de facto: access, withdrawal, and alienation.

²¹⁵ Data gaps currently cannot be filled.

²¹⁶ Same.

²¹⁷ Same.

²¹⁸ Due to restrictions discussed in Chapter 4, I am currently unable to fill in this data gap.

Dimension	Results	
	Indicator	Results
		<p><i>Area C</i></p> <p><i>Area A</i></p>
	Monitoring	<p>C1: CPR guarded by hired foreman (<i>muraqib</i>) paid via co-op revenues. Main and individual gauges monitored by <i>muraqib</i></p> <p>C2 & C3: No formal monitoring. Irrigators present in field informally monitor</p> <p>A1: CPR guarded by municipality</p> <p>A2 & A3: No formal monitoring. Irrigators present in field informally monitor</p>
Maintenance		<p><i>Area C</i></p> <p><i>Area A</i></p>
	Repairs	<p>C1: Maintenance done by hired mechanics paid via co-op revenues</p> <p>C2 & C3: Maintenance done by hired experts paid via proportional contributions collected from CPR proprietors</p> <p>A1: Maintenance done by hired mechanics paid by municipality</p> <p>A2 & A3: <u>April-May 2017</u>: village council conducted repairs by collecting money from all irrigators <u>October-November 2017</u>: upgraded to municipality, which funds repairs on parts of network located on municipal grounds</p>
	Cleaning	<p>C1: <i>Muraqib</i></p> <p>C2 & C3: Cleaning costs covered by proportional contributions from CPR proprietors</p> <p>A1: Cleaning done by municipality</p> <p>A2 & A3: <u>April-May 2017</u>: village council covered cleaning costs by collecting money from all irrigators <u>October-November 2017</u>: upgraded to municipality, which funds cleaning costs on parts of network located on public/municipal grounds</p>
Co-management and external intervention		<p><i>Area C</i></p> <p><i>Area A</i></p>
	Foundation	<p>Organic/grassroots founding of CA institution</p> <p>A1: Co-management imposed on community members</p> <p>A2 & A3: Organic/grassroots founding of CA institution. Unknown when municipal management began²¹⁹</p>
	Management	<p>C1: Managed independently by co-op leaders without external intervention</p> <p>C2 & C3: Managed independently by proprietors without external interference</p> <p>A1: Managed by municipality</p> <p>A2 & A3: Point of emergence and first part of network located on municipal grounds, inaccessible to CPR users. Municipality appropriates [redacted] m³/hour?? as eminent domain, allocated for domestic purposes</p>
	Funding	<p>C1: Funding sought by co-op leaders [redacted]</p> <p>C2: Funding from group of non-governmental organizations (1998)</p> <p>C3: N/A</p> <p>A1: Funding provided [redacted] to rehabilitate network and set up co-management arrangements</p> <p>A2 & A3: [redacted] for network upgrade provided to municipality</p>
	Summary	<p>CA institution founding and functioning are organic and independent</p> <p>A1: CA institution founding and functioning via external interventions</p> <p>A2 & A3: CA institution founding is organic. Co-management only at point of emergence and first part of network on municipal grounds</p>
Trust and reciprocity		<p><i>Area C</i></p> <p><i>Area A</i></p>
	Perception Insiders	<p>C1 & C3: Perceived high level of trust amongst CA institution actors</p> <p>C2: Perceived high level of trust amongst CA institution actors, with one exception</p> <p>A1: Mixed perceptions: assertion of trust and reciprocity. Simultaneous admission of corruption (including bribery), and of conflict between cultivators and <i>qanawatis</i></p> <p>A2: Perceived high level of trust amongst CA institution actors. Perceived as uniquely lacking encroachment on each other's rights (also attributed to maintaining network of open canals)</p> <p>A3: Mixed perceptions: assertion of mutual respect and simultaneous admission of theft problem</p>
	Outsiders	<p>C1: Perceived corruption, fraud, and self-serving behavior within CA institution</p> <p>C2: Initial assertion of high level of trust, followed by more nuanced understanding of trust/reciprocity</p> <p>C3: Perceived high level of trust within CA institution</p> <p>A1: Notable lack of trust, coupled with competing interests. Perception of corruption</p> <p>A2: Gatekeeper: perceived property rights as not being honored due to cronyism</p> <p>Participant from village C3: perceived high level of trust and lack of encroachment</p> <p>A3: Perceived theft problem</p>

²¹⁹ Due to restrictions discussed in Chapter 4, I am currently unable to fill in this data gap.

5.3 Power and Agency

5.3.1 Introduction

As mapped out in Chapter 2, power exists at multiple scales: micro, meso, and macro. While these are analyzed as separate categories—they operate synergistically. Each level reflects and reinforces the other levels in complex ways—sometimes apparent, and other times not as apparent (i.e. apropos the third face of power). Thus, while the theoretical framework proposes distinct power scales, there are overlaps between them. Conceptual overlaps become most apparent in the results, whereby coding each category/theme²²⁰ resulted in multiple empirical overlaps (overlapping data can only be presented under a single category). Nevertheless, this section presents the research results on power and agency.

This results section is organized as follows: firstly, the critical institutionalist (CI) model of power, wherein the dimensions of CI power (resistance, resource allocation, and rule adherence) are presented. This is followed by Lukes' model of power, where the third face of power is examined. These two paradigms capture various dimensions of power to offer a comprehensive reflection of power at all three scales—with an emphasis on the micro scale, which is foregrounded via CPR community members' voices. In particular, this requires a

recogni(tion) that native voices do not sing in unison or with singular clarity, but just as importantly, it also requires acknowledging that our interlocutors are never merely describing their world—they are perpetually analyzing their world and making arguments about it (Bonilla, 2015: xvi).

This foregrounding of community voices attempts to fill one of the notable gaps in the literature. These two sections then lead to a presentation of results on agency, as proposed

²²⁰ Themes are operationalized as nodes in the qualitative data analysis software NVivo.

by CI. Critical institutionalism's model of agency encompasses the following dimensions: (wherein agents) adapt, innovate, negotiate, and strategize.

5.3.2 Third Face of Power

While the third face of power has been conceptualized by many scholars—albeit in various iterations—its operationalization, as Lukes points out, is not straightforward. In this study, operationalization revolves around the concept of normalization. Normalization does not simply pertain to the ways in which it has been used in the literature on Palestinian-Israeli normalization—i.e. to seek establishing “normal” relations between these peoples. In this study, it is extended to encompass the ways in which Palestinians normalize EG conditions. It encompasses the perceptions that the effects of macro- and meso-scale power are normal, natural, and even desirable. Accordingly, operationalizing the third face of power includes the identification of instances in which participants demonstrate they perceive the status quo as natural, normal, and therefore unchangeable. In more extreme cases, it entails identifying when participants view their conditions to be favorable or desirable. It also includes instances in which participants simply do not notice the effects of EG—including limitations imposed on water access by the terms of Oslo II, Article 40. Similarly, it includes instances in which participants do not notice the effects of meso-level power on their water access. Thus, when coding the third face of power, I sought to identify the following:

- 1) situations in which participants express their beliefs that the effects of meso or macro power are natural/normal. This includes situations where it is seen as normal that meso power entities do not fulfill their obligations of:
 - a) holding people accountable for water theft;

- b) developing new water sources (i.e. groundwater, as allowed for under Article 40);
 - c) recognizing CPR communities, their property rights regimes, and their authority over their CPRs;
 - d) helping CPR users to protect their CPRs and supporting them by setting up favorable co-management arrangements;
- 2) situations in which participants do not notice effects of meso or macro power;
 - 3) situations in which participants speak favorably about effects of meso or macro power; and
 - 4) situations in which participants identify the effects of meso or macro power as negative (the power counterfactual).

5.3.3 Power Results

5.3.3.1 Power Results: Area C Villages

Village C1

Three-Dimensional Power

As is the case generally with the Area C study participants, Village C1 participants demonstrate an extensive awareness of meso-scale and macro-scale political dynamics. Even during the earliest fieldwork visits in April-May 2017²²¹, Coop Leader 1 expressed his perception of these dynamics: “*we are fooling ourselves when we say we have a state*” (Coop Leader 1, Unrecorded #6). In another demonstration of this political awareness, Coop Leader 1 states “*the PWA just gives itself a title; it [i.e. the title] might not even been worth it, but they put themselves on the sign*” (Coop Leader 1, Unrecorded #5) as the funders. These are clear instances of the counterfactual, whereby Coop Leader

²²¹ This was during the second field visit during the first phase of fieldwork. Coop Leader 1 was already familiar with me by this point, after having also met me as a researcher during the scoping phase in 2016.

1 has neither naturalized nor normalized the shortcomings of the PA. This is particularly significant apropos the failure to fulfill its nation-state obligations to this CPR community. Notwithstanding this perception of political failure, the co-op leaders were willing to provide water to a neighboring town at the behest of the PWA:

the Palestinian Water Authority said 'would you allow us to extend a water line from here to the Jenin area?' We told them we can give one, or two, or three hours only—daily...we told them 'in order to co-operate with you, and for the sake of the Jenin people who do not have much water (Coop Leader 2, Recording #24).

The co-op leaders' willingness to support the PWA—rather than receiving support from this governmental agency whose purpose is to serve communities—is a testament to the circuitousness of the third face of power. The willingness of this community to fill the role of a meso-scale entity demonstrates the normalization of inefficacious government. Furthermore, while the town requiring freshwater is located in an Area A zone, Village C1 is located in an Area C zone, by default rendering it more resource-vulnerable. The irony of such a request is lost on the research participants, thus reinforcing the identification of normalization.

Akin to the other study participants, Village C1 participants are aware of the limitations and violations generated by EG conditions. However, this is one of only two study locations where the participants express direct effects on their CPR. While Village C3 participants relay experiencing a significant reduction in their spring flow, Village C1 participants are aware of the limitation on their groundwater harvesting. This awareness is expressed as dissatisfaction, whereby Coop Leader 1 explains how any violation of the water quota was fined by an Israeli military court—albeit prior the Oslo-era. Despite the expressed dissatisfaction, however, this is relayed multiple times over several field visits in a matter-of-fact fashion. This is yet another demonstration of the complexity of the third face of power. The matter-of-fact attitude toward the

militarization of their water resource reveals how the irrigators have come to accept this situation as an inevitability.

Village C2 (Battir)

Power in Village C2 (Battir) manifests in two ways: as a struggle between resource owners and renters; and as a struggle between those holding onto the traditional narrative and those pushing for a new approach, represented, respectively, by the older generation and the younger generation. One of the gatekeepers, Youth Leader, represents this younger generation of change-makers. It is important to note that Youth Leader demonstrates a cognizance of the value in striking a balance between preserving tradition while also pushing for progress. He also demonstrates a keen awareness of power dynamics and expresses the ways in which his generation desires to bring about change collectively, rather than hierarchically. Speaking on behalf of his generation, Youth Leader states:

if one goes after a(n) [official power] position, it corrupts...we want to be led, we do not want positions...if you accept positions, you will have to accept their policies²²² that you are in disagreement with; and you cannot achieve the things you believe in; so we are facing problems in this regard. But we are gradually overcoming it. So if we compare our situation to eight years ago, I can say that I have come a long way; it's very good with regard to the village. Any meeting at the municipalities regarding any [agricultural development/ecotourism] project, they send after us and tell us what they are doing. We also create social pressure on them, so they include us in order to keep us quiet. But I do not want them to keep us quiet for my own good, but to keep us quiet for the good of the town" (Youth Leader, Recording #3).

²²² Implying policies and agendas of meso-level power structures (i.e. municipal and PA).

Critical Institutional (CI) Power Model

While the Battiri research participants demonstrate a strong awareness of power over resource allocation that is generated by resource ownership, there are nuances to this perception. Participants do not perceive power associated with resource ownership to exist within the community of cultivators; rather, they draw a distinction between cultivators and others, whereby all cultivators are perceived to be powerless, irrespective of their resource ownership. Youth Leader asserts that *“the poorest class in society is the cultivator; he has no power in all respects: not in finance or donor money, and not in marketing²²³”* (Youth Leader, Recording #1’). Female Farmer, a female cultivator, states *“it may be easier for the one who has half a dunum because he can handle it”* (Female Farmer, Recording #1’), meaning that cultivators with greater amounts of land to irrigate face more problems. While this is not a precise understanding of power wielded by virtue of resource ownership, it is reflective of Female Farmer’s understanding of power as entailing having to face fewer challenges.

Youth Leader claims that although there may have been variations in the power wielded by cultivators *“50-60 years ago”* (Recording #1’), this is no longer the case:

if we are to speak about the relations of power between today and the old days, there has been a change in the balance of power. In the old days, there were the big families that ruled and had lots of land and were in control although there was sharakeh²²⁴. Even though the big families had power, the small or poor farmer was not oppressed. The small farmer would...work, make a living, take water and his share of land. But you can see that there was an owner who has so much land (Youth Leader, Recording #2).

Youth Leader explains that allocative power wielded by virtue of owning more resources has shifted due to a significant reduction in cultivation: *“if we compare to 20 years ago,*

²²³ i.e. any part of the process of marketing their produce.

²²⁴ *Sharakeh/sharaka* is a property regime in which is akin to sharecropping, and can have various permutations. To find out the exact permutation of each individual sharecropping arrangement, I need to ask research participants follow-up questions, which is currently not possible due to restrictions discussed in Chapter 4.

we plant only 30% of the irrigated seasonal crops; this affected the power relations. In the old days, those who planted more, controlled more, had more land, and so he had influence and money” (Youth Leader, Recording #3). He illustrates that those from the older generation who were large landowners had more income, which translated into wealth; this, in turn, was reflected in their access to markets outside of Battir (specifically in Jerusalem), larger homes, and their social status as “one with influence and authority” (ibid).

Notwithstanding these assertions, Female Renter, a female cultivator who rents land and the associated water from [REDACTED] different landowners, has had a very different experience. At the time of the field trip to Battir, Female Renter had been cultivating these plots of land for [REDACTED] years—yet did not feel accepted by the community of irrigators who own land and water shares: *“they keep thinking that you are an outsider; you do not have water or land” (Female Renter, Recording #5). This perception of being an outsider permeates how Female Renter views the totality of her experience as a cultivator; this manifests as a belief that she is excluded and marginalized by everyone, not solely the community of CA actors. In describing a development project that entailed the enclosure of open canals via the installation of pipes, Female Renter asserts:*

they did not install any for me; only for specific people...I do not know [why]; they would install some here and there, skip. Maybe it is for the owners of the land or for those with connections...wastaat²²⁵. For example, many of the canals have holes and water is lost. For example, when I water to down there, I only get one fourth of my ma’adud. Next year I will not cultivate if it stays like this; there is no encouragement or help for the cultivator (ibid).

Female Renter extends this line of reasoning to the way in which the villagers view her family’s success, including her children’s academic and career achievements.

²²⁵ Connections via interpersonal relationships. This can be viewed as relationships established by networking; however, a more accurate translation would capture the negative connotation of these connections, akin to cronyism.

This is a testament to how her perception of exclusion and ill-will towards her permeates other aspects of her life. While this reasoning is arguably intangible, she also explains the materiality of her daily struggles as a non-landowning cultivator. Female Renter explains that she supports ████████ her daughters through university education—including full tuition and the expenses incurred by living away from home—in addition to supporting the rest of her family: “we are a family of ████████; we cannot live on ████████²²⁶. And you tell me to improve the land, fix the *sinisileh*²²⁷? I cannot afford it; that’s why I work very hard and have pains in my legs and heart. I have been working for ████████ years” (ibid).

While Youth Leader denies the existence of variegated power wielded by cultivators, he simultaneously validates Female Renter’s narrative. Part of his argument entails the claim that

those left cultivating [in contemporary times] are only the poor—the very poor—who want to make a living. I will show you an example, Male Renter²²⁸ and Female Renter...they are the most active cultivators. They do not own even one centimeter of land; all the land they cultivate is leased. They are the ones I work the most with—so in this case, they poses no power factors: no land and no water (Youth Leader, Recording #3).

The simultaneous denial of power imbalances generated by variegated resource allocation amongst cultivators and assertion that, by virtue of owning nothing, Female Renter and her husband are the least powerful community members is tantamount to a paradox. Yet it is also a testament to the complexity of how power influences community members’ perceptions of their conditions.

²²⁶ ████████ NIS is her husband’s monthly salary.

²²⁷ The traditional stone fence, constructed by skilled workers who carefully stack layers of stones without the use of an adhesive material (e.g. cement).

²²⁸ Male Renter is Female Renter’s spouse.

As aforementioned, Female Elder Leader represents the more traditional forces within the community while Youth Leader represents the younger generation that is advocating for change—a continuous tension that sometimes gets elevated to outright conflict. Nevertheless, these two prominent figures within the village also have more overlap in their perceptions, beliefs, and approaches than they themselves seem to be cognizant of. An instance of this congruity is their similar perceptions of power associated with resource allocation. Female Elder Leader asserts that none of the cultivators wield greater power, irrespective of the amount of land they own, *“because it is divided; there is an equal distribution of water...equal in terms of timing, in terms of rotation; equal in terms of the idea itself. How? A hamula has a certain share and it is distributed amongst the families according to the size of their land”* (Female Elder Leader, Recording #6). While Female Elder Leader’s use of the term “equal” is more accurately described as “equitable”, the idea that having a proportional amount of water shares to land area means that power is not variegated is a puzzling claim to make. Female Elder Leader expresses the belief that because *“no one can take away any other person’s rights”* (ibid), none of the cultivators wield greater power. The context for Female Elder Leader’s belief is that nobody is exempt from interdependence: *“individual benefit is tied to collective benefit. Even maslaha²²⁹ is tied to this system; even with rich people”* (Female Elder Leader, Unrecorded #4).

Rule Adherence

Rule adherence in Battir is perceived as being robust due to social conventions, people’s cognizance of its benefit, and communal social policing. Youth Leader explains

²²⁹ This refers to opportunities that serve one’s personal gain/benefit; one’s self-interests.

that “*in the old days, no one could manipulate the water shares because people would be there watching, making sure the time is adhered to, watching the ma’adud*” (Youth Leader, Recording #3). Female Elder Leader also explains that “*people in their nature do not steal; they will not stoop so low. Each one has his share [of water], his garden²³⁰, his work*” (Female Elder Leader, Recording #6). Female Elder Leader elucidates how rule adherence emerged as a system of accountability analogous to a legal system:

with the passage of time, there developed a system which defines rights. For example, if you violate traffic rules, a policeman will stop you and issue you a ticket. It is the same thing here: someone stole crops and people will keep investigating until they discover who did it, and they would hold him accountable (ibid).

Three-Dimensional Power

Awareness of power in Battir is the least straightforward of the Area C villages that comprise the study locations. Participants demonstrate knowledge of—and pride in—their history, particularly that of organized resistance to Israeli colonization in 1948. Yet this historico-political knowledge is not carried over into a political awareness of contemporary conditions in the same way that is demonstrated in villages C1 and C3. This is particularly notable vis-à-vis their CPR, and the ways in which it is affected by EG conditions, whereby one participant asserts Israeli pumping of groundwater does not affect their spring flow. This participant does however acknowledge “*indirect impact(s)*” (Youth Leader, Recording #1’). These include bans on installing/developing water infrastructure and on harvesting rainwater for cultivation—or even for a recreational pool, which he explains is “*forbidden from [sic] the Israelis*” (ibid). In a demonstration of the complexity of the workings of the third face of power, Youth Leader contradicts his assertion by stating that rainwater harvesting to develop agriculture is not prohibited

²³⁰ i.e. plot of cultivated land, which is often referred to in Village C2 as a garden.

by Israel: “I do not need permits from the Israelis; I need permits from UNESCO because it is a heritage site, and it [i.e. the cultivated valley lands] is inside the perimeter of the town” (ibid). Another contradiction apparent in this participant’s responses includes an analysis of the dynamics of Israeli power, whereby international donors work within the framework of exceptional governance:

politically, the USAID²³¹, even if they are to finance projects in Area C, it has to be within the 1967 borders; they will not give you anything for areas inside the Green Line. If they say that publicly, people will revolt against them. So they finance projects from the pool and upwards [i.e. only in Area B lands of the village] without mentioning the reason why (Youth Leader, Recording #1’).

In providing this analysis, Youth Leader also refers to the Palestinian Ministry of Tourism, Battir’s municipality, and the Center for the Preservation of Heritage as “four [organizations that] do not work for the interest of the cultivators, but for their own interest” (ibid). ■■■elaborates on this assertion, citing as evidence the claim that they appropriate 70% of any given development project’s budget for their own benefit; Male Farmer perceives this as one of the root causes of ineffectual project implementation. Female Farmer reinforces this perspective, stating: “and that would be it for the project. And the peasant stays the same, because no one is helping him to develop the cultivation” (Female Farmer, Recording #1’).

The complexity of the awareness of power manifests as critiques of its effects that are laced with contradictions. While in some cases it is apparent that participants hesitate to critique power structures, in other cases, the reasons for contradictions are less clear. The latter can be identified in the participants who demonstrate an awareness of some facets of power, but not of others. These are instances in which the third face of

²³¹ The United States Agency for International Development, a governmental agency that funds development projects around the world. See <https://www.usaid.gov/>.

power offers strong explanatory power. Less nuanced demonstrations of the third face of power include Female Renter's perspective, who asserts the CPR community is incapable of addressing their needs without external support:

the canals need renovation; we want to stay on the same system but it needs fixing. We lose a lot of water; renovation is needed. We peasants cannot afford that...we as peasants, how much money can we contribute? It won't be sufficient; if we have associations or the like that would help us. After covering your expenses and feeding your kids, you barely cover your own efforts. If there is encouragement [i.e. financial support] we will do better (Female Renter, Recording #5).

Female Renter reiterates the assertion made by Youth Leader vis-à-vis the direct effects of EG on their CPR, claiming that Israeli pumping of underground freshwater does not affect Battir's spring flow. As discussed in Section 5.1, Elder Farmer, a retired farmer, asserts that their spring flow *had in fact been reduced, due to Israeli pumping of groundwater*. Elder Farmer, an elderly man, harkens back to his early days of cultivation, prior to the introduction of exceptional governance: "*in the old days, in 1940-1, the water would flow fast*" (Elder Farmer, Recording #8).

It is difficult to assess whose account is most accurate in the absence of consistent spring flow data. If Elder Farmer is accurate, then Youth Leader and Female Renter's perception of EG having no direct effect on Battir's CPR can be deemed to be a clear demonstration of the workings of the third face of power. Alternatively, it could simply be a matter of differences in inter-generational knowledge, whereby the younger generations (represented by Youth Leader and Female Renter) do not possess the knowledge that the older generation of irrigators do. If, however, Elder Farmer's account is inaccurate, this identification of the third face of power is inapplicable. *These two equally viable possibilities are a testament to the opacity of the third face of power—and in particular, the difficulties in interpreting this construct.*

Village C3

Three-Dimensional Power

As outlined in Section 5.1, exceptional governance conditions are the most acute in Village C3. In addition to a substantial reduction in their CPR flow, their operational and collective choice rights have been severely compromised. These conditions are matched by their awareness of politics at both meso and macro levels. The gatekeeper to Village C3 explains that the PA's "*Agricultural Ministry budget was 2.5% of the national budget*" (Gatekeeper C3, Unrecorded #1), but that the sustained cuts resulted in the Ministry's budget being reduced to "*0.03% of the national budget. In comparison, the Security Ministry is allocated a large percentage of the national budget*" (ibid). Expounding on the leadership's shortcomings vis-à-vis agriculture and freshwater resources, Gatekeeper C3 asserts that the Palestinians did not have maps while negotiating the terms of Oslo Accords. This striking shortcoming has emerged as a recurring theme throughout my years of conducting research on water in Palestine. However, aside from this information being published by Said in 1994 (see Chapter 2), it was treated sensitively by research interviewees, who relayed this information under the condition of anonymity. This includes encounters with the following people:

- (i) Gatekeeper from Village C3 during fieldwork in October-November 2017 (see Section 5.1.1);
- (ii) The head of a ██████████ NGO in Ramallah, West Bank, during a conversation in August 2016 about my research. She relayed that one of the Palestinian negotiators (an international lawyer with a specialty in international water law) had confided in her about not having any maps during negotiations. When arriving at the negotiating table, he noticed his Israeli counterparts had detailed maps, which he leaned over and asked to see; and
- (iii) An international lawyer specializing in international water law, who was a member of the NSU during the interview I conducted with him in the summer of 2010 during fieldwork for my MSc thesis. He confided that all his

colleagues who were present during Oslo negotiations had informed him that they did not have any maps, while their Israeli counterparts had maps of springs, boreholes, and aquifer basins.

An awareness of political processes and perception of failures were consistently demonstrated throughout interviews with all participants in Village C3. As outlined above, this awareness encompasses meso-scale and macro-scale political processes.

Notwithstanding this awareness—which represents the counterfactual to power’s third face—it is not the only observed trend. In fact, the workings of the third face of power are far more complex and subtle. Throughout my field visit in the cultivated valley of Village C3, I encountered several Israeli settlers. As R provided a tour of his family’s orchard and the surrounding landscape [REDACTED]

[REDACTED] we passed three armed Israeli settlers who had M16 guns strapped around their shoulders. This was a striking experience for me, even in the context of military occupation. However, for the cultivators of Village C3, this is a regular occurrence, and one that is not perceived to be the least bit alarming. In other words, it has become a normalized experience. R explains that settlers regularly descend into the valley, often carrying maps—but also to have picnics. Shortly thereafter, we observed this occurrence: a small group of Israeli settlers, who seemed to be led by a guide, had a map that they referred to several times as they stopped to observe the landscape. [REDACTED] asserts that the settlers themselves are not the source of the political problem:

the settlers are not the problem; they do not know what their government does. When they pass through here, they ask why the roads are not paved, why we do not have houses or electricity...The nature authority [i.e. IPNA] is the problem. It’s the fault of the [Palestinian] Authority. God forgive them. Sa’eb [Erakat] signed everything (Orchardist 1, Unrecorded #2).

This is also an unusual stance within the context of the West Bank. Notwithstanding its rarity, it is one of the most noteworthy demonstrations of the third face of power, which manifests as normalization. ■ demonstrates a two-pronged awareness of the failings of meso-level bodies to protect their interests as cultivators, as well as the effects of de-development policies implemented by macro-level bodies. Nevertheless, the presence of settlers—which is one of Israel’s tools for implementing its de-development policies—is in this case not only normalized, but also perceived to be benign.

5.3.3.2 Power Results: Area A Villages

Village A1

In Village A1, power over the allocation of water manifests as a power struggle between irrigators and local government, whereby each party seeks to control the CPR, thus diluting the CA institution. Although the Village A1 municipality has exercised some control over Village A1 Spring for many decades, the co-management arrangement was not always problematic for the irrigators. The turning point for the irrigators occurred when the lines between their interests and that of the village municipality became opaque. This began when the head of the Village A1 WUA joined the municipality. While this seemed to ensure that irrigators’ interests were represented in local government bodies, this was not the outcome. Instead, the irrigators’ grievances were overlooked when “*the head of the association became a member of the municipality council...* ■■■■■” (F, Recording #16). F attributes this shift to the irrigator’s expanded irrigation options that resulted from attaining an official position—specifically the newfound option of accessing groundwater, which he exercised by drilling ■■■■■ boreholes/wells. F

explains that this rendered the irrigator's interests divergent from the rest of the irrigators' interests; he no longer had an interest in protecting the CPR:

when he made the agreement for [redacted] years with [certain] clauses, he had no interest since he was using spring water [like us]; but after digging two Artesian wells, he is no longer worried about what and how the municipality deals with water and how it distributes it (F, Recording #16).

As outlined in section 5.2.2, this deal entailed relinquishing distribution of spring water to the WUA in exchange for lowering its price per unit. However, this price negotiation was not honored by the municipality, so the irrigators' interests were not represented.

Critical Institutional (CI) Power Model

Resistance

[redacted] Village A1 Spring, the complexity of the CA institution illuminates power as domination of local government over the community of irrigators. However, this precludes an analysis of irrigators as agents who “strategize, innovate and negotiate in their engagement with institutions and management of natural resources” (Clever and de Koning, 2015: 8); it also precludes an analysis of the ways in which actors resist, ultimately changing the trajectories of their CA outcomes. Irrigators in Village A1 may seem to be complacent with the partial loss of control over their CPR; however, this is not the picture painted by the research participants. The participants asserts that the irrigators expressed their grievances collectively and individually by complaining to the municipality about the latter not honoring their agreement. The irrigators, however, were met with empty responses from municipal officials, including blaming the incomplete distribution of water shares on a decreased spring flow: “*when you complain...they say there is a weakness [in the spring flow]*” (F, Recording #16). F assert that, in this case, the municipality has alternative

freshwater sources that they could develop, but denies this option when irrigators request it: *“where are the alternatives? They say there are no alternatives, then [we say] why don’t you dig wells; they do not [dig wells]”* (ibid). This request is based on their knowledge that Area A municipalities in the Jordan Valley are authorized under Oslo II to drill boreholes to develop groundwater sources. As outlined in Section 5.2 (co-management), ■■■ explains that the PA never took advantage of the terms of the Gaza-Jericho Agreement, which allowed the PA to drill ■■■ new wells/boreholes: ■■■ for the municipality and ■■■ for the association. F, who frames the irrigators’ resistance as “complaints”, explains it has been ineffective: *“people talk and everybody complains, but no one listens; the head of the municipality changes but the same suffering and problems are still there”* (F, Recording #16).

Resource Allocation

In the case of Village A1, where an irrigator became a municipal official, governmental power is intricately linked to resource allocation. The irrigator *“dug ■■■ wells, financed by a foreign donor; so he no longer has an interest with the [rest of the] cultivators. He does not give a hoot about the association”* (F, Recording #16). This irrigator represents one individual whose interests are tied to resources; F contextualizes this as water resources being held by local government: *“we talk and complain; but who would you complain to? The same people who are managing the water, the municipality”* (ibid). The implication is that because the municipality has control over distribution of the spring water—which participants explain entails water “mismanagement” or outright

appropriation—they wield power over the irrigators, who are the CPR owners. This in turn means that the municipality is not forced to develop groundwater sources, which would require substantial resources.

F explains corruption is sometimes traceable, but only in cases where irrigators have pools/reservoirs that enable them to measure the amounts of water they receive:

I do not know how much [spring water] I get because the gauge is broken; [there is] a lot of air...so he²³² gives you your hours, but you do not know how much you will get; it depends on the pressure...when I have a pool, I can measure how much I get; but if there is no pool, when I irrigate directly without taking the water to the pool, I cannot know how much [I receive] because the gauge is broken (ibid).

Water pressure depends upon the location of one's land: "*there are some cultivators who do not get enough water and others get strong water; it's according to neighborhood*" (ibid). According to F, the former group is not concerned about the latter's grievances; this lack of a united front, in turn, dilutes the irrigators' collective power.

Rule Adherence

In addition to the above-outlined corruption, █████ asserts the municipality partook in even more egregious violations, whereby in █████ they destroyed water hydrants throughout the network: "*the municipality destroyed hydrants to create chaos*" (Elder A1, Unrecorded #10). As a result, "*farmers do not even get 50% of their water*" (ibid). Despite "*farmers only get(ting) half of their water rights...[they] are still charged full price*" (ibid)—i.e. they receive half of the water shares they own. A recurring theme throughout the interviews is the idea that corruption is facilitated by the modern network of closed water pipes, which obstruct transparency: "*open canals were better, because*

²³² The *qanawati*.

we could see where the water was going” (ibid). This includes the increase in water hydrants²³³, which ■ frames as corruption, but F frames as mismanagement. “*The network was designed for a certain capacity; when they started giving more people water and [opening] more lines...[the water flow] became weak*” (F, Recording #16). Notwithstanding the differences in framing of the lack of adherence to rules, F identifies the source of the problem: “*there is the issue of ikramiat*” (ibid). F frames bribery benignly as “tipping” and justifies it as the sole means for irrigators to ensure they receive water: “*a cultivator who has to facilitate his need [for water], he has to give tips; if he doesn’t do that, he will burn thirsty*” (ibid).

Three-Dimensional Power

The research participants from Village A1 express their conviction that they hold very little power; participants perceive decision making and agenda setting over water allocation—the first and second dimensions of Luke’s three-dimensional power model, respectively—as being held by governmental actors: the municipality at the local level, and the PWA at the national level. While they express their commitment to resisting decisions that are not in their best interests as irrigators, they are concurrently resigned to the idea that their resistance is—and will continue to be—futile. This is informed by a perception that as cultivators, they cannot take matters into their own hands, which in turn is informed by a perception that the status quo is inevitable and therefore irreversible.

These beliefs, recorded during research interviews, span the gamut from proposing creative ideas to solve water access and distribution problems to implementing solutions. Rather than taking the initiative as owners of the CPR, F asserts “*the*

²³³ See Section 5.2.2 on increase from ■ to ■ water hydrants.

municipality itself should participate” (F, Recording #16) in proposing new ideas to solve their problems. Even proposing new ideas is perceived as futile without resources: *“how much is the cultivator capable of? They as a government, the municipality, who has permits for wells should dig the wells...it is not only the municipality, it is also the Ministry of Water—it has a role. The government has a role; they all should help”* (ibid). Similarly, F expresses his belief that the irrigators do not have the capacity to pool their own resources together to drill their own wells. He asserts the risk of failure is too great and would result in massive losses for irrigators who are barely able to sustain their families on income generated through agriculture: *“it is not easy; you need permits, and cultivators cannot take the risk of digging and then not finding water”* (ibid). A lack of support from local government entities is by no means seen as favorable; however, it is manifested as surrender to the status quo, and thus normalized. In fact, this normalization runs so deep that it generates preconceptions of its inevitability.

Thus, one of the most notable demonstrations of the workings of the third dimension of power is the expression of preconceptions with little apparent evidential support—i.e. assumptions that are not based on experience or drawn from similar situations. The most precarious assumption is that even if the irrigators approached the PWA with their grievances, the latter would not take action: *“they would say there is a shortage of water; there is drought in the Middle East. They have not solved worse problems: other areas do not get drinking water except for once a month”* (F, Recording #16). The fact that the irrigators had not even attempted this route—and more importantly, view it as an impossibility—reveals the depth of the third face of power. F demonstrates an even more stark extension of the third face of power: the belief that

revitalizing and unifying their WUA cannot be done by the irrigators alone; he asserts “*you need somebody to unify the association; you need support*” (F, Recording #16).

Agency: Critical Institutional (CI) Model

While research participants from Village A1 do not place substantial emphasis on demonstrating their exercise of agency in the allocation and management of water, the trajectory of their CA illuminates the irrigators as agents. In addition to vocalizing their grievances, adapting to changing environmental and local-level geopolitical conditions, and positioning themselves to benefit from participation in governing bodies, the greatest demonstration of agency is the establishment of a WUA. F explains that “*the cultivators established an association ■■■ years ago and now it is non-existent...In the beginning, it was lively; they opened an office, worked in it for ■■■ years then closed it*” (F, Recording #16). By the time of fieldwork, this previous display of agency had become negligible. This is nowhere more apparent than in the expression of a sense of powerlessness to revitalize the WUA. The perception that outside support—financial and otherwise—is necessary for their WUA to function is a testament to the irrigators’ dwindling sense of their agency. The perception that irrigators alone cannot organize to address their grievances or accomplish their goals is also a testament to the ways in which they have relinquished control over their own CA institution.

Adapt

Water-related coping mechanisms and adaptive strategies in the Jordan Valley have been well documented (see e.g. Mason and Mimi, 2014). The research participants from Village A1 perceive adaptation as a pragmatic response to environmental and

geopolitical changes and pressures. To the participants, these changes occur concomitantly; environmental and political pressures are forces they must contend with as cultivators. One of the main issues these cultivators face is increasing levels of water salinity. As a result, cultivators have had to resort to growing crops with a higher salinity resistance: *“we now grow dates because palm trees can handle up to 6,000 units of salinity, but some trees are being watered by water with [water that has] an 18,000 salinity count”* (Elder A1, Unrecorded #10). As a result of lower water flow, the cultivators have also had to resort to the adaptive practice of cultivating less land: *“twenty years ago, Village A1 used to have [redacted] dunums of land cultivated with bananas. Now we only have [redacted] dunums...we cannot sell bananas anymore”* (ibid).

Negotiate

As outlined above, the main way in which irrigators have attempted to address their grievances has been by individually and collectively complaining to the municipality: *“cultivators go to the council and complain; and say we want to improve things, but it is all for nothing”* (F, Recording #16). However, their negotiating efforts have been less pronounced. While the WUA was still active, they negotiated favorable conditions, but this ultimately was to no avail—as the municipality did not honor the negotiated terms they agreed upon. As a result, the research participants express a general sense of apathy: *“we had a cultivator’s association: Village A1 Association for Irrigation, but some of its members are now members of the municipality council. So it is not possible for these people to stand with the cultivators but with the council”* (F, Recording #16). In addition to the apathy vis-à-vis their capacity to effect change, the participants express a perception that protesting in order to attain their rights is not only

ineffective, but potentially harmful: “if you do that, they would say you are against the government, and they would start arresting people; and people are fearful” (ibid). The fear of causing greater harm to the community of irrigators serves as a hindrance to negotiating through protest or other explicitly antagonistic means.

Village A2

Critical Institutional (CI) Power Model

Resistance

Village A2 is the only village in the study that does not display resistance to the status quo. This could be due to the small number of participants interviewed²³⁴. It could also be due to the lack of conflict amongst irrigators or between them and government officials—which was asserted by participants from Village A2—as well as by one from Village A3. Similarly, Village A2 participants do not express any water scarcity issues—unlike those in the other two Area A villages sampled.

Resource Allocation

Notwithstanding the lack of perceived conflict within the Village A2 community, participants are still very aware of power imbalances—particularly those intricately connected to resource ownership. One farmer claims the “█████ owns 95% of the water” (OF, Unrecorded #12). He similarly claims “95% of farmers rent from them²³⁵” (ibid). While this percentage is likely an exaggeration, the municipal official of Village A2 and Village A3 corroborates the claim that the majority of the water is owned by the Dajani and Husseini families (see Section 5.2.2, Property Rights). The municipal official

²³⁴ However, it does not substantially differ from those in Village A3 or Village A1. Moreover, data saturation was reached, despite the small sample size.

²³⁵ i.e. the █████ family.

qualifies this with the assertion that these landowning families are no longer cultivators, and that they have sold the majority of their water shares. Ultimately, large landowning families still have a considerable amount of power by virtue of their large land and water assets. Holding large assets is viewed as translating into power: “*these people rule the town*” (OF, Unrecorded #12); OF asserts that they have done so since the British Mandate.

Three-Dimensional Power

While large landowning families are perceived to be in control of the town, there is little other demonstration of an awareness of power dynamics amongst research participants from Village A2. Similarly, salient effects of the third face of power are scarce in this village, though there are a few exceptions. During the first round of fieldwork visits in April-May 2017, Village A2 participants demonstrated an internalization of the mainstream narrative promoted by Israel. Elder A2’s assertion that “*what matters most to them [i.e. Israelis] is security*” (Elder A2, Unrecorded #12) demonstrates an internalization and thus normalization of the security language promoted by Israel. Rather than see confiscation of land and water resources as constituent of de-development policies, this participant frames the military presence whereby “*they come with a bulldozer and destroy banana [trees] and destroy tomato [plants]*” (ibid) as a security measure. This interpretation stands in stark contrast to a perception of the ineffective presence of meso-power entities. The participants in the informal focus group explain that since the PA took over control of civil affairs in their village, “*not much has changed*” (ibid). One participant asserts the partial transfer of power has led to problems, specifically the inception of “*chaos [whereby] people do not pay for water...[and] steal*

a lot” [REDACTED]. The awareness of the ineffectual presence of the PA amounts to a demonstration of the counterfactual to the third face of power. Rather than normalizing the ways in which the PA has not maintained order, held people accountable for water theft, and ensured that water payments are made, these participants demonstrate an awareness of the ways in which meso power entities have failed to fulfill their obligations to the CPR community.

The municipal official of Village A2 and Village A3 asserts their spring flow of both CPRs have not been impacted by Israeli extraction of groundwater. His explanation for this perception illuminates the depth of the grips of the third face of power: *“I do not know; maybe they did not find the source of their flow; from where the spring comes out from under the ground”* (Municipal Official, Recording #18). This is even more striking in light of Israel’s extensive knowledge of groundwater resources, spring flow, and the hydrogeological characteristics of the West Bank’s Mountain Aquifer, comprised of three basins.

As an individual with the unique perspective of simultaneously being a government official and an irrigator within Village A2’s CPR community, the municipal official expresses views that oscillate between reflecting the interests of the municipality and the interests of his fellow irrigators. In discussing the role of the PWA, he claims that *“they tried”* (Municipal Official, Recording #18) to interfere in the management of the CPRs. His assertion that *“they wanted to control the springs, the distribution of water; to take the drinking water and distribute it, [but] we refused”* (ibid) is a notable demonstration of the counterfactual. It is not unusual for municipalities and the PWA to have conflicting interests, nor [REDACTED] to express their grievances²³⁶ regarding

²³⁶ This was gathered from previous qualitative research conducted in the West Bank.

national leadership or the lack thereof. Nevertheless, the joining of forces between “*the municipality and the community*” (ibid) to protect the integrity of CPR property rights is notable. According to the municipal official, this occurred through a

tough dialogue was that the water was privately owned. You never know what happens in the future. They may try to take ownership when the population becomes, for example, 100,000...they may say ‘if you do not sell me [water] I will take ownership [i.e. by decree via eminent domain] (ibid).

These concerns are not without evidence; the municipal official describes the above scenario occurring in a neighboring town—albeit one located in an Area C zone.

Agency: Critical Institutional (CI) Model

Adapt

Irrigators in Village A2 face similar environmental and geopolitical challenges that those in Village A1; increasing levels of water salinity is the most salient of the environmental challenges. However, the way in which this issue is addressed by research participants during a small focus group²³⁷ in Village A2 is more as a matter-of-fact than as an issue to be lamented. OF explains the “*spring has some salinity; it is not good for drinking, but it is good for agriculture*” (OF, Unrecorded #12). Notwithstanding this pragmatic approach, OF expresses his understanding that people need to survive by any means necessary: “*people want to live, even by the stick, they want to live*” (ibid).

Village A3

Critical Institutional (CI) Power Model

²³⁷ This was not set up to be a focus group; rather, the gatekeeper took me to see an irrigator (OF) who was accompanied by two of his relatives. While the majority of the responses were provided by OF, the other two participants and the gatekeeper also chimed in.

Resistance

While the research participants in Village A3 express many grievances, demonstrations of resistance are strikingly lackluster. F expresses his perception (see Section 5.2.2, Rules) that addressing conflict by reporting water theft to the authorities would violate the close ties, the “*bread and salt*” (F, Recording #16) between cultivators. This perspective is accompanied by the perception that their punishment is intrinsic to the act of theft—i.e. generating income based on stolen resources generates a lack of blessings that is religio-culturally viewed as *haram*, an act that is unsanctioned or forbidden by God. In other words, when one supports their family from income generated through an unsanctioned or forbidden act, the lack of blessings to one’s family is the intrinsic punishment: “*even the ones who are stealing water are not getting enough; although it is haram, and he feeds his family haram*” (F, Recording #16). Similarly, as mentioned in Section 5.2.2 (Rules), this farmer perceives that even confronting figures who traditionally play facilitative and mediating roles would be futile. Overall, resistance is not perceived to be an option, rendering it nearly nonexistent.

Resource Allocation

As in Village A1, large owners dominate the land and water property rights regimes in Village A3. The participants assert that the largest owners are from the [REDACTED] family and the Greek Orthodox Church. AY narrates the origins of how the [REDACTED] family came to accumulate resources in the Jordan Valley:

in the 1940s, or earlier, [REDACTED] was for the [REDACTED], for the Beik. [REDACTED]
[REDACTED] (AY, Unrecorded #11).

Date Palm Farmer, a cultivator who rents land and spring water from Village A3, asserts resource ownership is not correlated with power within the CPR community. He explains that he rents the land and spring water that “*is owned by the Orthodox Monastery*” (Date Palm Farmer, Recording #13), which owns “*about 60% of the water*” (ibid) from Village A3 Spring, amounting to “*about [REDACTED] hours*” (ibid) per week. Date Palm Farmer asserts the remaining 40% is now owned by the municipality, but was once owned by the [REDACTED] family, [REDACTED] with very few other owners. The small cultivators each own approximately “*five dunums, ten dunums; but the cultivation of big amounts is in Awqaf²³⁸ lands; rented from Awqaf for 25 years*” (Date Palm Farmer, Recording #15).

While Date Palm Farmer does not perceive power asymmetries resulting from unequal distribution of resources, he explains the way in which large cultivators have become more prevalent, stating

when it became apparent that the financial return was big, investors entered the field of date palm; people [i.e. companies] like Sinokrot, Padico as Palestine Palms, which is owned by Al Masri; the son of Abu Mazen [the prime minister] the Arab Cultivators...I will be frank; I attended several meetings for them; they are investors, merchants. They are not cultivators...if they had a chance, they would take it [i.e. the land] from us...initially, we used to sell [dates] to them...[but now] they stopped buying from us (ibid).

Date Palm Farmer explains that these relatively large investors initially purchased the dates from the cultivators, including himself, and then packaged and sold them. However, they later began to take control of the entire production process, from cultivation to packaging. Date Palm Farmer, who leases [REDACTED] dunums of land to cultivate date palm trees—including processing machinery to sort and package the dates—contextualized his

²³⁸ This translates to “religious endowment”.

agribusiness: “*compared to others this is nothing*” (ibid). Notwithstanding Date Palm Farmer’s perception that the large agribusiness investors and large landowners do not wield greater power, he concedes that these companies’ involvement in cultivation “*impacted us*” (ibid) as small cultivators.

Three-Dimensional Power

The committee, headed by the “*qanawati*”²³⁹, is the decision-making body vis-à-vis Village A3’s CA institution. Because this is a very small committee, decisions are made by very few community members, without any involvement of the remaining CPR owners or irrigators who rent water from them. While Date Palm Farmer does not perceive this decision-making power to be a demonstration of power per se, he expresses an awareness of how other irrigators are excluded, by virtue of the leaders and members being the founders of the committee: “*unfortunately, since the committee was formed by [REDACTED] family, they still head it; they still hold all the records; that’s the agreement...they were the ones who started it*” (Date Palm Farmer, Recording #13).

As with decision making power, whereby irrigators are not included in committee meetings—let alone given voting rights within the committee—agenda setting power is solely in the hands of the few committee members. Irrigators do not have the ability to even make propositions for the committee members to vote on; hence they are shut out of the agenda setting process. This is the most extreme case of uneven power dynamics in the study. Such stark power asymmetries underly the ineffectiveness of Village A3’s CA institution.

²³⁹ While he is not literally a canal operator, some participants nevertheless referred to him as the “*qanawati*”.

While Village A1 research participants perceive decision-making and agenda-setting powers to be held primarily by the municipality, participants in Village A3 have contended with the committee holding these powers. Despite the extensive and repeated expressions of dissatisfaction, Village A3 participants are less vocal about framing the source of their dissatisfaction as power asymmetries. However, akin to the Village A1 participants, Village A3 participants largely view themselves as incapable of challenging the status quo. This apathy is particularly palpable during the interview with AY, who expresses resignation to the status quo; despite his repeated expressions of dissatisfaction, his critiques of the co-operatives and of the police²⁴⁰ are reinforced by a conviction that this has become the inevitable reality. His assertion that people's nature has changed²⁴¹ reflects his perception that this is the natural order that has come to characterize their lives.

Similarly, F expresses his resignation to the status quo, albeit tempered. He initially demonstrates his feeling of being disempowered as an “outsider”, an internally displaced person from 1948; F states there is nothing to do to address the status quo²⁴²—not just due to feeling disempowered, but also as an expression of solidarity for his community members. He then counters this with an assertion of defiance, tempering his initial expression of resignation: “*we can report them to the authorities and imprison them if we want*” (F, Recording #1). Albeit contradictory to his initial assertions, this glimmer of a different approach is a testament to the complexity of the ways in which the third face of power operates. These contradictory statements demonstrate a conflicted relationship with normalization—i.e. while in some ways the status quo is seen as being

²⁴⁰ See section 5.2.2 (Area A “Rules”).

²⁴¹ See section 5.2.2 (ibid, “Trust and Reciprocity”).

²⁴² See Section 5.2.2 (Area A “Rules”).

favorable, there is also a resentment about the injustice inherent in a lack of accountability.

In addition to the perception that as “outsiders”, they cannot confront local irrigators due to the power imbalance, there is a perception that rocking the boat will tarnish, or even destroy harmonious relations. An “insider”—i.e. an irrigator who is originally from Village A3—echoes this perception: “*we have mutual respect between us*” (SF, Recording #1). It is crucial to note that although community members perceive themselves to have harmonious relations, this is reflective of a state of peacefulness, or a lack of chaos and aggression. Nevertheless, a lack of overt conflict does not indicate genuine harmony—as demonstrated by the palpable dissatisfaction of CPR users.

As in Village A1, the most notable demonstration of the workings of the third face of power is the expression of resignation to the idea that resistance is—and will continue to be—futile. Akin to the participants in Village A1, Village A3 participants made the pre-conceived determination—and thus precarious assumption—about approaching law enforcement or government officials would be futile. F expresses his conviction that addressing their grievances in general—let alone specifically about water theft—would not result in any change. This assumption sets the basis for resignation to the status quo, and thus the normalization of living with grievances—ultimately reinforcing unmet needs. F expresses his conviction that reporting theft and addressing the problem of a reduction in the water received while still paying the same fees, would be a futile effort: “*it is useless; even the ones who are stealing water are not getting enough*” (F, *ibid*).

After describing their committee²⁴³ as “*ineffective*” (Recording #1) because they do not meet, “*they do nothing*” (ibid), F goes on to assert that establishing a WUA “*won ’t work...it’s useless*” (ibid). This attitude is reflective of apathy to the status quo, amounting to its normalization. Similarly, AY’s matter-of-fact descriptions of water theft and the failure of co-operatives (see Section 5.2.2) is reflective of this resignation. However, AY expresses unambiguous dissatisfaction, even anger, rather than a conflicted expression of dissatisfaction.

²⁴³ Their water committee is not an “association”—i.e. not a WUA.

Agency: Critical Institutional (CI) Model

Adapt

Due to the similar environmental and geopolitical landscape in all three Area A villages, irrigators in Village A3 face similar challenges that the irrigators in Village A1 and Village A2 contend with. AY explains that due a decrease in spring water flow, he had to cut his cultivation of bananas by half: “*before 1980, I grew [redacted] banana seedlings, but after 1980, I only had [redacted] seedlings*” (Unrecorded #11). As in Village A1, the water salinity has increased, which the irrigators adapted to by changing the crops they cultivate. Due to the higher salinity tolerance of date palm trees, the cultivators shifted from cultivating bananas to dates: “*date palm trees take one third of [the amount of water that] bananas require*” (Date Palm Farmer, Recording #14).

The other way in which villagers have adapted to changing water availability is by moving out of cultivation and into construction work, or work in settlements. This is becoming increasingly prevalent amongst the younger generations, whereby cultivators’ children will choose to not work in agriculture. Date Palm Farmer explains this trend: “*let me tell you: the agricultural area has decreased; there is more construction*” (ibid). Notwithstanding this trend, Date Palm Farmer’s children have decided to work in agriculture, joining the family date palm production business.

Innovate

The introduction of new ideas is not prevalent within a context where the third dimension of power has a strong grip on community members’ perceptions of different possibilities. Irrigators who rent land and water units perceive their options to be limited, and thus view themselves as incapable of making changes. This is based on the belief

that resources are required to make changes. Notwithstanding this belief, Date Palm Farmer expresses his view that individual cultivators do actually take initiatives, including himself: *“look, me personally, I have no relationship with the [Village] Council or the committee; but I am not disconnected from any work for the public interest. I will not neglect it; whether it is for the Council, the water committee”* (Date Palm Farmer, Recording #13). While this is a general assertion, Date Palm Farmer gives a more specific example of how community members take initiatives. He explains how a prominent member of the community recognized the need to adapt to increasing levels of water salinity by introducing date palm cultivation. By taking the lead on this adaptive measure, he set an example for other cultivators to do the same. This is how Date Palm Farmer shifted his entire agricultural operation from banana to date palm cultivation. This community member, Initiator, sought funding from an international organization to fund this shift. According to Date Palm Farmer, Initiator was the director of a local development NGO. Initiator later went on to become a PA minister.

Strategize

The above-outlined example of innovation is also an instance of strategizing. This prominent community member identified the need to adapt to changing environmental and geopolitical conditions and had the foresight to create a large-scale strategy for the area. By seeking funding for an agricultural development project, Initiator demonstrated the need to find a viable alternative for cultivators, thus facilitating the maintenance of agricultural production.

The fact that Date Palm Farmer was the only participant to talk about this initiative is a testament to how community members generally do not recognize instances

of innovating or strategizing. This includes the municipal official of villages A2 and A3, who does not mention this agricultural initiative, or even a strategic vision for maintaining the viability of the agricultural sector. The municipal official does however touch upon a strategy for achieving the long-term viability of the water distribution system. This demonstration of an awareness of the need to modernize the system by digitizing records illuminates the municipal official's strategic thinking: "*when the municipality takes it over, we can use a computer program for the schedule; it would be much easier*" (Municipal Official, Recording #18). It is important to note that while the municipal official is a cultivator himself, he is predominantly speaking from the position of a government official rather than a community member of Village A3's CA institution. Accordingly, his strategy is not one that has any regard for the wants or opinions of the CA actors themselves; rather, this statement is an assertion of his agenda-setting and decision-making power as a local government official.

Chapter 6 Analysis

6.1 Introduction

In order to explore the central research question—i.e. to understand the effects of EG conditions on CA institutions in water management in West Bank villages—this research has asked four sub-questions:

- 1) What are the conditions that shape the context within which CA institutions exist?
- 2) What are the institutional arrangements within each CA institution?
- 3) What are the power dynamics within, and surrounding, these CA institutions?
- 4) How do actors demonstrate agency given the multi-scaled power structure?

This study employs a comparative analysis approach between Area C and Area A villages—whereby the latter is classified as amounting to minimal EG conditions for the purpose of comparison. Accordingly, the main aims are to discover whether—and if so, how—CA outcomes differ between Area C and Area A villages. As outlined in Chapter 4, the hypotheses were drawn up deductively *and* inductively. The result of this process are the following hypotheses:

- 1) Exceptional governance (macro-scale power) conditions foster CA;
- 2) Asymmetrical power relations within the community (micro-scale) are embedded within village institutions—and reinforced by larger power structures (particularly meso-scale).

It is important to re-emphasize that my study sample is limited and is by no means representative of all springs or CA institutions in the West Bank. This does not, however, preclude the value in the comparative approach employed in this study—particularly in light of the data saturation reached in each location. This chapter provides an analysis of

the research findings; this begins with a brief overview of results, followed by analysis of results on EG (6.2), CA (6.3), and power (6.4).

In attempting to understand how EG conditions influence CA outcomes, this research has entailed an interrogation of power at multiple levels: micro, meso, and macro. The most obvious form of power is what I have termed *exceptional governance*, which manifests as macro-level power. However, power also exists at the meso-level, whereby local governance structures set up under the Oslo Accords resulted in Palestinians acquiring pseudo-control in the West Bank, which this thesis refers to as *compromised sovereignty*. These meso-level governance bodies—the PA, PWA, municipalities, and village councils—have complicated the ways in which macro-level power is experienced and perceived by CPR users. Micro-level power—i.e. power within CA institutions, or at the community level—reflects and reproduces power at the higher levels of meso and macro power. This is due to:

- (i) CA institutions being embedded within wider (meso and macro) power structures; and
- (ii) overlapping interests between meso-level actors and micro-level actors (CPR users).

The research findings of this study have illuminated the ways in which meso-level governance has influenced agricultural communities' access to, and control over, their local freshwater resources. While it is clear that acute EG conditions severely hinder—and at times obstruct—CA institutional functioning, this is complicated by meso-level governance. Literature on the role of the PA has revealed that its presence has not improved the conditions on the ground for Palestinians, due to the neoliberal agenda adopted by the PA—which, in turn, international actors have conditioned their aid upon.

In addition to the meso and macro manifestations of power, there are a myriad of ways in which community-level power dynamics underlie the form and functioning of the CA institutions. These micro dynamics, as discussed in the mainstream CPR literature, reflect power dynamics and relations within these societies—i.e. these SESs do not exist in a vacuum, but rather mirror the wider societies in which they are based. Accordingly, similar hierarchies exist within the CA institutions. These hierarchies²⁴⁴ include, but are not limited to, gender inequalities (namely those embedded in patrilineal traditions); socio-economic inequalities (namely uneven distribution of resources, or what the CI literature terms “resource allocation”); and variegated political leverage (namely that derived from historically embedded socio-political status).

This multi-tiered power structure creates a synergy of forces that set the parameters for CA outcomes. Among the study’s most salient findings is that despite its specious subtlety, it is *meso-level power that most substantially alters the historical trajectory and outcomes of CA*. This manifests as the introduction of co-management arrangements that compromise the integrity of CPR property rights regimes. Another salient finding reveals that *macro-level power, which produces exceptional governance conditions, foster more successful CA up until a turning point or inflection point—whereby beyond this level, CA outcomes are acutely hindered*. In addition, this study’s analysis of power within these SESs sheds light upon the *synergy* between the various scales of power. In other words, despite the practical separation of the three scales of power for analytical purposes, the analysis is undergirded by an explanation of the mutual interaction and reinforcement of the three respective scales/levels. The most notable

²⁴⁴ It is clear that a thorough examination of these dynamics requires more extensive fieldwork, which were unfortunately precluded by travel limitations, as outlined in Chapter 4.

result of the interaction and reinforcement of these levels of power amounts to what Lukes calls three-dimensional power—in particular, the third face or third dimension of this multi-dimensional power. As outlined above, the third face of power is difficult to identify and capture empirically, due to two factors: firstly, its conceptual ambiguity, which in turn affects its operationalization; and secondly, the prevalent condition of lacking a counterfactual. A lack of a counterfactual—i.e. the presence amongst research participants of an awareness of the workings of power—in some of the study locations renders analysis of the third face of power contingent upon my subjective discernment.

6.2 Analysis of Exceptional Governance Results

In section 5.1, the exceptional governance results were presented in summary and comparative tables. Tables 5.2 and 5.4 summarize results of the indicators for the examined dimensions of EG conditions endogenous and exogenous to CA institutions in Area C and A villages, respectively. Table 5.4b compares the results between Area C and Area A villages. Table 6.1 below presents the most salient indicators for the examined dimensions of EG, showing the relative influence of each one (ranging from one to three signs). Relative influence is shown via plus and minus signs, which specify the direction of the relationship between each EG indicator and CA outcomes. In other words, plus signs indicate a positive relationship between them, while negative signs indicate an inverse relationship (see key directly below Table 6.1). The assessment of the strength of the relationship between each EG indicator and CA outcomes is based on two criteria, but primarily the first one:

- (i) the number of times study participants explicitly mentioned this dimension/indicator; and

- (ii) my observation (e.g. my observation of the proximity and salience of EG infrastructure).

Table 6.1: Influence of exceptional governance indicators on collective action outcomes

		Area C Villages			Area A Villages		
		C1	C2	C3	A1	A2	A3
Indicators endogenous to CA institution	Effect on CPR	--	None reported	---	None reported	None reported	None reported
	Infrastructure	---	--	---	-	-	-
Indicators exogenous to CA institution	*De-development						
	Cultivation	---	--	---	None reported	None reported	None reported
	Other	++	++	++	++	++	++
	Israeli state surveillance	-	--	---	+	+	+

Source(s): Tables 5.2, 5.4, and 5.4b

KEY:

+++ : very strong positive effect ; ++ : strong positive effect ; + : moderate positive effect.
 - : very strong negative effect ; -- : strong negative effect ; - : moderate negative effect.
 ±±± : very strong (mixed) effect ; ±± : strong (mixed) effect ; ± : moderate (mixed) effect.

* Note that the dimensions of de-development are *land confiscation* and *water confiscation*; the respective indicators for these dimensions of de-development are *policies that hinder access to land* and *policies that hinder access to water resources*. Access to land resources is termed “cultivation” as shorthand in these tables, while access to water resources is phrased as direct effects on CPR.

6.2.1 Effects of Exceptional Governance Indicators Endogenous to Collective Action

Direct effects on a community’s CPR comprise the most salient EG indicator that is endogenous to CA. As outlined in Table 5.2, these effects are most prevalent in villages C1 and C3. Results indicate that Village C1 experiences a strong negative impact (- -) of EG on its freshwater spring. This is the result of Israel’s *constant and intermittent policies*, which amount to the shaping of EG conditions. The declaration of a closed military zone and the concomitant enclosing of part of the irrigation network (i.e. one of

the reservoirs) is an intermittent policy that was observed during the first phase of fieldwork in April-May 2017. These two policies directly hindered Village C1 users' access to, and control over, their freshwater CPR.

Similarly, Village C3 experiences a *very* strong negative impact (- - -) on its freshwater spring, whereby IPNA bans lead to acute limitations on exercising operational and collective choice rights. This amounts to an acute compromising effect on the integrity of CPR users' property rights—specifically the operational rights of *access* and *withdrawal*, and the collective choice rights of *management* and *exclusion*. While the designation of the cultivated valley in Village C3 as a protected nature reserve did not immediately have detrimental effects on their CPR flow, Israel's constant policies eventually²⁴⁵ did have an acute impact. These policies, as outlined in Chapter 5, severely compromised the integrity of CPR users' operational and collective choice rights, which in turn rendered CA outcomes severely compromised.

Collective action outcomes in Battir (Village C2) are not impacted by EG indicators that are endogenous to the CA institution. In other words, the integrity of operational and collective choice property rights is not impacted by EG conditions in Battir. In fact, the EG restrictions placed on the CPR—i.e. ban on installation of pumps or any new infrastructure—have ironically facilitated the preservation of its effective collective management. This is due to the lack of options to update their irrigation system, which in turn leads community members to recognize their interdependence.

²⁴⁵ It took approximately a decade for the CPR community to feel the worst effects.

6.2.2 Effects of Exceptional Governance Indicators Exogenous to Collective Action

The most salient indicators of EG exogenous to CA institutions that emerged in the results are:

- (i) EG infrastructure;
- (ii) de-development policies²⁴⁶; and
- (iii) Israeli state surveillance on CPRs, CPR users, and their CA institutions.

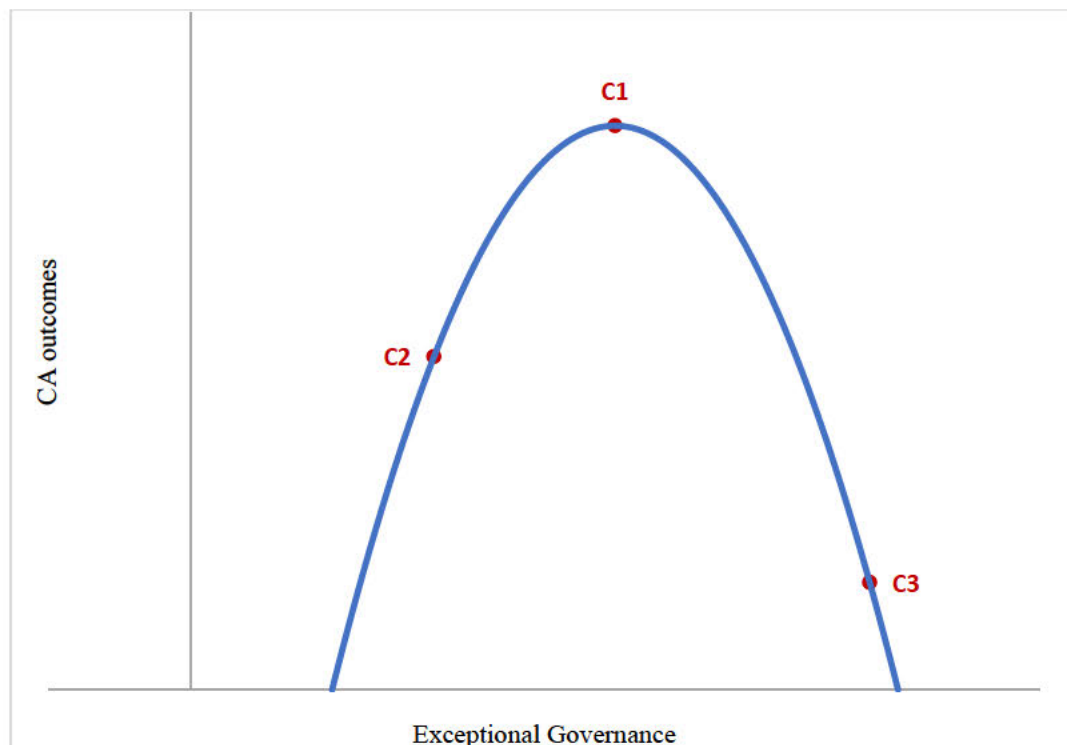
As delineated in Section 5.2 (see Tables 5.2, 5.4, 5.4b, and 6.1), EG infrastructure—which encompasses settlements, roadblocks, closed military zones, seam zones, and the Wall—has a negative effect on CA outcomes across all six study locations. In Area C study locations (see Tables 5.2 and 6.1), where settlements conspicuously surround and overlook the villages, this negative impact is the strongest, particularly in villages C1 and C3. In Area A study locations (see Tables 5.4 and 6.1), settlements are not conspicuous, but rather are out of the immediate line of sight, located in the Area C towns that encircle them. De-development policies, specifically those that directly affect land and water resources, have a consistently negative impact across all three Area C villages. While the dimensions of de-development include Israeli confiscation of land and water resources, the indicators of de-development include policies that hinder or obstruct access to land and water resources, which manifest in various forms—e.g. “seam zones” and military enclosure of these resources. De-development policies do not emerge in the results for Area A study locations—as no direct effect was reported in any of these villages.

²⁴⁶ As noted in Table 6.1, the dimensions of de-development included in this study are *land confiscation* and *water confiscation*; the respective indicators of de-development are *policies that hinder access to land* and *policies that hinder or obstruct access to water resources*. Access to land resources is termed “cultivation” as shorthand in these tables, while access to water resources is phrased as “direct effects on CPR”.

6.2.3 Overall Effects of Exceptional Governance on Collective Action

The pattern that emerged from the results indicates that overall, CA outcomes in Area C villages are more successful than in Area A villages. Although certain indicators of EG have a negative impact on CA institutions, the outcomes are nevertheless enhanced in Area C villages. While the results from Area C villages reveal that more acute EG conditions correspond to more successful CA outcomes, this is a *conditional relationship*. As depicted in Figure 6.1, the relationship between EG and CA outcomes is a direct one for villages C1 and C2, but an inverse one for Village C3.

Figure 6.1: A heuristic relationship between exceptional governance and collective action outcomes



These results partially confirm the first hypothesis. While the increased degree of severity of EG does in fact lead to more successful CA outcomes, this is qualified by the former. In other words, CA is only fostered under EG up to a certain point, or an inflection point, after which it takes a downward turn (see Figure 6.1). Since this is not

quantitatively measured, this inflection point serves as a heuristic guide²⁴⁷, rather than a specific point with x and y coordinates. Instead, this diagram of an inverted U curve is a heuristic visual guide designed to capture the broadly direct relationship between EG conditions and CA outcomes up until an inflection point wherein the relationship becomes inverse. This inverse relationship can be observed in Village C3, whereby CA outcomes are severely constrained due to the most acute EG conditions in the study. Specifically, Village C3 demonstrates that EG dimensions endogenous to their CA institution have a negative impact on CA outcomes; hence the inverse relationship (represented on the downward sloping section of the inverted U curve).

In Area A villages, where exceptional governance is minimal, meso power structures partially replace macro power structures—insofar as the occupation was outsourced to the PA. In other words, the PA, PWA, municipalities, and village councils are the governmental bodies that have jurisdiction over civil affairs in parts of the West Bank that are designated as the geopolitical zone Area A. Accordingly, in Area A villages, meso power structures provide the politico-legal context within which CPR users exercise agency. Similarly, in Area C villages, macro power structures provide the politico-legal context within which CPR users exercise agency. These contexts *are not commensurate*, however; they are neither commensurate apropos the power wielded by governmental authorities, nor are they commensurate apropos the restrictions placed on CA institutions; irrigation and cultivation in general; access to produce markets; and freedom of movement²⁴⁸.

²⁴⁷ While this is an unconventional approach to presenting qualitative results, this heuristic guide provides a visual representation of results that facilitate their understanding.

²⁴⁸ The only way in which they are commensurate is the effect on CPR property rights.

Thus, community members in general, and CPR users in particular, have greater freedom to exercise agency within Area A villages—although this freedom is nevertheless constrained as the entirety of the West Bank is subjected to Israeli settler colonization and military occupation. Conversely, CPR users in Area C villages are far more constrained, as they are subjected to more severe EG conditions. This amounts to “constrained agency” (Coe and Jordhus-Lier, 2011), whereby CPR users’ agency is structurally²⁴⁹ constrained (ibid) by macro-scale power. While CPR users across all study locations do experience a degree of constrained agency, Area A users face less constrained agency, while Area C users face more systemically constrained agency vis-à-vis the politico-legal parameters within which they operate. In short, meso or macro power structures provide the context in which CPR users exercise variegated agency: agency is embedded within these power structures, and thus result in varying degrees of constrained agency. The analytical utility of the term “constrained agency” lies in its capacity to capture a phenomenon reflected in the study findings that lends itself to an analysis of the causal mechanism of CA within the six study locations.

6.3 Analysis of Collective Action Results

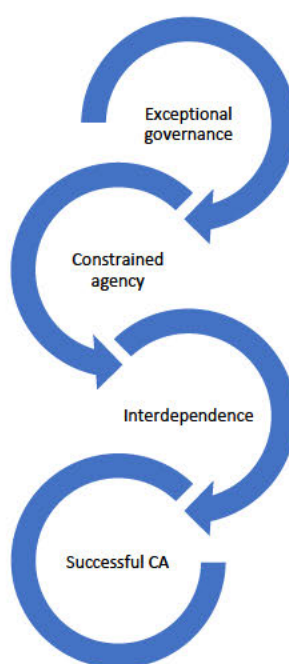
Collective action outcomes in the six study locations follow a linear chain of causal dependence. Figures 6.2 and 6.3 are used as heuristic guides to understanding the mechanisms through which CA occurs. In other words, these heuristic guides do not claim to quantitatively measure definitive causation, but rather to suggest a causal mechanism of the ways in which EG impacts CA. Ultimately, this type of a linear

²⁴⁹ Note Coe and Jordhus-Lier (2011) refer to *labor* agency.

representation of causal mechanisms is a simplified representation of a vastly more nuanced story. While it is a simplified representation, it is nevertheless useful in the analysis of the study findings.

As delineated throughout Sections 5.2 and 6.3, CA outcomes are more successful in villages under more acute EG conditions. Evidence of this emerged as a repeated theme in the results. In other words, a *pattern* in the results became apparent, which can best be captured via this linear causal chain:

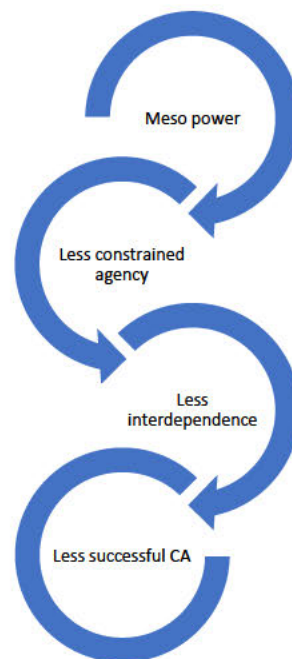
Figure 6.2: Causal mechanism chain of exceptional governance and collective action outcomes in Area C villages



By virtue of the acute EG conditions in Area C villages, macro power structures predominantly characterize the landscape of power in these locations. While this does not entirely preclude the existence of meso power structures in these villages—i.e. the PA, PWA, municipalities, and village councils still operate in Area C villages, albeit with much less control than in Area A villages—it severely constrains the power wielded by

meso-scale bodies. As outlined in Chapter 3, this is due to the administrative control that Israel wields in Area C villages. This power acutely constrains the agency of community members—specifically the agency of CPR users. Constrained agency in turn facilitates a recognition of interdependence amongst CPR users—i.e. users recognize the necessity of depending on each other, due to a lack of alternatives. This recognition leads to higher levels of reciprocity, which in turn leads to more successful CA outcomes.

Figure 6.3: Causal mechanism chain between exceptional governance and collective action outcomes in Area A villages



In contrast to Area C villages, Area A villages face less acute exceptional governance conditions, which, for comparative analysis purposes is referred to as minimal EG. This means that the landscape of power in Area A villages is predominantly characterized by meso-level structures. It is important to reiterate that the power wielded by meso-level bodies is ultimately not sovereign power—and is perpetually

overshadowed by macro-level structures. The consequence of this is that Palestinians—whether CPR users or governmental actors—do not have full control over water resources in the West Bank. However, for comparative analysis purposes, this study posits Area A villages as characterized by meso-scale power, without precluding the existence of macro power structures. The presence of meso power structures facilitates a context within which agency is less constrained than in Area C villages. This fosters the provision of choice—whether real or perceived—amongst CPR users. Choice in this context is in respect to the (real or perceived) freedom to develop alternative freshwater sources. In other words, Area A users believe that the PA and PWA have the freedom and authority to drill boreholes to harvest groundwater as additional sources of freshwater for irrigation. While many of the CPR users do not benefit from this alternative, participants consistently discussed this possibility. This in turn leads CPR users in Area A to believe they are no longer interdependent as a community of users, but rather dependent on meso power institutions—irrespective of how disgruntled the former may be with the latter. While these CPR users believe the PA has *authority*—and thus has the capacity to change their conditions—they are disgruntled because the PA does very little for them. This lack of perceived interdependence has eroded reciprocity amongst CPR users. Ultimately, this has consistently led to *less successful* CA outcomes.

6.3.1 Influence of Collective Action Indicators

Table 6.2: Influence of collective action indicators on collective action outcomes

	Area C Villages			Area A Villages		
	C1	C2	C3	A1	A2	A3
Integrity of property rights	--	None	----	--	-	-
Origins of CA	+++	++	+++	+	++	++
Formalization of institution	++	N.D. ²⁵⁰	++	N.D.	N.D.	N.D.
Complexity of distribution system	++	+	+	----	+	N.D.
Formalization of rules	+++	+++	++	----	+	+
Defection policies	+++	++	None	N.D.	+++	----
Co-management	+++	+++	+++	----	-	-
Summary	+++	+++	+++	----	-	-
Trust and reciprocity (insiders)	+++	+++	+++	±*	+++	±*

Source: Tables 5.5, 5.6, and 5.7

KEY:

+++ : very strong positive effect ; ++ : strong positive effect ; + : moderate positive effect.

-

-- : very strong negative effect ; - : strong negative effect ; - : moderate negative effect.

±±± : very strong (mixed) effect ; ±± : strong (mixed) effect ; ± : moderate (mixed) effect.

*Mixed responses indicate reluctance to reveal discord, while also indicating a conflicted portrayal of discord—i.e. both denying and asserting the existence of intra-community discord.

The results vis-à-vis property rights indicate that their integrity is compromised commensurately across C and A villages—albeit with variegated drivers. Area C villages experience compromised property rights within a context of macro power, specifically the direct effects of EG. Commensurately, Area A villages also experience compromised property rights, however it is within a context of meso power—specifically, co-management arrangements (see Section 6.4).

Village C1 results (see Table A6.1) illuminate that the integrity of CPR property rights is compromised vis-à-vis the operational rights *access* and *management* via constant and intermittent EG policies, namely the establishment of a closed military zone

²⁵⁰ N.D.: no data. Due to travel restrictions, follow-up questions with research participants could not be made; hence the data gaps.

around their reservoir. Village C3 results (see Table A6.3) illuminate that the integrity of CPR property rights is severely compromised vis-à-vis the operational rights *access* and *management* via constant EG policies: the bans on altering and maintaining their CPR, as well as the substantial reduction in spring flow due to Israeli pumping of groundwater. Battir (Village C2) is the exception to this pattern within Area C study locations: it is the only location in which CPR property rights are not compromised—i.e. their access, withdrawal, management, and exclusion property rights have not been affected.

As aforementioned, results from Area A study locations illuminate a commensurate pattern in CPR property rights. Village A1 results (see Table A6.4) illuminate that the integrity of CPR property rights is considerably compromised vis-à-vis operational (i.e. *access* and *withdrawal*) and collective choice (i.e. *management* and *exclusion*) rights via co-management arrangements. This takes the form of the municipality exercising physical control over Village A1's CPR, as well as over its distribution—whereby CPR users' *access*, *withdrawal*, *management*, and *exclusion* rights have been negated. Villages A2 and A3 have identical results apropos co-management arrangements, as they fall within the jurisdiction of the same municipality. Thus, results from villages A2 (see Table A6.5) and A3 (see Table A6.6) illuminate that the integrity of CPR property rights in both locations are compromised vis-à-vis the operational rights *access* and *withdrawal* via co-management arrangements. As in Village A1, this takes the form of the municipality exercising physical control over the CPRs in villages A2 and A3—whereby the respective CPR users' access and withdrawal rights have been negated. The effects of meso power—one manifestation of which is co-management—is similarly salient but are discussed in Section 6.4 in the analysis of power results.

6.3.2 Trust and Reciprocity

While the perception of intra-community trust and reciprocity amongst “outsiders” to each CA institution are variegated, this is not the case vis-à-vis “insiders”. Rather, CPR users across the board (with one exception in Battir) expressed unitary perceptions of trust within each respective CA institution. In villages C1, C2, and C3, all CPR users portrayed trust and reciprocity as being pervasive in their CA institutions. In fact, the trust and reciprocity are perceived to be the underlying forces of cohesion amongst each respective Area C community. While trust and reciprocity are less prevalent in Area A villages, portrayals of intra-community relations are consistent within each group of participants—i.e. all participants within a given village express the same perceptions of intra-community relations. However, Village A2 is the only village amongst Area A study locations that demonstrates trust amongst insiders. Additionally, the perception of trust within Village A2’s CPR community is echoed by study participants who are outsiders.

Insider (CPR member) participants from villages A1 and A3 also each had unitary responses, albeit less positive than Village A2 and all C villages. Rather, CPR users within villages A1 and A3 expressed mixed attitudes: all participants demonstrated an initial reluctance to disclose discord, but then went on to do so. In other words, the insiders in A1 and A3 all portrayed mixed attitudes towards intra-community relations; this was marked by an initial positive attitude early in our interactions, followed by demonstrations of some negativity in their attitudes once I had established rapport with them. This pattern indicates a reluctance to outwardly ²⁵¹ portray discord— notwithstanding all participants’ perception of this discord. In sum, each CPR

²⁵¹ i.e. to me as a researcher, or an “outsider”.

community—including those of villages A1 and A3—demonstrate *internal consistency* in their portrayal of intra-community trust and reciprocity.

6.3.3 Path Dependence

This section has two aims vis-à-vis the six study locations; it attempts to uncover:

- (i) the role of path dependence in CA institutions; in particular, whether—and if so, how—strong path dependence precludes successful CA outcomes; and
- (ii) whether—and if so, how—path dependence is variegated in accordance with geopolitical zoning. In other words, it seeks to understand the effects of EG conditions on path dependence, by comparing the latter between Area A and Area C villages.

6.3.3.1 Path Dependence: Area C Villages

Village C1:

Village C1 demonstrates the weakest path dependence out of all six study locations. Due to the formalization of their CA institution—including a formalized accounting system—C1 has the institutional capacity to generate revenue that can be allocated to implement smaller-scale projects (as outlined in Section 5.2.1, larger-scale projects require external financial support). In addition to the capacity to fund and implement projects, Village C1's co-op has a formal institutional structure with formal positions, the existence of which provide clear guidelines on the division of labor. It is important to keep in mind that Village C1's CA institution was organically established as a co-op for irrigators in the area; accordingly, development and progress are part of the co-op's vision and trajectory of growth. In other words, the way in which the co-op was established, the purpose it was established to serve, and its constant push for

growth²⁵² (including seeking external funding on multiple occasions), are all factors intrinsic to the CA institution that explain weak path dependence.

In assessing path dependence in Village C1, a number of salient changes made to the CA institution can be identified between the years █████ and 2017 (the end of data collection in Village C1)—which comprise substantial evidence for Village C1’s weak path dependence. The evidence that pertains to the *irrigation system* include the following:

- (i) constructing open canals to irrigate crops²⁵³ concomitant with the drilling of the first groundwater borehole █████;
- (ii) installing²⁵⁴ a reservoir to collect pumped groundwater and a network of pipes for distributing the water to the CPR users █████;
- (iii) acquiring funding²⁵⁵ for a second reservoir █████;
- (iv) installing water gauges on the borehole pumps, as well as on each irrigator’s property to measure their respective water usage and curtail defection; and
- (v) adapting the distribution system to accommodate CPR users affected by the changing geopolitical conditions by serving villages on the other side of the Seam Zone.

The evidence of weak path dependence that pertains to the *cultivation system* include the following:

²⁵² The terms “growth” and “development” are used in a generic sense to denote progress vis-à-vis their irrigation and cultivation methods; they are *not* intended to denote the meanings of these terms as used in the economic development literature.

²⁵³ While this was not a change to the CA institution per se—as it coincided with the establishment of the CA institution—it does mark a change in the type of irrigation used in the valley. Prior to this, orchards and crops were rainfed. These included tomatoes, okra, wheat, barley, and *nigella sativa* (commonly referred to as black seed). After drilling the borehole and constructing the canals, “people [began to] cultivate oranges, citrus, stone fruit, and some would grow *Nabali* olives” (Coop Leader 1, Recording #25).

²⁵⁴ It is important to note that the co-op covered the full costs of this project, which amounted to █████ JDs.

²⁵⁵ The co-op covered \$ █████ of the total costs, while █████ covered the remaining costs (\$ █████).

- (i) introducing cultivation with plastic coverings²⁵⁶, thus multiplying the crop yield: *“around 1969, people managed to get the ground plastics; they had small arches and they would plant rows of crops under the plastics, like small ground tunnels”* (Coop Leader 1, Recording #25);
- (ii) using *“another kind of greenhouse; not a high one but a medium height. It was made of half a bow stabilized in the ground by cement or bases dug up without cement”* (ibid)—the following decade;
- (iii) introducing full-sized greenhouses²⁵⁷ that *“have windows and ventilation”* (ibid);
- (iv) installing electricity infrastructure to electrify the cultivated valley [REDACTED].

It is clear that there has been a fairly consistent effort to develop and adopt modern methods of cultivation and irrigation in Village C1. In addition to this demonstration of weak path dependence within the context of the CA institution, in its earliest days, the co-op also led by example within the context of the village—i.e. amongst cultivators in the village who are not co-op members. Coop Leader 1 explains that [REDACTED] other wells were drilled in the cultivated valley in the early [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The co-op leaders describe their grandfather as having a “generous” spirit (Coop Leader 1, Recording #24), demonstrated through “feeding people” (ibid). He also purchased a tractor [REDACTED] [REDACTED]” (Coop Leader 2, ibid), which served as the precursor to his initiative of drilling a borehole— [REDACTED]. This CA institution was thus borne out of an initiative taken by two individuals who sought to generate a collective resource for

²⁵⁶ This is the precursor to fully developed greenhouses.

²⁵⁷ “With dry farming [i.e. rainfed cultivation], a dunum used to produce half—to a maximum of one—ton of vegetables; it increased with the ground plastic and ground tunnels; it doubled with the medium tunnels; and now with the high ones, it produces seven tons per dunum” (Coop Leader 1, Recording #25).

²⁵⁸ Each of these wells is considered to be a private “company” with multiple owners, who are also irrigators.

their community. In addition to proposing and implementing this model of resource management, they provided the land and some of the start-up capital (e.g. the tractor) to build the co-op, drill the borehole, and begin to harvest groundwater.

Village C2:

Institutional path dependence is particularly noteworthy in Battir (Village C2), where the cultivation and irrigation systems have been preserved for centuries. In fact, their preservation was noted and internationally celebrated when UNESCO declared it a World Heritage Site in 2012. In contrast to Village C1, the preservation of institutional arrangements in Village C2 include those that pertain to their ancient irrigation system, as well as their cultivation system. The characteristics of the *irrigation* system include:

- (i) the Roman aqueducts;
- (ii) using the *ma'adud* to measure the daily CPR stock in the reservoir;
- (iii) the open dirt canals;
- (iv) redirecting water flow via a makeshift barrier;
- (v) using flood irrigation method.

Similarly, the characteristics of their preserved *cultivation* methods include:

- (i) the stone-wall terracing descending down the cultivated hill;
- (ii) using pointed hoes; and
- (iii) cultivating without the use of modern techniques.

The preservation of these systems is consistently expressed as a source of pride amongst participants—CPR users and other villagers, alike. A female cultivator explains that the *ma'adud* “*is from the 1920s or 1930s; this is a tradition*” (Female Farmer, Recording #1'). Another female participant, who is a prominent figure in the community, explains

the continued use of the *ma'adud* “*is because they are used to it; they do not want to change it. And it's an accurate method*” (Female Elder Leader, Recording #6).

In fact, the maintenance of traditional irrigation practices is perceived as the only viable way to sustain agricultural activity. ██████ assert the reason installing a drip irrigation network would not be viable is due to the EG restrictions placed on them: “*drip irrigation bi'imesh*²⁵⁹” (Male Farmer, Recording #1’); “*drip irrigation needs a pool...each one [i.e. cultivator] has to take their share of water first, then put it in their own pool, then do the drip irrigation whenever they want to water*” (Female Farmer, *ibid*). As outlined in Section 5.1, due to Israeli restrictions in Area C lands, the CPR users are not allowed to build reservoirs on their private lands to store water that can be used at any time they choose to irrigate. Similarly, they are not allowed to harvest rainwater or dig boreholes to harvest groundwater. The absence of individual reservoirs renders drip irrigation infeasible because this system requires the water to be pressurized. The infeasibility of installing a drip irrigation system is compounded by insufficient space: the cultivated valley has been divided multiple times over generations, rendering each *mashkabe* too small to accommodate reservoirs. These limitations have not prevented villagers from attempting to adopt new methods of irrigation; one “*young man used water tanks and drip irrigation, but [the water] was not enough*²⁶⁰” (Youth Leader, Recording #29). This unsuccessful attempt does not amount to a break in Village C2’s institutional path dependence. Unlike Village C1, such attempts lack the support provided by the landscape of their cultivated valley; the restrictive landscape is

²⁵⁹ This word, a colloquial term that is more common in village parlance, cannot be precisely translated—i.e. any translation will inevitably erase its nuance. However, the most accurate translation is that the water is scarce, or insufficient. A more literal translation is that “it does not sufficiently spread”.

²⁶⁰ As outlined in Chapter 5, drip irrigation requires greater water pressure. This in turn, requires greater amounts of water as a stock.

compounded by the division of land into small plots, which contributes to rendering modernization less likely.

Notwithstanding this distinct institutional path dependence, one elder participant provides some historical context for the trajectory of cultivation in Battir (Village C2). After 1967, “*many villagers left farming and went to work in the construction industry in Israel*” (Female Elder Leader, Unrecorded #4). There are a couple instances of efforts to enhance their CA institution, but these do not amount to a significant break in path dependence. These include the renovation of the reservoir in the 1940s—whereby the CPR users paved the inside of it with cement to reduce water loss—as well as the externally-funded project of enclosing a segment of the network with pipes and installing a filtration system. The negative attitudes toward this project—based on its very briefly-lasting positive impacts, which, due to lack of upkeep, eventually ended up turning into negative impacts—are extended to all changes to their CA institution. As Female Renter expresses, “*we do not want new ways; we want to stay with the old heritage/tradition, but some fixing is needed. Otherwise, it is good*” (Female Renter, Recording #5).

As outlined in Chapters 4 and 5, Hassan Mustafa made significant contributions to the CA institution and the overall culture of co-operation in Battir. Unlike Village C1, where a change agent in the community provided land and capital to establish the CA institution, Hassan Mustafa exercised agency by mobilizing the community and encouraging communal values within Battir. Rather than providing the resources for rehabilitation²⁶¹, Mustafa implored each family to contribute to renovating the area around the point of emergence of their CPR as well as the canals and reservoir. He inspired the diffusion of these collective values as a leader in his community, enhancing

²⁶¹ Except for the reservoir.

the already well-established CA institution. Due to discrepancies in participants' accounts of this history, it is unclear whether Mustafa introduced anything new to their CA institution. What is clear, however, is that the co-operative culture, while still noticeably present in the village, is not as prevalent as it once was.

One participant notes the shift in their co-operative culture: reciprocity dwindled *“in the 1990s [when] things started to change...interests, jobs, people leaving agriculture. Life used to be much simpler”* (Youth Leader, Recording #28). The only collective activity the villagers have maintained is cooking a wedding meal: *“if we have a wedding, not only the friends of the groom²⁶² come to help, but everyone does; they do not hire cooks...we cook together”* (ibid). Aside from this example, the participants express a sense of loss—and in some cases, dismay—over the erosion of their co-operative culture, which once permeated many aspects of their lives. Thus, while the CA institution has remained largely unaltered, this is not entirely the case vis-à-vis the larger context of village life.

Village C3:

Village C3 is the only village in the study that formalized its CA institution in response to increasingly acute EG conditions. Accordingly, it demonstrates weak path dependence in its CPR management. The cultivators in this community rely upon three springs, two of which are privately owned. The remaining spring, located on public land, was historically common property²⁶³, owned by a group of users from [REDACTED] families. While the irrigators began to experience restrictions with the implementation of the of Oslo

²⁶² Tradition dictates that the groom's family covers the costs.

²⁶³ Another public spring in the valley is located on public land [REDACTED]

Accords, and the subsequent designation of their cultivated valley as a protected nature reserve, this formal beginning of “exceptional governance” did not usher in a dramatic change in their conditions. It was not until [REDACTED], when their CPR flow diminished, rendering their once-abundant resource now a scarce one. Prior to this freshwater shortage, the CPR users were able to irrigate their orchards and crops in accordance with trees’ and crops’ water requirements. Once faced with spring flow shortages, however, the CPR users formalized their co-operative management system, *demonstrating their capacity to adapt to changing geopolitical conditions*. Recognition of their need to change how they managed their CPR is the most notable demonstration of how breaking their path dependence was required for the survival of their agricultural activities—although, as outlined in Section 5.2, none of the participants rely upon agriculture as their sole source of income.

6.3.3.2 Path Dependence: Area A Villages

Village A1:

Path dependence in Village A1 is relatively weak—as is the case in villages C1 and C3—but demonstrates the opposite trend to Villages C1 and C3, which demonstrate a push for progress and adaptation, respectively. In other words, the changes made to the CA institution in Village A1 did not enhance their CA outcomes. Rather, co-management arrangements directly led to an erosion of their CA institution. The introduction of co-management also led to a weakening of path dependence. The research participants from Village A1 depict their CA institution as being favorable just [REDACTED] years prior to the time fieldwork was conducted in October-November 2017. [REDACTED] years prior “*was [the time when we had open] canals; you filled your pool, then you irrigated. Now the water is*

*weak because of mismanagement from the distributors and the municipality...now [with the piped network] you do not know where the water is going*²⁶⁴ (F, Recording #16).

The change in institutional arrangements—i.e. the introduction of co-management arrangements—also had the effect of altering the open access status of the CPR for villagers, tourists, and shepherds as a source of drinking water. Enclosing the point of emergence behind municipality-built walls, along with an around-the-clock guard, eliminated the operational property rights of access and withdrawal. Thus, the break in path dependence, which occurred in [REDACTED], had a negative impact on their CA institution.

Village A2:

Similarly, the CPR community in Village A2 experienced a break in their institutional path dependence with the introduction of the co-management arrangements in [REDACTED]. While Village A2 has co-management arrangements that grant the municipality less control than the arrangements in Village A1, it nevertheless had negative impacts on their CA outcomes. Some of these problems, described as “chaos” (OF, Unrecorded #12), include people “*not paying for water*” (ibid); water theft; and the village council²⁶⁵ selling some of the spring water to the PA. It is important to note that Village A2 irrigators observed Village A1 upgrading their irrigation network from open canals to a piped one, deeming it to be a cautionary tale of the deleterious effects of modernization. Speaking about CPR users in Village A1, M asserts, “*they wish they could go back [REDACTED] years, to when they used canals...the A1 Spring used to be sufficient for all of Village A1,*

²⁶⁴ The underlined segment of this quote was already inserted in Chapter 5, p.181. Its repetition here provides context to the first segment of the quote.

²⁶⁵ During the first round of field visits to Village A2 in May 2017, the village council had not yet been upgraded to municipality status. By the second round of field visits in October-November 2017, it had become a municipality.

it's orchards, everything. Now it is not even sufficient for drinking" (Municipal Official, Recording #18).

Path dependence is strongest vis-à-vis property rights arrangements, wherein land and water proprietorship have not undergone considerable changes. Large landowners still characterize the landscape of ownership and proprietorship, whereby historically semi-feudal families, and churches²⁶⁶ still hold ownership over most land and water shares in Village A2. Thus, path dependence vis-à-vis proprietorship arrangements is strong, while path dependence vis-à-vis management arrangements is weaker.

Village A3:

Village A3 has the same co-management arrangements as Village A2, as they are co-managed by the same municipality. Thus, the effects of the introduction of co-management arrangements are the same on the path dependence of both CA institutions—notwithstanding the fact that the respective institutions differ greatly. Prior to co-management, the CPR users collectively funded maintenance of their resource: *"in the past, they used to collect money from the cultivators...based on his quantity [i.e. based on their respective water shares]; so they collect the money and fix the damage or clean it"* (Municipal Official, Recording #18). As is the case in Village A2, CPR users in Village A3 are adamant about not repeating what they deem to be missteps taken by their counterparts in Village A1. Over the two rounds of field visits in April-May 2017 and October-November 2017, participants in Village A3 consistently expressed their antipathy to modernizing their irrigation system²⁶⁷.

²⁶⁶ Greek Orthodox and Coptic churches.

²⁶⁷ Note that they are not opposed to change and modernization in general; rather, they are opposed to modernization of their *irrigation system* insofar as there is a lack of transparency—and negative effects on water availability.

While they express their antipathy to modernization of their irrigation network—in order to maintain transparency—“*there is development in cultivation [methods] ...they used to cultivate by gravitational flow without hoses or pipes; some people install computers now as a timer to open and close the postarat²⁶⁸*” (ibid). Another way in which Village C3 CPR users have broken institutional path dependence is in their shift from cultivating crops with low saline resistance to crops with higher resistance. This shift is a demonstration of an adaptive farming practice, which was first introduced to them by a cultivator and agricultural engineer who eventually became the head of a local development NGO. According to Date Palm Farmer, he was the first to cultivate date palm trees in the Jordan Valley, which have a high saline resistance and are thus able to withstand the increasingly saline groundwater. While Date Palm Farmer solely uses the spring water for irrigation, he nevertheless followed this lead and converted his entire farm to cultivate date palm trees. Date Palm Farmer explains that international organizations educated farmers on how to introduce this new tree to their agriculture, and facilitated implementation of the shift by “*distributing date palm*” (Date Palm Farmer, Recording #15) to the cultivators.

6.3.3.3 Comparison of Institutional Path Dependence in Area C and Area A Villages

While path dependence characterizes all six study locations, each village demonstrates a different historical trajectory vis-à-vis their respective CA institutions. For some—particularly villages C1 and C2—their historical narrative is an important one; while neither of these communities has engaged in historiography of their commons,

²⁶⁸ Due to travel restrictions, I am unable to ask research participants follow-up questions, including the exact translation of “*postarat*”; it is either a culver or a gate.

the research participants from both villages emphasized the significance of their respective histories, demonstrating a pride in being part of a community of irrigators. Notwithstanding this pride, Village C1 participants demonstrate the weakest path dependence, as they continually adopt new methods of cultivation—and most notably, upgrade and expand their irrigation system. Village C3 participants also demonstrate a pride in their co-operative system, and explicitly assert a commitment to remaining on the land, irrespective of the economic viability of cultivation with insufficient water. The CA institution in Village C3 is unique amongst Area C study villages vis-à-vis its historical trajectory, which is a threefold phenomenon:

- (i) it is the sole study village that formalized its CA institution in response to the increasingly severe *direct* effects of EG;
- (ii) its formalization of CA is the most recent out of the three Area C villages; and
- (iii) unlike villages C1 and C2, whose CPR users are mainly—if not entirely—dependent on agriculture for their means of survival, none of Village C3's CPR users are solely dependent on agriculture, as the depletion of their CPR has rendered agriculture an insufficient means of survival.

Area A villages demonstrate distinctly different trajectories from Area C villages—however their *intra-area* differences are not as distinct. All three Area A villages have had their path dependence broken by the introduction of co-management arrangements, whereby municipalities have taken a central role in distributing the spring water to the CPR users but have also taken a portion of spring water for domestic distribution. Village A1 has experienced the greatest erosion of their CA institution, with the earliest introduction of co-management arrangements, the terms of which were ultimately not honored. The failed co-management was compounded by corruption within the municipality, further compromising CA outcomes, but also breaking path

dependence. Villages A2 and A3 experienced the introduction of co-management arrangements simultaneously, as they were initially served by the same village council, and then eventually by the same municipality. While this introduction has weakened the path dependence in these two villages in general, it has not altered their CA institutions—or their respective path dependencies²⁶⁹—as considerably as it has in Village A1. While the research results uncover a number of differences between Villages A2 and A3 that underlie the more successful CA outcomes of the former, path dependence between these villages is not variegated. Just as in Village A2, property rights regimes have not changed in generations. Date Palm Farmer, a middle-aged farmer, states “*we were born and found it [i.e. separate land and property ownership] like this*” (Date Palm Farmer, Recording #13).

6.4 Analysis of Power Results

The following section is organized as follows: the first section (6.4.1) analyzes power at the meso scale, wherein the effects of co-management on the three Area A villages are presented via a heuristic diagram; the second section (6.4.2) analyzes the third dimension of power within all three study locations (note that the third dimension of power permeates all three scales of power)—as well as instances of counterfactuals to the third dimension of power; and finally, the last section (6.4.2.1) presents contradictions in participants’ responses, which complicate the overall analysis. It is important to restate that although these results are presented and analyzed in separate

²⁶⁹ Note the distinction between path dependencies in the villages in general versus path dependencies vis-à-vis the CA institutions in particular.

sections, power at the various scales operates synergistically, whereby each level reflects and reinforces the others.

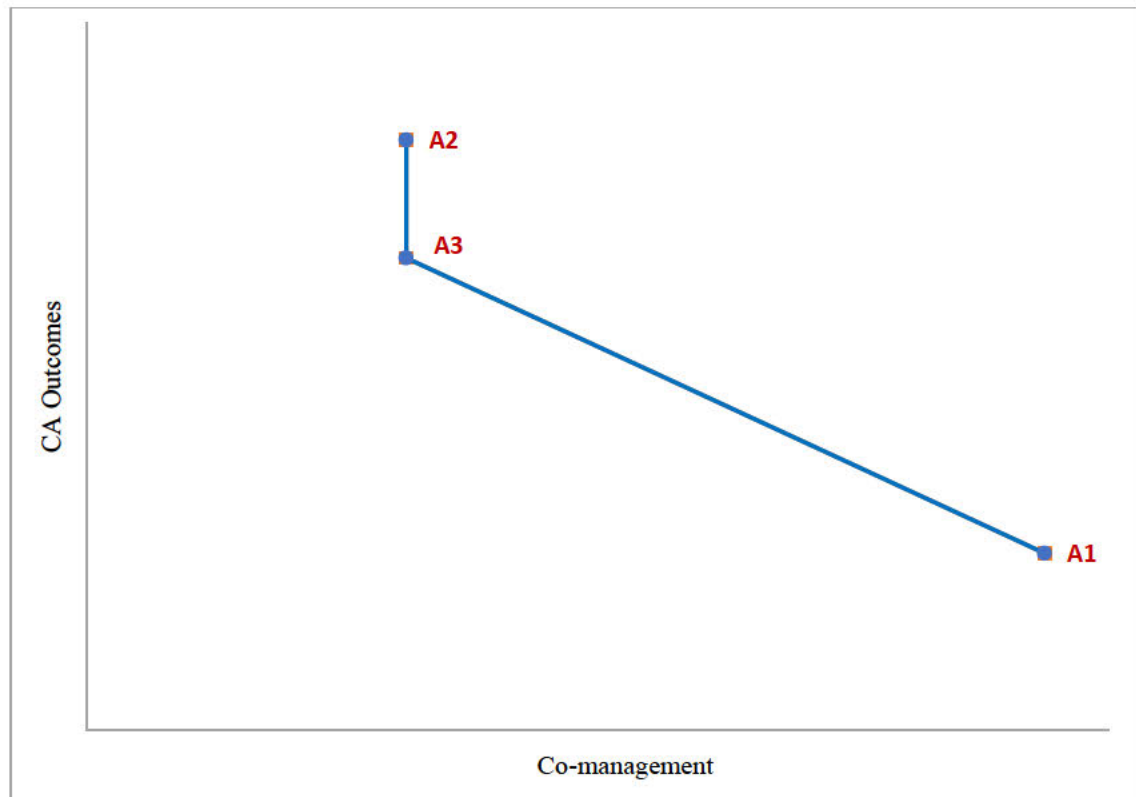
6.4.1 Meso-Scale Power

While power has been analyzed at the micro and macro scales, it is important to not lose sight of the ways in which meso-scale power shapes CA outcomes. Co-management has similar—although less severe—effects on the integrity of the CPR operational (access and withdrawal) and collective choice (management and exclusion) property rights. In effect, macro power is replaced, to a large extent, by meso power in Area A villages. However, this parallel is not drawn by any of the study participants. This is because meso power *conceals* macro power—the latter of which is present, albeit in less conspicuous forms and with less intensity. This is reflected in the results, whereby participants believe they have more freedom due to the presence of meso power structures, which take the guise of state-like institutions. While this belief is not entirely inaccurate, it is arguably exaggerated. One instance of this is the belief that they can extract groundwater at very deep levels beyond 150m: the levels asserted range from 300m-400m to 1,000m (Village A1 participant: Elder A1, Unrecorded #10).

As represented in Figure 6.4 below, the level of co-management in villages A2 and A3 is the same, as both CPRs are co-managed by the same municipality. Notwithstanding the shared co-management arrangements—which compromise the integrity of the operational property rights of access and withdrawal—CA outcomes in Village A2 are more successful than in Village A3. This is due to three factors: the smaller community of CPR users; the more homogenous group of users, who are all natives of the village; and the greater levels of trust and reciprocity amongst users—

which in turn facilitates more effective implementation of rules (manifesting as the lack of defection). Conversely, Village A3 has a larger community of CPR users, who are less homogenous due to the presence of internally displaced people from 1967 (*naziheen*), viewed as “outsiders”. These factors, in turn, have led to lower levels of trust and reciprocity amongst CPR users, and the concomitant failure of rule implementation (manifesting as the prevalent problem of spring water theft). Village A1 has the most invasive co-management arrangements, whereby the integrity of CPR property rights is rendered the most compromised out of all three Area A villages. This includes not only the operational property rights of access and withdrawal, but also the collective choice right of management. This has also rendered CA outcomes the least successful out of the Area A villages. The lack of successful CA in Village A1 can also be attributed to the breakdown of the users’ WUA in [REDACTED] as well as the municipality’s failure to uphold the terms of the agreed-upon co-management arrangements. The latter manifests as multi-faceted corruption: the lack of transparency; the opening of [REDACTED] hydrants (only [REDACTED] are authorized to serve the CPR irrigators); the unauthorized appropriation of CPR water for domestic purposes; and the co-optation of *qanawatis* tasked with water distribution to the irrigators via widespread bribery. Accordingly, co-management has a negative effect on CA outcomes, whereby *more extensive co-management arrangements render CA less successful*. This inverse relationship between co-management arrangements and CA outcomes is represented by the heuristic diagram in Figure 6.4 below:

Figure 6.4: A heuristic relationship between co-management arrangements and collective action outcomes in Area A villages



As outlined above, one of the most salient findings is the pattern of effects of meso-scale power on CA outcomes. In fact, this is arguably the most salient finding, for the following reasons: firstly, it represents one of the ways in which the first study hypothesis—which posits that EG (macro-scale power) conditions foster CA—is partial, or not exhaustive. Secondly, not only does meso power replace macro effects apropos the integrity of property rights, but they *conceal* this—i.e. meso-scale bodies set up a guise of playing a facilitative role through upgrading the network, and taking control over distribution and maintenance (repairs and cleaning).

It is important to note that through co-management arrangements, municipalities have secured funding for, and overseen, the modernization of the respective irrigation networks. However, while this facilitative role may reduce some of the burdens of financing maintenance costs, it in fact compromises the integrity of property rights. Thus, in addition to the mere presence of the PA and the geopolitical zoning as Area A, it contributes to concealing conditions. It does so by *rendering the effects of power non-tangible or non-discernable—thus reproducing and reinforcing the third face of power*. This reflects Lukes’ conceptualization of the third face of power—as akin to the Marxist construct of “false consciousness”²⁷⁰. In other words, it reifies the third face of power.

6.4.2 Third Dimension of Power

While the third dimension—or third face—of power is more elusive than the more tangible forms of power (i.e. the first and second faces), its operationalization has nevertheless produced rich data that informs this analysis. This section provides a comparative analysis of the third face of power in the six study locations, the results of which were presented in Section 5.3.2. These results illuminate the discrepancies between Area C and Area A villages, whereby the third dimension of power permeates the latter more effectively. This is also apparent in the greater prevalence of power counterfactuals in Area C villages, as discussed below. Notwithstanding power counterfactuals, the results show a pattern of power normalization in each group of study villages.

²⁷⁰ As stated in Chapter 2, Lukes draws parallels between the third face of power and the Marxist concept of false consciousness.

Power “counterfactuals” comprise instances in which the third face of power is actually not effective—i.e. when participants display an awareness of the complex ways in which power operates. While the study results indicate the prevalence of the third dimension of power throughout all six study locations, they also indicate the presence of counterfactuals. The existence of counterfactuals to the third face of power can be distilled as follows:

- (i) notwithstanding the presence of counterfactuals in all study locations, there is a *pattern* of counterfactuals in Area C villages that is not present in Area A villages;
- (ii) counterfactuals are nevertheless tempered by the effective workings of the third face of power;
- (iii) the presence of counterfactuals in all six villages correspond to the severity of EG conditions; and
- (iv) the pattern of counterfactuals in Area C villages runs parallel to that of the effects of EG conditions on CA outcomes (see Figure 6.5 below).

Village C1 participants demonstrate a notable breadth and depth of awareness of the workings of meso and macro power. This awareness specifically revolves around the domination practiced by macro power bodies. In particular, the co-op leaders demonstrate an awareness of the effects of EG conditions and provide tangible illustrations of its manifestations. Accordingly, macro power is not normalized vis-à-vis a lack of awareness, but rather its normalization lies in *how* the participants relay these manifestations. In particular, the ways in which they relay the examples of militarization of their water resource—i.e. an instance of EG—is often through apathetic language. This apathy amounts to a normalization of the militarization of their water resources—a situation that is not conventionally considered to be normal or typical²⁷¹. Their awareness

²⁷¹ The only scenario in which this is acceptable under IHL is for *temporary* security purposes under a *temporary* military occupation.

also revolves around the inefficacy of meso power bodies, as well as the lack of accountability for meso power actors' failings. Despite their awareness of the PA's inefficacy and lack of accountability, the participants nevertheless normalize these failings. This normalization takes the form of an apathetic acceptance of a lack of good governance on the part of governmental institutions—whereby the PA should function as a state-like entity, in a manner that serves the CPR users and their broader communities. This normalization also takes the form of a readiness to serve these meso power bodies via water provision from their CPR—i.e. there are multiple instances in which Village C1's co-op offered to provide groundwater to the PA to serve other communities' water needs.

Battir (Village C2) participants demonstrate similar awareness vis-à-vis the workings of meso and macro power. Despite these notable displays of awareness, the third dimension of power is the most complex in Battir. This primarily manifests as an assertion of no direct EG effects on their CPR. As outlined in Section 6.4, the complexity also manifests as an amalgamation of critiques of power (i.e. power counterfactuals) and of contradictory statements that undermine these critiques. It is important to reiterate that while the denial of EG effects on their CPR amounts to a demonstration of the third face of power, it is also plausible that this can be explained instead by inter-generational discrepancies in knowledge. As outlined in Chapter 5, this is demonstrated in the contradictory perceptions of whether the CPR flow has been directly affected by EG, whereby an elder participant asserts it has, and a younger participant claims the opposite. Due to data access issues outlined in Chapter 4, a conclusion cannot be drawn until the responses can be triangulated with official longitudinal spring flow data.

Village C3 participants demonstrate an awareness more akin to Village C1 participants, albeit more prevalent and pronounced. Village C3, which experiences the most acute EG effects on CA, demonstrates the greatest awareness of the third face of power. Note that, as summarized in Table 6.1, the effect of EG on Village C1's CPR (classified under "indicators endogenous to their CA institution") is specified by two negative signs (— —), whereas the effect on Village C3's CPR is specified by three negative signs (— — —). This display of the highest level of awareness of power amongst Village C3 participants amounts to the strongest power counterfactual amongst Area C villages. *Ironically, the strongest demonstration of a power counterfactual does not preclude normalization of power—i.e. participants who demonstrate the strongest awareness of power nevertheless normalize this power—particularly macro scale.* This irony is a testament to the complexity and effectiveness of power as it operates on a cognitive level. A notable example of this is the awareness of de-development policies (in the form of confiscation of their water resource) and the overall effects of macro power on their CPR—while simultaneously normalizing the presence of settlers, who are used as pawns in the implementation of the de-development policies of land and water confiscation.

In contrast to Area C villages, Area A village participants demonstrate a pervasive resignation to the status quo. In Village A1, participants believe they have very little power; they are resigned to the idea that resistance to the status quo is futile. Village A1 participants reveal a concomitant—in fact, an inextricably linked—belief that meso power bodies should be responsible for the provision and management of resources, thereby precluding their own agency; *by deeming "state" institutions responsible for*

their CPR, they are in effect disempowering themselves. This belief is so prominent that it precludes their attempts to push for change.

Village A2 participants display mixed effects of the third face of power. It is the only village in the Area A group that displays evidence of normalization of macro power, which manifests as the internalization of Israeli state security language. As outlined in Section 5.3, one participant frames de-development policies as amounting to security measures, a common trope used by the Israeli state and military to justify these policies. Conversely, meso power is not normalized in the same way as macro power is. This is evidenced by the critique of meso power bodies as ineffective and lacking mechanisms of accountability.

Village A3 participants demonstrate the strongest evidence of the effectiveness of the third dimension of power. Akin to their counterparts in villages A1 and A2, these participants view themselves as incapable of challenging the status quo—and are thus resigned to it. As in all the above-outlined instances, the contradictions in Village A3 participants' understandings of power reflect the complexities of the ways in which the third face of power operates. This is most notable vis-à-vis a context of micro-scale power (i.e. power structures and dynamics at an intra-community level)—whereby “outsiders” express a duality in their attitude towards the status quo. In other words, they view the status quo as favorable, yet simultaneously express resentment towards the lack of accountability—particularly vis-à-vis water theft. *This amounts to a conflicted relationship with power, while normalizing micro and meso power.* Akin to Village A1 participants, these CPR users; resignation to the status quo is expressed as the futility of resistance to it. This is accompanied by an awareness of the lack of local and national leadership, yet a simultaneous rejection of the feasibility of establishing a WUA as an

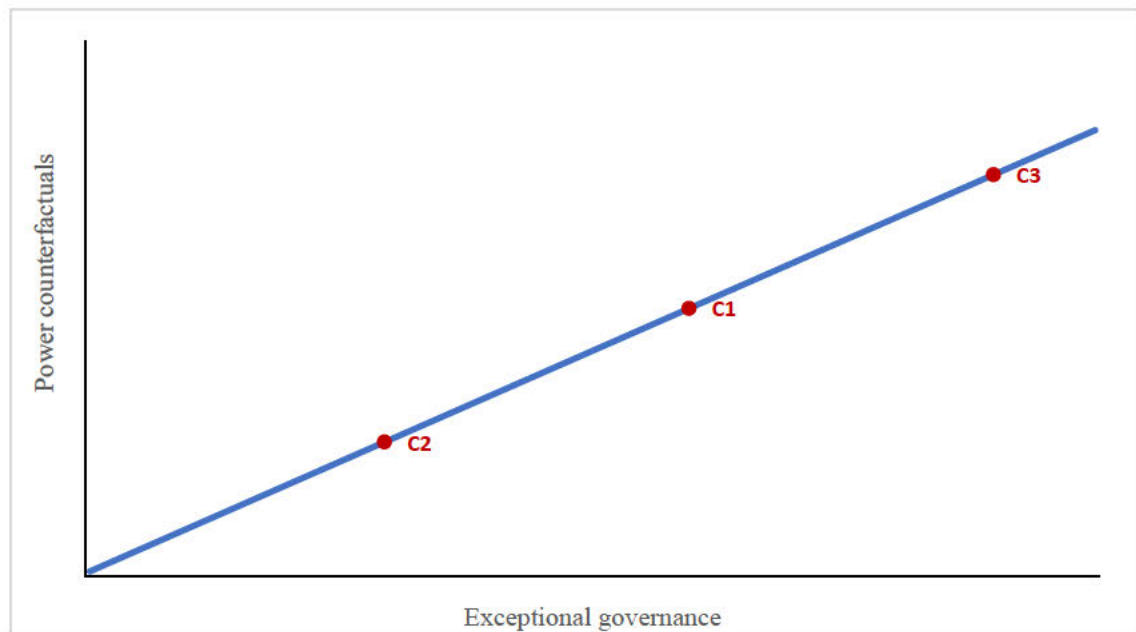
alternative. This apathy, expressed as there being no other way, is the epitome of power normalization.

In addition to the above-outlined instances of power counterfactuals, the research participants' responses reflect counterfactuals in the following ways: firstly, H's consciousness of power constellations that frame a myriad of geo-political conditions represents a strong counterfactual to the third face of power. While this awareness is not unique, it is also not common. In Recording #1', Youth Leader discusses the ways in which people do not really know about the Oslo II-mandated limitations placed on Area C lands, as well as the ways in which PA bodies are complacent with these limitations—which amount to a lack of their sovereignty. Yet at the same time, as aforementioned, Youth Leader (the younger respondent) does not perceive their CPR flow to have been affected by EG. Secondly, in Village C3, the gatekeeper—who, by virtue of his presence, became part of a small informal focus group—demonstrates an awareness of larger power constellations by critically recounting the little-known information about PLO negotiators not having maps during Oslo negotiations.

The notable lack of counterfactuals within Area A villages is reflective of the effects of meso power—particularly the ways in which it conceals macro power by providing a false sense of security amongst CPR users who depend on the PA (and the respective municipalities) to serve as a state. *This renders meso power as having a reinforcing effect on the third face of power.* Notwithstanding these discrepancies between the two geo-political zones, all above-outlined instances of power counterfactuals in Area C villages fall along a continuum, whereby their strength increases in the following order: Village C2 < Village C1 < Village C3. The strength

within these villages is directly related to the severity of EG conditions, as reflected in Figure 6.5, which is a heuristic diagram that illustrates this direct relationship.

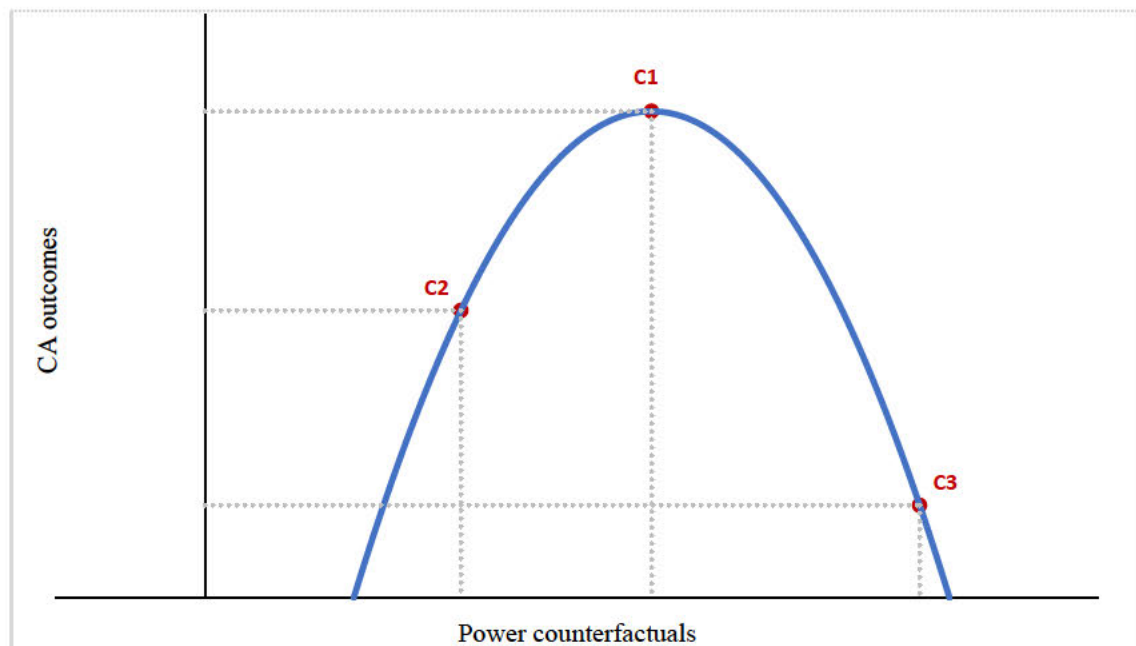
Figure 6.5: A heuristic relationship between exceptional governance and power counterfactuals in Area C villages



This relationship is not only instructive insofar as it provides insights into the effects of macro power on participants' awareness, but it is also instructive apropos CA outcomes. The relationship between power counterfactuals and CA outcomes mirrors the relationship between EG and CA outcomes (see Figure 6.1); the effect of power counterfactuals on CA outcomes mirrors that of the effect of EG on CA outcomes. In other words, the relationship between power counterfactuals and CA outcomes is a direct one, up until an inflection point, after which the relationship becomes an inverse one. This conclusion was arrived at in two ways: firstly, it was arrived at via logical deduction: *if* there is a direct relationship between EG and power counterfactuals (represented as an upward slope in Figure 6.5), up until inflection point, followed by an inverse relationship between EG and CA outcomes (represented as an inverted U-curve in Figure 6.1), *then* the relationship between power counterfactuals and CA outcomes should reflect the relationship between EG and CA outcomes (also represented as an inverted U-curve). In

other words, if $A \rightarrow B$, and $B \rightarrow C$, then $A \rightarrow C$. The second way in which this conclusion was arrived at was by mapping out the relative coordinates of power counterfactuals (independent variable) and CA outcomes (dependent variable) in a heuristic curve—i.e. according to scale rather than quantitative coordinates in which the independent variable (power counterfactual) and dependent variable (CA outcomes) were measured. This mapping of the relative coordinates is shown via dotted lines in Figure 6.6 below:

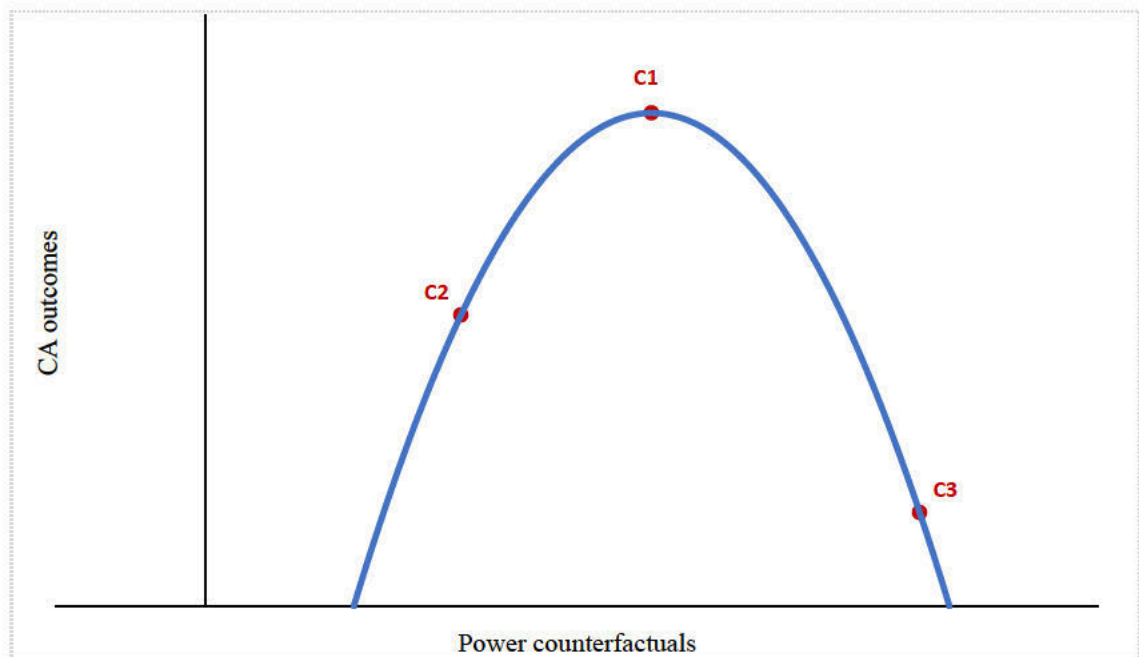
Figure 6.6: Mapping of relative coordinates of a heuristic relationship between power counterfactuals and collective action outcomes in Area C villages



Ultimately, the same conclusion was reached—wherein the relationship between power counterfactuals and CA outcomes in Area C villages is initially a direct one up until an inflection point, after which it is an inverse one (represented in the inverted U-curve in Figure 6.7 below²⁷²).

²⁷² Figure 6.7 is identical to Figure 6.6, except for the dotted lines that show the mapping of heuristic coordinates in the latter figure.

Figure 6.7: A heuristic relationship between power counterfactuals and collective action outcomes in Area C villages



6.4.2.1 Contradictions

There are several instances in which participants contradict themselves throughout a given interview. These contradictions are specifically reflective of the ways in which the third face of power is effective. It is also reflective of the ways in which their consciousness represents the counterfactual to the third face of power. One of the most notable instances of this is in Village C3, where ■ spoke about the settlers not being an issue. This idea that they spoke about the ways in which Israeli settlers do not pose an issue for them²⁷³ is a demonstration of the third face of power. While there are undoubtedly nuances to human behavior, settler violence to the environment (burning trees, dumping sewage, etc.) has been well-documented by organizations like Al-Haq and B'Tselem. The fact that two Village C3 participants have internalized the message

²⁷³ they framed Israeli settlers as civilized and Palestinian tourists as disrespectful.

that Israelis are civilized while Palestinians are opposite, is a clear demonstration of the effects of the third face of power. This is particularly because settlers are central to Israel's de-development policies—i.e. their very presence in settlements comprises the tools via which Israel confiscates land and water resources. In other words, settlers are the *embodiment* of de-development policies.

The contradictions outlined above reflect the complexity of power, which permeates people's perceptions in complex ways. Accordingly, it makes sense that people will identify some aspects of power while failing to identify others; it makes sense that some people's consciousness will epitomize the counterfactual while simultaneously being affected by power's third face. Such contradictions may also be reflective of a conflict of interests, particularly in Area A villages, where some irrigators have joined meso-scale government bodies. The municipal official of villages A2 and A3 epitomizes the conflict of interests represented by the irrigators who have joined the ranks of meso-scale government bodies. His responses reflect the ways in which he tries to straddle both worlds while ultimately not serving the interests of either fully. This may be reflective of a conscious effort to align himself with irrigators to appease me as a researcher, who he perceived as being concerned about the plight of irrigators—which he was able to gauge by virtue of my research topic.

6.5 Confounding Factors

There are a number of possible confounding factors that need to be accounted for. The primary confounding factor, which was discussed in the literature review—and mentioned by some of the research participants—is the role played by external power (i.e. international actors). This role is primarily enacted via the neoliberal agenda that is

espoused by these international actors—particularly donors. This agenda encompasses multiple dimensions, which, in turn, impact CA outcomes—albeit not extensively examined in this study. As discussed in Chapter 2, donor aid to the PA comes with the proviso of the latter’s adoption of a neoliberal agenda. As illuminated in the occupation literature, this agenda has several effects; ultimately, it undermines political consciousness that is required for a liberationist movement. More saliently, it undermines the traditional means of Palestinian peasants’ managing their freshwater resources, which they have historically been dependent upon for agricultural—and domestic—requirements. Moreover, this agenda is informed by anti-collectivism, which has implications for the design and implementation of aid projects—particularly water projects. As mentioned by some of the research participants, these water projects fail to account for each community’s particular institutional arrangements, irrigation systems, and in turn, irrigation needs. As a result, these water projects often do not enhance CA outcomes; rather, due to the incongruence between their designs and the CPR communities’ needs, these projects often hinder CA outcomes.

Other possible confounding factors include geographic location vis-à-vis the aquifers: spring flow variability of the respective CPRs is also dependent upon hydrological and hydrogeological factors. The clustering of Area C study locations in the Western Aquifer Basin, and the Area A study locations in the Eastern Aquifer Basin indubitably has consequences for CA outcomes insofar as spring water discharge and recharge vary between these basins. As noted in Chapter 4, however, the clustering of Area A villages is not impacted by the proliferation of the date palm agribusiness industry.

While several internal and external factors (e.g. group size and homogeneity of CPR communities; trust and reciprocity within the respective communities, etc.) have been analyzed in this chapter, some factors were more challenging to examine. These include the role of the *qanawatis* in Area A villages. As noted in Chapter 4, due to travel constraints, my fieldwork was cut short, and I had to cancel appointments to meet and interview these *qanawatis*. Socio-economic status of CPR community members is another possible confounding factor that could not be measured due to the relatively short duration of fieldwork. It should be noted that assessing this factor—irrespective of the duration of ethnographic fieldwork—is challenging in the context of Palestine. Based on the scoping research, which included interactions with various local experts, direct questions about socio-economic conditions are deemed unacceptable—insofar as it is not attached to an aid project that may enhance their conditions. Such questions can be perceived as comprising a shameful subject that is not discussed with outsiders.

Chapter 7 Discussion and Conclusions

7.1 Discussion of Research Hypotheses

This study critically interrogates the body of literature I refer to as the “exceptional governance” literature, as well as the institutionalist literature (mainstream and critical streams). Throughout this critical interrogation, I have argued for the extension of these approaches to more complex and multi-layered contexts, particularly ones in which sovereignty has been compromised. The specific case that this research examines is a context of compromised sovereignty in the West Bank that I refer to as “exceptional governance” for analytical purposes. The primary aim of this study is to examine the effects of EG on CA in West Bank villages. It seeks to examine these effects by asking a series of questions and proposing two hypotheses. Both hypotheses were partially confirmed, as discussed in Chapter 6. This chapter analyzes the study hypotheses in light of the literature (Section 7.1); highlights additional insights from the literature (7.2); discusses contributions to the literature (7.3); and provides some concluding remarks on this study—including providing some policy insights that can enhance local water management in Palestine and other EG contexts (7.4).

The first hypothesis—that EG conditions foster CA—is based on the premise that a certain level of scarcity provides the most conducive biophysical condition for CA in natural resource management. This premise is, in turn, based on Ostrom’s (1990) assumption of scarce resource units, as well as Tachibana, et al.’s (2001) twofold conclusion—that resource scarcity: (i) fosters CA, and (ii) is associated with the strengthening of CA rules. The condition of relative scarcity is one that Tachibana, et al., (2001) find to be instrumental in the impetus for CA, as well as in the strength of

institutional rules. As Ostrom identifies in her design principles, effective rules are imperative to ensuring successful CA. As discussed in Chapter 7, this hypothesis was partially confirmed, wherein CA is indeed fostered under conditions of EG. However, this is conditional upon the severity of EG conditions—i.e. CA outcomes begin to decline after an inflection point whereby EG becomes more acute. As previously outlined, absolute scarcity does not facilitate collective management of natural CPRs. Rather, a certain level of resource stress—i.e. scarcity, as defined by Falkenmark—is conducive to CA (Tachibana, et al., 2001).

It is important to point out a caveat to the partial confirmation of the first hypothesis: the findings indicate that EG *indirectly* influences CA outcomes. In fact, Table 6.1 shows that the direct impacts of EG indicators (direct effects on CPR; EG infrastructure; de-development policies; and Israeli state surveillance) all have *negative* impacts on CA. Viewed in isolation, the relationship between direct impacts of EG and CA is an *inverse* one. However, *viewed in context*, EG conditions facilitate more successful CA. Table 6.2 shows that the CA indicators (integrity of property rights; formalization of institutions; the complexity of the distribution system; formalization of rules; effective defection policies; and trust and reciprocity) all have a positive impact on CA indicators in Area C villages. As discussed in Chapter 5, this suggests that EG indirectly impacts CA. This is due to users' recognition of their interdependence, which leads to the cultivation—and prevalence—of trust and reciprocity within their communities. Ostrom (1990) attributes this interdependence to intra-community norms: “many...norms make it feasible for individuals to live in close interdependence on many fronts without excessive conflict” (89).

As discussed in Chapter 6, the recognition of intra-community interdependence plays a key role in facilitating successful CA. Adger's (2003) conceptualization of *agency as the exercise of interdependence* is instructive in analyzing the role of interdependence. As the findings indicate, the CPR communities that recognize their interdependence (Area C villages) maintain the most successful CA institutions. Ironically, while EG (macro power) creates the most restrictive conditions for Area C study communities, these are the communities that demonstrate the highest levels of agency. Despite severe politico-legal and military restrictions, these communities recognize that their power can be harnessed by working together. Adger (2003) also frames *adaptation as entailing interdependence between agents*; this encapsulates the crux of the success of CA within the study villages. In Area C villages, CPR users recognize their interdependence, which in turn enhances their adaptive capacity. Adaptation—achieved through interdependence—thus enables CPR users to adjust to the constraints they face under severe EG conditions (i.e. severely constrained agency), and thus maintain effective CA institutions. Conversely, CPR users in Area A villages rely upon meso-scale bodies, and thus do not recognize their interdependence. As a result, their adaptive capacity is compromised. Despite the less constrained agency faced by Area A actors, contracted adaptive capacity nevertheless impacts their CA institutions negatively. This is largely due to the infiltration of interests—i.e. a lack of recognition of their interdependence leads some CPR users to join governmental committees, which erodes the largely unitary interests of all CPR users. When certain users have conflicted interests, they do not ultimately protect the interests of their fellow CPR users; the result

is a series of decisions²⁷⁴ that negatively impact the CPR community, in favor of local and national government (meso-power actors).

The second hypothesis—that asymmetrical power relations within the community are embedded within village institutions and reinforced by these power structures—is based on an extension of both MI and CI’s conceptualizations of embeddedness. It is based, firstly, on Ostrom’s (2009) construct of institutions being embedded in complex SESs, and secondly, on Cleaver’s (2001) appeal to contextualize embeddedness as a more dynamic process—specifically one that results from institutional bricolage. In seeking to transcend these understandings, this research has approached co-operation as a process embedded in historical, political, socio-economic, and cultural institutions and *structures*. The premise of the second hypothesis is thus based on this understanding of how CA is embedded in institutions *and* structures. Just as co-operation is embedded in wider structures, so too is multi-scalar power, whereby local power (micro scale) structures are embedded within larger institutions and structures—specifically meso-scale power. This hypothesis was also confirmed, as discussed in Chapter 7.

7.2 Discussion of the Literature

The following section discusses the study’s findings vis-à-vis the literature streams employed; it begins with an analysis of the findings vis-à-vis the MI literature, followed by the CI literature, and then the “exceptional governance” literature. The latter

²⁷⁴ This is particularly salient in Village A1, where the municipality reneged on agreements vis-à-vis the co-management arrangements.

literature stream is comprised of the occupation literature, macro-scale water studies, and meso-scale water studies—the latter two of which overlap in multi-scalar studies.

In revisiting the MI literature, turning to some of Ostrom’s design principles—or situational variables (see Table 2.2)—provides important insights into the research findings. The following design principles have explanatory power in illuminating the reasons for variegated CA outcomes amongst the six study locations: firstly, clear CPR boundaries. While CPR boundaries are clearly defined in all six study locations, they are not respected in all cases; hence the compromised integrity of water property rights. This is apparent in Village C3, whereby CPR property rights are acutely compromised by EG conditions; it is also the case in Area A villages, particularly Village A1, whereby CPR property rights are compromised by co-management arrangements. This design principle often entails the enclosure of CPRs wherein “some kind of fencing process is needed to conserve the commons for the community who use it” (Wall, 2017: 29). While Village C1 has “fencing”; villages C2 and C3 do not. Yet this does not appear to play a role in influencing CA outcomes. Conversely, Area A villages do appear to be impacted by fencing around their respective CPRs. Village A1 has very restrictive fencing, which prohibits CPR users from accessing their resource, thus compromising their operational property rights. Villages A2 and A3 have fencing that also keeps CPR users out—albeit to a lesser extent than in Village A1.

The second design principle is that CPR users

need to be able to participate in the making and modifying of rules. Individuals are more likely to respect rules that they have helped construct. *Self-governance is thus likely to be more effective, compared to governance by others* (Wall, 2017: 29; emphasis added).

The research findings show that Area C CPR users are not only involved in designing and modifying the rules, but they are the sole actors involved in this process. The

successful CA outcomes in these villages is reflected in the effectiveness of self-governance of water in Area C villages. Conversely, Area A CPR users are not part of decision-making processes that determine the rules for their respective CA institutions; co-management arrangements have been imposed upon them. Notably, in Village A1, agreements vis-à-vis co-management arrangements have been renegeed on by the municipality. Self-governance versus co-management comprises an important reason for the discrepancies between CA outcomes in C and A villages, respectively.

Sanctions comprise the third design principle revisited; rule-breaking requires graduated sanctions, which “should be carefully graded from soft to more severe” (Wall, 2017: 30) and may begin as “informal and gentle” (ibid). Area C villages all demonstrate formal (Village C1) or informal (villages C2 and C3) mechanisms of imposing sanctions, all of which are effective. While Village A2 has an informal mechanism, villages A1 and A3 lack any form of sanctions for rule-breaking. This third design principle is clearly another factor that contributes to the relatively ineffective CA in these villages. It is important to note that the research findings in villages C2, C3, and A2 do not indicate graduated sanctions per se; rather, they comprise effective sanctions that are imposed *informally*. The one exception to this is Village C1, which does have a formal mechanism in place for imposing graduated sanctions—which was witnessed over two phases of field research vis-à-vis defaults on water payments.

Conflict resolution mechanisms—comprising a fourth design principle—are closely related to graduated sanctions. Wall (2017) elucidates that Ostrom “suggested that such mechanisms could make it more difficult for a local elite to take control of the resource” (31). This conclusion is based on an empirical case that entailed governmental interference in management of the commons to be “one factor that led to the decline of

the commons” (ibid). In Area C villages, where conflict resolution mechanisms are reported to be effective, CPR users have maintained self-governance over their resources. This is not the case in Area A villages—except for Village A2. Nevertheless, effective conflict resolution mechanisms in Village A2 have not prevented governmental interference in their CPR management arrangements. This form of co-management, whereby the municipalities in Area A villages have taken control over access, withdrawal—and management in Village A1—have compromised property rights, which has contributed to their weak CA institutions.

This is intricately linked to the situational variable of recognition of CPR property rights and CA institutions by legitimate authorities. Setting aside the precarious legitimacy of the PA, the Area A municipalities have demonstrated a lack of genuine recognition of CPR users’ rights. This is confirmed by the empirical findings of CA under conditions of EG beyond the inflection point of EG²⁷⁵, whereby, due to severely compromised property rights, CA institutions cannot function optimally. In Village C3, CPR boundaries and the CA institution are not recognized or respected by the authorities—i.e. macro power actors. Similarly, in Area A villages, the integrity of these boundaries, as well as the respective CA institutions, are not recognized by higher powers—i.e. meso power actors. Area A co-management arrangements—wherein property rights are compromised—amount to a de facto lack of recognition of CPR users’ rights. Ultimately, this conclusion requires further research, which would include observation of, and in-depth interviews with, local leaders²⁷⁶. However, as Wall (2017) asserts, “paternalistic regulation from external authorities can also be damaging because

²⁷⁵ As shown in Figure 6.1, Village C3 falls beyond this inflection point.

²⁷⁶ As noted in Chapter 3, my fieldwork was cut short, and I was thus unable to conduct interviews with the *qanawatis* or heads of water user committees in Area A villages.

while it may be well meaning, it is often insensitive to local conditions” (31); this type of interference “may disrupt the maintenance of a commons system...[and] reduces the possibility of self-governance which is necessary, according to Ostrom, for a commons to work well” (ibid). The Area A village CA institutions in this study have all been disrupted by the introduction of co-management arrangements imposed upon them by their respective municipalities. In contrast, Area C villages have maintained self-governance over their CPRs. Further research is required to understand the underlying reasons for the maintenance of self-governance. It is clear, however, that maintenance of their self-governance has led to the preservation of their institutional arrangements, resulting in more successful CA outcomes.

In addition to these design principles, trust and reciprocity are imperative to understanding the variegated outcomes in the six study locations. As Wall (2017) asserts, “the commons fail, ultimately, because distrust leads to a lack of co-operation” (79). The study findings show that there is a distinctive lack of trust in villages A1 and A3, the two communities in which CA outcomes are the least successful. Distrust—which was repeatedly expressed by participants in these villages—is certainly a contributing factor to the relative failure of CA institutions in these villages. In Village A1, there is widespread distrust of *qanawatis*, who are bribed by outsiders (whom participants claim are not irrigators) and thus provide the latter with spring water that belongs to the CPR community. There is also distrust of the municipality, which employs these *qanawatis*, in addition to playing a central role in compromising the integrity of the CPR users’ property rights. In contrast, the smaller, more homogenous community in Village A2 demonstrates greater levels of trust and reciprocity, thus resulting in better CA outcomes. Trust and reciprocity are also important in Area C villages. While Village C3

demonstrates the highest levels, this does not lead to the most successful CA outcomes out of the study villages. However, this is not attributable to trust and reciprocity; rather, it is due to the most acute EG conditions out of all of the Area C villages—specifically direct effects on the CPR—which render the CPR itself precarious. Villages C1 and C2 demonstrate high levels of trust and reciprocity, which participants repeatedly express as being part of their co-operative cultures in their respective villages.

In looking at the CI literature vis-à-vis the study findings, my approach has entailed a structural analysis of embedded institutions. This analysis is in line with Cleaver and Whaley's (2018) description of CI as providing contextualized analyses that account for power. As illustrated in Chapter 2, while some studies account for macro power, and some—albeit fewer—account for macro *and* meso power, very few studies examine micro level power—let alone the synergy between these three scales. In contrast, this study's analysis has illuminated the ways in which local level power dynamics reflect and are reinforced by macro *and* meso power. It has also illuminated the ways in which meso power masks the effects of, and to a certain extent, replaces, macro power.

In addition to this power analysis, this study provides an alternative lens for understanding intra-community dynamics. Instead of reinforcing Orientalist (Said, 1978) conceptions of Palestinian communities as patriarchal and steeped in oppressive traditions, (as opposed to embracing modern practices to advance agriculturally and otherwise)—this study has portrayed a more realistic picture of CPR communities as nuanced and complex. In accordance with this alternative approach to examining CPR communities, this research provides space for participants to provide their own analyses; approaches behavioral complexity in a non-reductionist manner; and highlights the agency of CPR actors. As outlined in Chapter 2, agency—particularly vis-à-vis

adaptation and interdependence (Adger, 2003)—is central to the theoretical insights advanced by CI. In addition to providing ample space to shed light on community members' descriptions and explanations of their experiences (Chapter 5), the analysis underscores the ways in which these participants have maintained successful CA institutions, particularly in Area C villages.

Sandstrom, et al.'s, (2017) construct of symbolic commons comprises another insight into the study findings provided by the CI literature. Although all study participants are almost entirely dependent on agriculture for their means of survival—except for Village C3 participants, whose CPR flow is no longer sufficient to support agriculture as a viable source of income—Area C communities epitomize this symbolic significance of their CPRs and CA institutions. Participants in all three Area C villages repeatedly express “symbolic representation of the village’s identity and past history” (Sandstrom, et al., 2017: 523) as playing a central role in the maintenance of their cooperative cultures. Exploring this symbolic significance requires further anthropological research; however, for the study participants, it is clear that “both symbolic and material interests’ matters in collective action” (ibid).

Moving from the institutionalist literature to the EG literature, a critical interrogation of the latter reveals that each of the three streams of water studies (macro, meso, and micro-scale) has gaps in examining multi-scalar water governance in Palestine. While the macro-scale studies inadequately address the ways in which meso and micro power structures affect local CA institutions, many micro-scale studies focus on meso-scale and external power but inadequately account for macro-scale power. The research findings show that CA institutions are embedded in structures of power in all study locations, but most notably in Area A villages. While this literature—including

studies that refer to Israeli power constellations vis-à-vis power as domination (Selby, 2003; 2013), hydro-hegemony (Zeitoun, 2008), and hydro-apartheid (Messerschmid, 2014)—is limited in its analyses of the impacts of power on CA institutions, it nevertheless accurately represents the macro power structure that ultimately renders Palestinians’ water resources scarce (see Messerschmid, 2014). This is confirmed by the empirical findings of CA under conditions of EG beyond the inflection point (see Village C3 on Figure 6.1), whereby acute EG conditions severely hinder CA outcomes. This literature also includes studies on meso-scale power (i.e. the occupation literature), which describe Oslo as producing inequalities (Hanieh, 2013); outsourcing management of colonization to the PA (Wildeman and Marshall, 2014); and distracting Palestinians from their political aspiration of liberation with economic development (Hanieh, 2013; Wildeman and Tartir, 2013; Haddad, 2016). This is dependent on the constant funneling of foreign aid, which enables the PA to continue to operate—albeit without real sovereignty or control over resources. In light of the ways in which the bolstering of aid dependence with the establishment of the PA precludes political and economic sovereignty (Hanieh, 2016), continuing down the path of keeping Palestinians one of the most aid-dependent peoples is misguided. This has been repeatedly demonstrated throughout the occupation literature, which illuminates the ways in which sovereignty cannot be achieved while remaining subjected to Israeli colonial power (Salamanca, et al., 2012). It is corroborated by this study’s findings, whereby increased aid (both directly to communities as well as to the PA) does not support CA institutions or lead to successful outcomes. These insights from the occupation literature are particularly instructive in understanding the study findings on the role of meso-scale power: to simultaneously reproduce intra-community inequalities and mask the lingering presence

of Israeli control over their collective fate. The study findings illuminate that CPR property rights in Area A villages are also compromised, leading to considerably less successful CA outcomes relative to Area C villages.

Hanieh (2016) illuminates the mechanisms through which Israeli power is maintained in the post-Oslo era, which is disguised in its changed form. The most salient ways in which this is achieved is via the incorporation of occupation structures into the development strategy for the PA. One of these occupation structures is the militarization of governance, which was de facto extended into the Oslo era—insofar as prior use of water informed the terms of Article 40 of Oslo II. Militarization of governance is also achieved via the maintenance of the Israeli Civil Administration, which remains in control of infrastructural (and other) affairs in the West Bank—particularly by controlling the permit system for water projects. Another of these occupation structures is the bantustanization of the territory (Hanieh, 2013), which is consolidated via the politico-legal framework of Oslo II that established geo-political zones. As evidenced by the variegated CA outcomes between Area A and Area C villages, this bantustanization created variegated governance conditions within the West Bank. The effects of this formalized bantustanization, as elucidated by Hanieh (2013) also includes transformations in identities, which shift to become more localized and atomized. This is visible in the research findings, whereby CA in Village A3 is less successful than in Village A2—despite identical co-management arrangements—due to these distinct social formations. This is manifested mainly in the distinction between those who are “insiders” to the village, and “outsiders” who arrived in 1967 as *naziheen* and are still viewed as such.

The maintenance of Israeli control is also achieved via the imposition of a neoliberal agenda on the PA, whereby the provision of aid is conditioned upon the adoption of this agenda. As elucidated by Hanieh (2013), this led to an increase in inequality and the proletarianization of the peasantry. In this way, external actors play a critical role in perpetuating inequalities and creating new ones. While a socio-economic analysis of CPR community's conditions is beyond the scope of this study, some research participants speak about how their children chose not to maintain their families' tradition of farming, and instead sought work elsewhere (including in Israeli settler colonies). Another effect of this neoliberal agenda is its anti-collectivist underpinnings (Haddad, 2016), which directly undermines collective action. This is one of the most salient insights provided by the literature, which helps to explain the stark lack of solidarity that I expected to find during fieldwork. In fact, the first hypothesis of EG conditions fostering CA was partially informed by an expectation to find a sense of *sumud* and solidarity amongst research participants—and the concomitant commitment to remain on the land. While this was observed in some of the study locations (particularly in Village C3 and to a lesser extent in Village C1), this is not a primary explanatory factor behind more successful CA outcomes in Area C villages. As elucidated by McKee (2019), neoliberal water projects promote individualism; this, in turn, undermines institutional arrangements that are based on collective management.

In addition to the EG literature that addresses macro- and meso-scale power, the micro-scale studies that examine community-based water management in Palestine provide valuable insights. While the premises and conclusions made by Gasteyer and Araj (2009) and Gasteyer et al. (2012) are not corroborated by my study findings, the findings of most micro water studies are. The first of these premises is the framing of

donor aid as necessary and favorable (Gasteyer and Araj, 2009). This positive framing of donor funding does not reflect my study findings, which indicate that funding is *only* cost-effective and put to good use *if* the community members pro-actively seek funds and dictate the parameters of the project, rather than having these parameters imposed upon them. This was clearly demonstrated in two Area C cases: firstly, in the effectiveness of Village C1's projects, wherein co-op leaders sought funding and designed the parameters of the respective projects; secondly, in the failed projects imposed upon Village C2's community—who were not consulted, leading to failure that caused CPR users additional issues rather than facilitating their irrigation needs. Gasteyer and Araj (2009) conclude that co-management arrangements—framed slightly differently, as a Joint Services Council that involves community members—are in fact effective in community water management, particularly vis-à-vis ensuring participatory processes. In contrast to Gasteyer and Araj (2009), but in concert with the meso- and macro-scale studies discussed above, Trottier and Perrier (2018) illuminate the detrimental effects of donor water projects. They point, in particular, to the detrimental transformations to CA institutions.

Trottier (2019a) elucidates the benefits of maintaining the endogeneity of CA institutions, illuminating how management regimes that are externally-imposed are not effective, and thus not embraced by irrigators. This is a particularly salient finding that this study corroborates, as demonstrated by the less successful CA outcomes in institutions that are characterized by co-management arrangements (namely Village A1, but also villages A2 and A3). Trottier (2000; 2019a) extends this analysis to the PA, who routinely overlooked CA institutions in their water laws (see Trottier & Perrier, 2018) until the 2018 Regulation. The overlooking of CA institutions by donors, the PA, and

academia—as well as the exclusion of CPR communities in PWA decision making (Trottier, 1999)—renders these institutions and their attendant communities invisible. Trottier (1999, 2000) accurately reflects this phenomenon as chaos that ensues from contradictory centrifugal and centripetal water management policies that ultimately disenfranchise CPR communities. Similarly, De Donato (2018) shows how the PA delegitimizes CA institutions, which is corroborated by this study’s findings, whereby meso-scale power plays a two-fold role: firstly, their presence as an indigenous form of government—albeit without sovereignty—gives CPR communities the *specious impression* that they have the authority to change everyday conditions; and secondly, their imposition of co-management arrangements that severely hinder CA outcomes. This imposition is formalized in the promulgation of the 2018 Regulation, which effectively criminalizes organically created CA institutions, and in turn, will very likely have devastating impacts on these institutions. While this salient insight provided by Perrier (2020b) is based on a legal development that occurred after this study’s data collection phase, its likely future impacts should not be overlooked.

De Donato (2018) complicates this relationship between meso- and micro-scale actors, whereby although the former’s power is exerted upon the latter, the PA is also significantly restricted by Israeli power. This is also corroborated by the results on the third face of power, whereby some research participants (particularly in Area A villages) perceive the PA to have the capacity to govern as a sovereign entity. However, as demonstrated by the literature on non-sovereignty (Stamatopoulou-Robbins, 2020), as well as the occupation literature (Salamanca, et al., 2012; Hanieh, 2013; 2016), even if the PA had the intention of supporting CA institutions in ways that are consistent with the latter’s needs, they are incapable of doing so, given Israel’s power. This power is

highlighted by Braverman (2020), who demonstrates how the designation of freshwater springs as protected nature reserves effectively dispossesses Palestinians of their agricultural resources. As demonstrated in Village C3, this protected status, while ostensibly enforced for ecological purposes, is applied in contradictory ways to Palestinian activities and Israeli settler activities. More saliently, however, it has rendered Village C3 irrigators unable to maintain subsistence farming—and has ultimately obstructed CA outcomes.

In short, the literature that characterizes funding to the PA or increased donor projects as positive are at odds with this study’s findings, which illuminate the negative impacts of meso and external power on community water management. This is also the case with calls for co-management arrangements, particularly development interventions that seek to impose WUAs upon local irrigators. Ultimately, this policy would render CPR users *powerless*, as this study’s findings point to; if co-management arrangements compromise the integrity of CPR property rights and diminish CA outcomes, then supporting the PA and their attempts to centralize water resources will only serve to intensify these negative effects. Centralization would lead to communities experiencing reduced access to, and virtually no control over, local-level water resources—with the effect of reproducing and deepening existing inequalities.

This study’s findings, when analyzed vis-à-vis the abovementioned studies on community-based water management, confirm Börzel and Risse’s (2010) insights into the role of a state. Börzel and Risse’s (2010) concept of the “functional equivalent” of “the shadow of hierarchy” is quite instructive: in Area A, the geopolitical zone in which we would expect the PA to serve as the “functional equivalent”, this is not actually the case. While it is arguably intended to serve as a functional equivalent, this hierarchical

equivalent is distinctly absent from the meso-scale power structure. Accordingly, in the absence of a functional equivalent of the shadow of hierarchy, community governance cannot be effective. This strengthens the conclusion—based on the design principle of recognition by legitimate authorities—that without legitimate authority, the PA will necessarily be ineffective in its governing role. In line with Sehring’s (2009) conclusion, the Area A case studies do not demonstrate good governance; instead “they can better be classified as neopatrimonial regimes, where certain formal democratic structures have been established but are supplemented and undermined by (informal) patrimonial structures such as clientelism, corruption, and personalistic rule, resulting in a hybrid or an authoritarian regime type” (62).

While my results indicate the presence of some of these phenomena, there are notable differences. In evaluating the parallels, it is crucial to be cognizant of the Orientalist traps that have the potential to essentialize certain communities. One such Orientalist trap is the convenience of concluding that these communities exist within patrimonial structures; this precludes the nuances of actors as agents—as well as a critical analysis of how actors navigate modernity and the ever-evolving social, cultural, and geopolitical landscapes. Thus, in remaining cognizant of the tendency to essentialize communities, this discussion provides space for more nuanced analysis. Common pool resource users in the study villages do indeed hold onto certain patrilineal and patrimonial traditions; however, this is *neither all-encompassing nor monolithic*. As we saw in Village C2, clan elders do indeed hold greater power within their respective clans. This mainly manifests as the knowledge and ability to measure the CPR stock at sunrise and divide it into shares in accordance with the amounts each family is entitled to receive. Similarly, the eldest member of each family often takes the responsibility for dividing

the overall share their family receives into individual shares to be distributed to each sibling, for example. While this micro-scale power is encapsulated as a reservoir of experience, knowledge, and social status, this is not reserved for men. One research participant, Female Renter, explains how her mother, an elder in Village C2's CPR community, takes on this role in a manner that does not differ from her male counterparts. Furthermore, Date Palm Farmer explains that leadership positions in Village A3—including clan representation within the irrigators' committee—is not reserved for the eldest within the clan. Rather, it is determined based on a more objective assessment of knowledge: whichever clan member is deemed to have the most thorough knowledge is thus assessed to be the most competent representative of each respective clan. These two examples demonstrate the ways in which a monolithic, essentializing representation of village communities produce inaccurate—and harmful—narratives.

7.3 Contributions to the Literature

This study has made several empirical, conceptual, and theoretical contributions to the existing literature within the three literature streams reviewed. Empirically, this research has taken a highly reflexive approach. This includes the methodological trial and error represented by the second scoping phase, which revealed that a mixed-methods (quantitative and qualitative) approach was not feasible—and instead, that a qualitative approach would capture the most rich and nuanced data. This study's approach—in distinction to most micro-scale studies that provide valuable insights into CA institutions—foregrounds the voices of CPR users. In line with Bonilla's (2015) invocation to “engage seriously with native *arguments*” (xvi), this study provides an

extensive ethnographic account that revolves around research participants' descriptions, perceptions, and analyses.

The development of the concept of “exceptional governance” is a conceptual contribution, which has the potential to provide an analysis framework for examining various phenomena in political contexts in which sovereignty is compromised. This can extend beyond studying CA in these contexts. Employing a critical framework that transcends the three literature streams I draw from—MI, CI, and EG—has enabled me to transcend all three, which in turn has facilitated a multi-scalar analysis of CA institutions and the power structures within which they are embedded. This is particularly the case vis-à-vis contributing to bridging the macro-, meso-, and micro-scale water studies, each of which has gaps that can be addressed by each other. In short, this study has attempted to contribute to the burgeoning micro-scale water literature, while providing a more thorough analysis of multi-scalar power structures. The critical framework developed in this study, which takes CI as its point of departure, has enabled me to critically interrogate Israeli power as well as PA power. Palestinian Authority (meso-scale) power is conceived of as relative control, rather than authority, which is exercised via neoliberal policies imposed upon them, as well as co-management arrangements it has enforced upon CPR communities.

7.4 Conclusions

Area A village participants demonstrate variegated perspectives on the value of community management systems. This is due, in part, to the erosion of their community management systems, via the compromised integrity of their operational (access and withdrawal) and collective choice (management and exclusion) CPR property rights.

Because this occurred through the implementation of co-management arrangements—rather than through EG conditions, as in Area C villages (i.e. C1 and in particular, C3)—Area A communities have not held onto their CA institutions with as much commitment as their Area C counterparts. In other words, while EG in Area C villages is viewed as a direct threat to their respective CPRs, the relative lack of EG (or “minimal” EG) in Area A villages renders community members more secure vis-à-vis their CPRs. However, while some Area A participants express their dismay at how failed co-management arrangements have compromised their property rights (particularly Village A1 participants), they do not perceive the same threat to their respective CPRs. In other words, they do not believe their CPRs are directly impacted by meso- or macro-scale power.

This study has illuminated how meso-scale power hinders successful CA in two ways: by simultaneously reproducing intra-community inequalities and concealing the lingering presence of Israeli control over their water resources. This does not lead to the conclusion that EG is more favorable than a situation in which political sovereignty is achieved. Rather, it means that under the current iteration of meso-scale power, people are more complacent. This is due to the guise of an indigenous government that replaces the colonizer, but ultimately does not serve as a state—nor does it facilitate successful CA outcomes. In Area C villages, increased points of interface between Palestinians and Israeli soldiers and settlers render the former more vulnerable, more aware of their vulnerability, and thus more aware of their essential interdependence. Similarly, this does not lead to the conclusion that EG conditions are favorable. Rather, it means that successful collective management of their resources necessitates CPR community members to acknowledge their interdependence.

These contributions can also provide important policy insights for water management in Palestine, as well as other EG contexts wherein sovereignty is compromised. The most salient insight is that co-management arrangements (in Area A villages) that exist within these *meso power structures reproduce and reinforce inequalities within CA communities*. In Area C villages, the salient policy insight that can be distilled is that the facilitative role of EG in successful CA is not unlimited. Rather, more acute EG conditions hinder CA outcomes, as evidenced by Village C3's CA outcomes. In light of these research findings, Trottier's (2000) proposal to move towards a centripetal policy is not only ineffective, but counterproductive vis-à-vis CA outcomes. For, as we have seen throughout the six study locations, self-governance with *uncompromised* CPR property rights is the key to effective community-based water resource management in West Bank villages. Empowering communities by funding them in the ways they deem to be necessary is the most effective strategy, as evidenced by Village C1. This CPR community has the most formalized CA institution, which has resulted in the most effective rule implementation, equitable outcomes, sustainability of the resource, and focused plans for development, which in turn, renders externally-funded projects the most effective and the least wasteful²⁷⁷.

Exceptional governance (Israeli colonial and military power) has been depicted in the literature as obstructing environmental justice—particularly vis-à-vis distributive justice. While the findings of this study have revealed this to be true for the study participants, particularly in villages C1 and C3, the story of community management of freshwater springs is more complex. In the absence of a sovereign state—or even the functional equivalent of a shadow of hierarchy—meso power structures (PA, PWA, local

²⁷⁷ In comparison to projects that are externally-designed and imposed.

governmental bodies) have a similar effect on distributive justice. While this effect is not as acute, its effectiveness lies in its subtleties. By providing a guise of leadership and minimal provision of public goods and services to its citizens, the PA conceals its effect. This concealment renders it far more elusive than the conspicuous and pervasive presence of macro power structures. As discussed in Chapter 2, the current Palestinian polity comprises a two-fold irony, whereby it claims executive authority while lacking any meaningful power—insofar as it lacks authority, and only has partial control—and the irony of being a political entity that lacks sovereignty. This study’s findings have illuminated some of the ways in which the critical sovereignty literature aptly captures local conditions and is thus instructive in understanding the needs of CPR communities. In an expanded conception of sovereignty that encompasses “Indigenous commitments to place- and water-centered lives” (Simpson, 2020: 688), CA outcomes would not be hindered or obstructed. Rather, they would be placed at the center of a society and polity that acknowledges the benefits of maintaining organically-created CA institutions—which are based on traditional conceptions of collectivism. This type of a radical paradigm of sovereignty (see Cocks, 2014) would require the rejection of the prevalent state sovereignty paradigm that is based on exclusion, dispossession, and violence.

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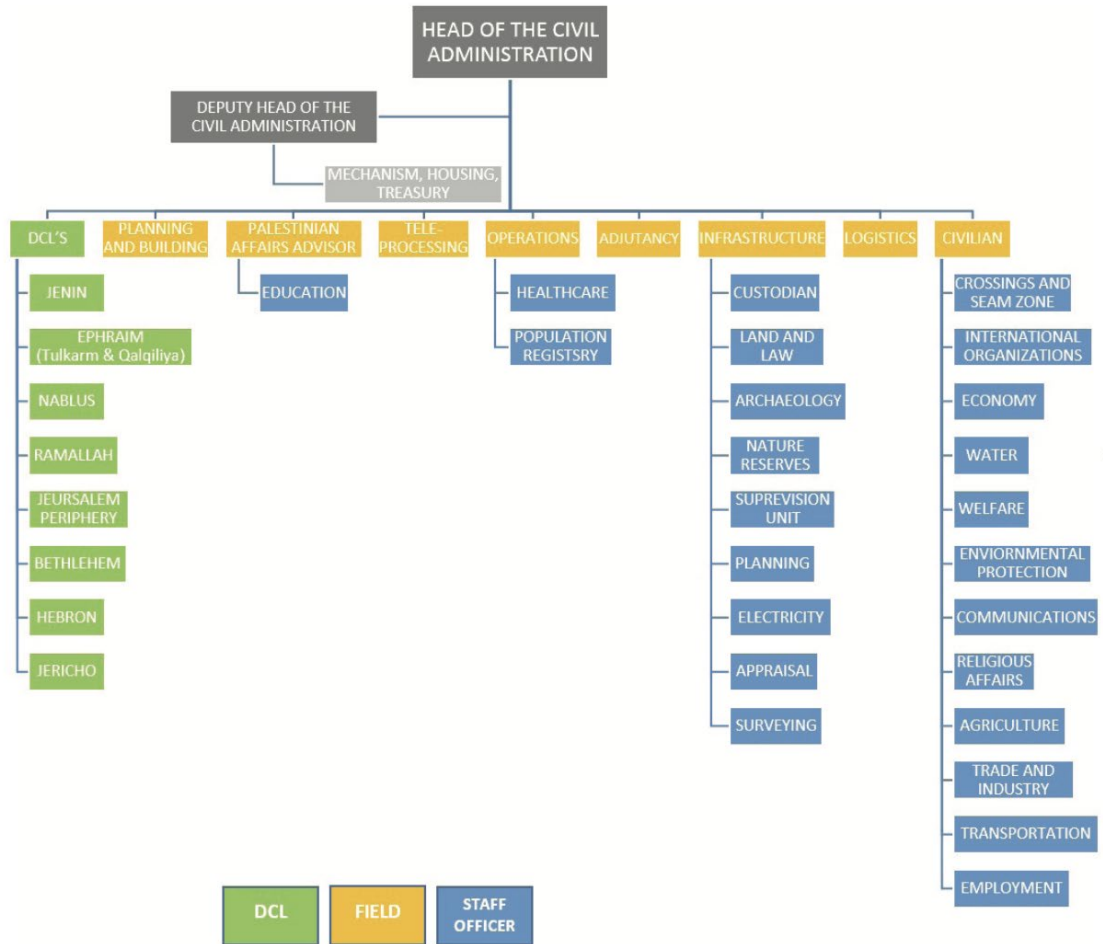
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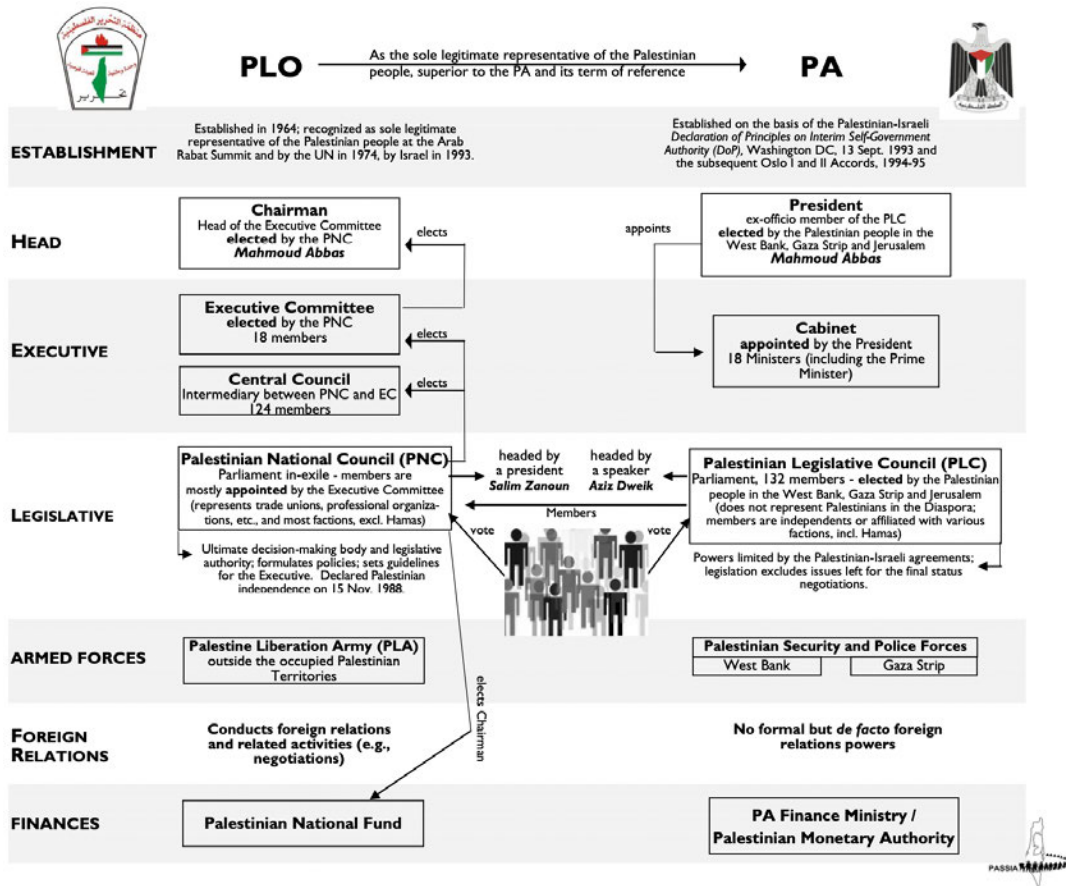
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Appendix 1: Organizational Structure of the Israeli Civil Administration



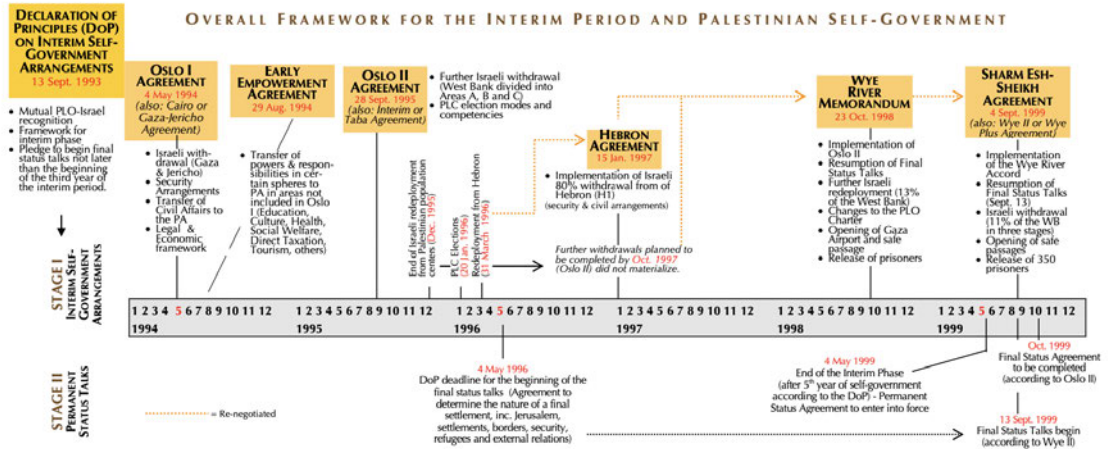
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Appendix 2: Organizational Structure of the Palestinian Authority

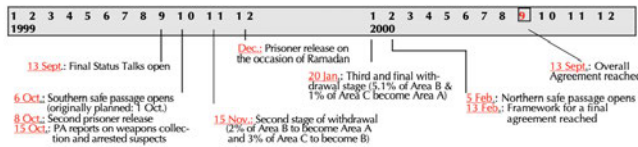


From PASSIA: http://passia.org/media/filer_public/0e/ba/0eba3c28-903e-471f-ab06-cbbdb781df50/plo-pna_graph.pdf

Appendix 3: Timeline of the Oslo Peace Process



FINAL STATUS TALKS – MAIN TARGET DATES ACCORDING TO SHARM ESH-SHEIKH:



From PASSIA: http://passia.org/media/filer_public/99/0f/990f833b-1fb5-4ebc-a542-2a81261a44f8/graph_oslo_peace_process.pdf

Appendix 4: Scoping Questions

Name _____
Phone number _____
Town _____
Population _____
Number of clans _____

1. Do you have artesian wells? Man-made or flowing?
2. What are your other sources of water? Connected to network? Tankers?
3. Which H₂O sources do you mainly rely on?
4. How much do you pay per unit of water?
5. Have prices changed over the past 5 years?
6. Do Israelis (identify settler or military) divert/pollute/otherwise damage resources? If so, how?
7. How many springs in the town? _____
8. What are their names and where are they located?
9. How do you collect spring water? Reservoir?
10. Where are springs located? On public or private land?
11. How do you gain access to them?
12. How do you use/manage them?
13. Do multiple communities use resource and if so how does ownership and use work (i.e. payment/barter)?
14. Is there a local committee responsible for springs? If so, how does it work?
15. How is the resource divided? According to need?
16. Who invests in maintenance, protection, cleaning, etc?
17. Original villagers vs. outsiders (homogeneity of community)?

Appendix 5: Questionnaire

*Unfortunately, I am currently unable to obtain the final questionnaire, which was in Arabic. However, this version is the last draft before meeting with the research assistant to translate and streamline.²⁷⁸

As noted in Chapter 4, the data collected via this questionnaire only served as a second scoping phase—i.e. it was not incorporated into the study findings.

KEY:

- **yellow highlight:** factors that affect likelihood of self-organization (LOSO)
- **pink highlight:** unsure about accuracy
- **green highlight:** additions
- **blue font:** dimensions/indicators
- **red font:** questions

Name

Contact Info

Age

Gender

Position & Role:

Use of spring (approximate percentage domestic/approximate percentage agricultural):

Subsistence agriculture or commercial agriculture

Section I: Resource System (RS)

Tier 2

Tier 3

Tier 4

RS1 Sector [WATER]

RS2 Clarity of system boundaries

What are the RS boundaries?
Can you definitively mark them?

RS3 Size of resource system

What is the size of the RS?
Area? Volume?

RS4 Human-constructed facilities

Is this RS naturally flowing or are there apparatuses/facilities that you have constructed to facilitate the production/extraction of RUs?

RS5 Productivity of system

How abundant/scarc is the RS? How much does it produce? How many people does it serve?

RS6 Equilibrium properties

²⁷⁸ Note that this questionnaire was solely used for scoping purposes; the data collected was not included in the study findings. This questionnaire is included in this thesis to demonstrate the iterative methodological approach employed.

Describe the replenishment of the RS (season of rainfall; amount of replenishment, etc). Has the amount it produces decreased? If so, by how much and when?

At what point do you stop extracting RUs from the RS? Do you stop at a point where it can be replenished? Do you over-extract?

RS7 Predictability of system dynamics

Can you easily and consistently predict how much the RS will produce daily/seasonally/annually? Is this based on rainfall or does it depend on Israeli pumping of groundwater or their diversion of spring water?

RS8 Storage characteristics

RS9 Location

RS9.1 latitude & longitude

Section II: Resource Units (RU)

Tier 2

Tier 3

Tier 4

RU1 Resource unit mobility

RU2 Growth or replacement rate

How often does the RS get replenished? Is this only seasonally (rainy season)? How much does it get replenished?

RU3 Interaction among resource units

RU4 Economic value

Do users pay for water they use from the spring? If so, how much do people pay per unit (specify unit)?

Do you think this price is acceptable?

Is the value above your means?

What is the maximum you are willing to pay to produce each RU?

RU5 Number of units

RU6 Distinctive characteristics
 RU7 Spatial and temporal distribution

Section III: Actors (A)

Tier 2

A1 Number of relevant actors

How many users/appropriators?

How many producers?

How many are simultaneously producers and appropriators?

Tier 3

A1.1 (Types of actors):

Users/appropriators

Producers

Who are the producers/harvesters? How many?

Producers & appropriators

Overseers/Protectors

Tier 4

A1.1a (Gender roles)

A1.1b (Insiders vs outsiders)

Men/women

Are women involved in the co-operation? How?

Insiders/outside

Are there insiders (i.e. community members like CPR owners; association members; villagers) and outsiders?

Men/women

How many producers (extractors) are women/men?

Insiders/outside

Are producers/harvesters insiders or outsiders?

Men/women

How many simultaneous producers and users are men/women?

Insiders/outside

Are these insiders or outsiders?

How many women are involved in the care of the spring? How many men? Insiders/outside?

A2 Socioeconomic attributes

A2.1 Education

What level of educational attainment have you achieved?

What is the educational profile of the community (university; secondary school; primary school; illiterate)?

A2.2 Occupation

What is your occupation?

What is the occupational profile of the community?

Are most people farmers?

	<p>A2.3 Income What is your household income? Are there large variations in income among community members?</p> <p>A2.4 Assets What are your household assets (possessions, land)? Are there variations in the household economic standing among community members?</p> <p>A2.5 Perception of SES How would you classify your socio-economic status (lower/middle/upper lower; lower/middle/upper middle; lower/middle/upper upper)?</p>
<p>A3 History or past experiences How long have you been using this RS? How has your interaction with it changed over the years?</p>	
<p>A4 Location</p>	
<p>A5 Leadership/entrepreneurship Do certain actors possess characteristics that make them effective leaders in managing the RS?</p>	<p>A5.1 entrepreneurial skills Do you have entrepreneurial skills that you apply in your role? Who brings in entrepreneurial skills to the management and maintenance of the spring? List some of these skills by some of the people.</p>
	<p>A5.2 educated Are actors well-educated about the attributes, dynamics of the RS?</p>
	<p>A5.3 respected as local leaders Do certain actors have sufficient experience to make them well respected as local leaders?</p>
<p>A6 (trust/reciprocity)/social capital²⁷⁹</p>	<p>Norms A6.1 trust Is there a strong culture of trust among community</p>

²⁷⁹ See Ostrom, 2009.

members/actors? If so, describe.

A6.2 reciprocity

Do community members/actors value reciprocity in interacting with each other? If so, describe.

A6.3 social capital²⁸⁰

A6.3.1 bonding social capital

Are there strong bonds among family and friends that facilitate collective management? If so, describe.

A6.3.2 bridging social capital

Are there strong ties between community members and organizations and resources? If so, describe.

To what extent do community members accept outsiders?

A7 Knowledge of SES/mental models

Do community members share knowledge of the RS? Is this knowledge shared with everyone? Describe the system of knowledge sharing.

A8 Importance of resource (dependence)

A8.1 dependence

To what extent is this community dependent of the RS? What other sources of water do they have?

A8.2 perception of value

How valuable is this RS to you individually and as a community?

A9 Technologies available

Section IV: Governance Systems (GS)

Tier 2

Tier 3

Tier 4

GS1 Policy area (ENVIRONMENTAL)

GS2 Geographic scale of governance system How large is the town/village? (Area)

GS3 Population What is the local population?

²⁸⁰ See Gasteyer and Araj, 2009.

GS4 Regime type	<p>What is the local government structure? Municipality/village council.</p> <p>Do they have specific rules/laws regarding water extraction, land use, etc? Are these rules/laws different from PA or PWA or Oslo rules/laws?</p>	
GS5 Rule-making organizations	<p>Public sector orgs (gov't agencies, etc)</p> <p>Are any government agencies involved in the maintenance, production, protection, or sustainable use/distribution of the spring? Elaborate.</p> <p>Private sector orgs (for-profit)</p> <p>Are any private companies or individuals involved (as consultants or actively involved) in the maintenance, production, protection, or sustainable use/distribution of the spring? Elaborate.</p> <p>Nongovernmental non-profit orgs</p> <p>Are any NGOs involved (as consultants or actively involved) in the maintenance, production, protection, or sustainable use/distribution of the spring? Elaborate.</p> <p>Community-based orgs (CBO)</p> <p>Do you have a user's association for managing the spring? Or do you have a village council or other community-based organization that manages the spring? If so, what are their responsibilities? And who is included/involved? Is there an executive council within the CBO?</p> <p>Hybrid orgs</p> <p>Are there any orgs that are jointly community-based and NGO/governmental/private?</p> <p>How does this work (funding, agenda, control, monitoring,</p>	
GS6 Rules-in-use	GS6.1 Constitutional-choice rules	<p>Monitoring & sanctioning</p> <p>Who monitors the implementation? How so?</p> <p>Who sanctions those who fail</p>

		Who has the power to make decisions about formal rule creation and implementation?	to implement (rule-breakers)? How so?
		<p>GS6.2 Collective-choice rules</p> <p>How are norms, strategies, and rules decided upon in fulfilling specific roles (administrative matters e.g. budget allocation; member fees; collecting fees; accounting & reporting; record keeping)? Who decides on these roles? How are the roles allocated?</p> <p>GS6.3 Operational-choice rules</p> <p>How are these rules implemented? How are practical decisions made based on available options?</p>	<p>Monitoring & sanctioning</p> <p>Who monitors compliance? How so? Who sanctions those who fail to comply (rule-breakers)? How so?</p> <p>Monitoring & sanctioning</p> <p>Who monitors these practical decisions? How are rule-breakers sanctioned?</p>
GS7 systems	Property-rights	<p>GS7.1 Public</p> <p>Is the spring on public land? Is the spring itself public property?</p> <p>GS7.2 Private</p> <p>Is the spring on private land? Is the spring itself private property?</p> <p>GS7.3 Collective</p> <p>Is the spring on land owned by the community? If so, how does ownership work? Is the spring itself collectively owned? If so, explain.</p> <p>GS7.4 Mixed</p> <p>Is the spring on land that is not fully privately, publically, or collectively owned? Explain. Is ownership of the spring itself also mixed?</p>	<p>GS7.3a</p> <p>Operational-level property rights Access Withdrawal</p> <p>GS7.3b</p> <p>Collective-choice property rights Management Exclusion Alienation</p>
GS8	Repertoire of norms and strategies		
GS9	Network structure	Centrality Modularity Connectivity Number of levels	
GS10	Historical continuity		

Section V: Action Situations: Interactions (I) → Outcomes (O)

Tier 2

Tier 3

Tier 4

Activities and Processes

I1 Harvesting

How is water harvested/extracted? What apparatuses do you use? Who is responsible?

I2 Information sharing

How is information about the RS generated? How is it shared between users? Is it

I3 Deliberation processes

I4 Conflicts

I4.1 Internal conflicts

Are there any internal conflicts between users? If so, what is the nature of the conflicts and how are they resolved?

I4.2 External conflicts

Are there any external conflicts between users and outsiders? If so, what is the nature of the conflicts and how are they resolved?

I5 Investment activities

Who invests in the maintenance, protection, production, and distribution? How are funds generated consistently?

I6 Lobbying activities

Do you lobby the government (local or higher level) to meet your needs/demands vis-à-vis the RS? If so, how do you organize this? Who decides on what issues to include on the agenda? Who is the representative? How are they chosen?

I7 Self-organizing activities

I8 Networking activities

~~I9 Monitoring activities~~

I10 Evaluative activities

Outcome Criteria

O1 Social performance measures (e.g. efficiency, equity, accountability, sustainability)

O1.1 Efficiency

How efficient is your management of the spring? With better resources (monetary, equipment, links to gov't/NGO/private orgs) and better information, could you improve this efficiency?

O1.2 Equity

Does your system ensure equitable distribution among

resource users? Can equity be improved?

O1.3 Accountability

Are all actors (users, harvesters, leaders, etc) accountable for their actions? Is there a system (formal/informal) that holds actors accountable? Elaborate.

O1.4 Sustainability

Do management goals include preservation for future generations?

O2 Ecological performance measures (e.g. overharvested, resilience, biodiversity, sustainability)

O2.1 Overharvesting

Do management goals ensure that the resource is not overharvested? Is this implemented?

O2.2 Resilience

Does planning account for the possibility of future drought or low rainfall? If replenishment is insufficient during a particular season, will there be enough stock to maintain use?

O2.3 Biodiversity

Do management goals include the protection/preservation of the ecosystem? Do goals account for plants and animals that depend on the RS?

O3 Externalities to other SESs

O3.1 Pollution

Do management goals account for pollution of the resource or of the surrounding environmental? If so, how is pollution avoided? How successful is this avoidance?

O3.1 Depletion of other RSs

Do management goals account for the

Section VI: Social, economic, political settings (S)

Tier 2

Tier 3

Tier 4

S1 Economic development

S2 Demographic trends

S3 Political stability

S4 Other governance systems

S5 Markets

S6 Media organizations

S7 Technology

Section VII: Related Ecosystems (ECO)

Tier 2

Tier 3

Tier 4

ECO1 Climate patterns

ECO2 Pollution patterns

ECO3 Flows into and out of
focal SES

Appendix 6: Phase I Questions

* Note that this phase of research included multiple trips to the six study locations during which I conducted qualitative semi-structured interviews. Accordingly, these are not fully formulated questions, but rather *themes* I wanted to explore with the participants.

1. April-May 2017 Questions:

Questions:

Dependent on source?
Why no longer farming?

Governance system?
Co-operation?
Agency?
Rules and enforcement and punishment?
Trust and reciprocity?

Israelis?
Oslo limits of extraction clear to users?
How are these enforced? Punished?

2. Follow-up questions for Village C1

- i. does the co-op serve Village C1 [REDACTED]?
- ii. How many farmers?
- iii. Well was drilled in [REDACTED]
- iv. Pre-electrification, used to pump water to farmers' lands with diesel-powered pump: DATES? Did they start pumping this way in [REDACTED]? Did they receive electricity in [REDACTED] when they powered the fields? [REDACTED]?
- v. Why citrus no longer profitable? Water and marketing?
- vi. Israelis would flood the market with very cheap oranges. Ground became filled with oranges, because wasn't even worth picking "carpet of oranges"
- vii. WHEN? Nobody said anything about water being insufficient. Same amount [REDACTED] m³) allocated to them since 1967. How has this affected them?

Appendix 7: Phase II Questions

*Note that this phase of research included multiple trips to the six study locations during which I conducted qualitative semi-structured interviews. Accordingly, these are not fully formulated questions, but rather *themes* I wanted to explore with the participants.

October-November 2017

THEMES (round 2 of fieldtrips):

1. Governance without state/government
2. Path dependence (self-reinforcing or reactive sequences): when were institutions created? What did they do during ottoman times? Has it been carried down from then?
3. Embedded (in socio-econ, polit, cult)
4. Nested in levels of governance:
 - networks of individuals
 - purpose within system?
 - aimed at inequality?
5. Agency:
 - Initiative
 - New ideas
 - How were institutions established?
6. Other:
 - Certain amount of scarcity leads to co-operation (scarcity due to EG)?
 - Hydro-solidarity?
 - awareness of water rights
 - Trust and reciprocity?

Who controls water:

- Funding
 - Payments
 - Municipality
1. Oslo limits to extraction→ if water is reduced, why say sufficient?
 2. What did Israel do to water springs
 3. Defectors and violators, rules, punishment?
 4. Do people still co-operate in tilling, etc? if not, when did it end?
 5. Projects and foreign aid
 6. Bricolage:
 - borrowed from external source (gov't? NGO?)
 - habitual ways
 - old practices adapted to new conditions
 - invented or borrowed arrangement

Appendix 8: Tables of Exceptional Governance Indicators

Table A8.1: Exceptional governance indicators and their effects on collective action in Village C1

Indicators of EG endogenous to CA institution		Indicators of EG exogenous to CA institution			
Insufficient water		Cultivation Indicators Ban on (additional) groundwater extraction		Other Indicators Infrastructure	
<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>
Extraction limit	Fines paid in military court Reduction in use requirement by shift to less water-intensive crops Shift to greenhouse cultivation	Banned from drilling additional boreholes	Barred from developing water sources Barred from developing agriculture	General EG infrastructure - Wall/electric fence - Seam zone - Check points	Hindered access to markets
Military enclosure of water reservoir		Land confiscation		De-development policies	
<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>
<ul style="list-style-type: none"> ▪ Closed military zone created around one of [redacted] water reservoirs: <ul style="list-style-type: none"> - Barbed wire electric fence surrounding reservoir 	<ul style="list-style-type: none"> ▪ CA users barred from accessing reservoir 	<ul style="list-style-type: none"> ▪ Infrastructure to confiscate land <ul style="list-style-type: none"> - Wall/electric fence - Seam zone 	<ul style="list-style-type: none"> ▪ Lack of/ hindered access to cultivated lands ▪ Apply for agricultural permits ▪ Shift to less water-intensive crops 	<ul style="list-style-type: none"> ▪ Subsidies to Israeli farmers ▪ Importing produce ▪ Israeli labor wages 	<ul style="list-style-type: none"> ▪ Inability to compete with Israeli and imported produce ▪ Labor shortages due to inability to pay agricultural laborers competitive wages

Table A8.2: Exceptional governance indicators and their effects on collective action in Village C2

Indicators of EG endogenous to CA institution		Indicators of EG exogenous to CA institution			
Ban on altering CPR		Cultivation Indicators		Other Indicators	
		Ban on groundwater extraction		Infrastructure	
<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>
<ul style="list-style-type: none"> ▪ Ban on installing spring water pumps ▪ Ban on building individual reservoirs 	<ul style="list-style-type: none"> ▪ Inability to increase water flow ▪ Inability for individual irrigators to store water and irrigate gradually ▪ Reduction in yield 	<ul style="list-style-type: none"> ▪ Ban on drilling wells/boreholes for additional freshwater 	<ul style="list-style-type: none"> ▪ Barred from developing agriculture 	<ul style="list-style-type: none"> ▪ General EG infrastructure: <ul style="list-style-type: none"> - Electric fence - No-man's land - Military presence/ Surveillance - Road closures - Check points - Settlements 	<ul style="list-style-type: none"> ▪ Hindered access to markets ▪ Reduced cultivation
		Infrastructure hindering access to land		De-development policies	
		<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>
		<ul style="list-style-type: none"> ▪ Barbed wire fence ▪ No-man's land ▪ Military presence/ surveillance 	<ul style="list-style-type: none"> ▪ Hindered access to cultivated lands ▪ Danger to cultivators crossing railway tracks and passing through no-man's land to reach land 	<ul style="list-style-type: none"> ▪ Subsidies to Israeli farmers ▪ Importing produce ▪ Israeli labor wages ▪ Labor shortages due to inability to pay agricultural laborers competitive wages 	<ul style="list-style-type: none"> ▪ Agricultural activity mainly family-based (i.e. lack of hired labor) ▪ Younger generations breaking family patterns of working in agricultural sector ▪ Inability to compete with Israeli and imported produce
Settlers descend on lands		<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>		
		<ul style="list-style-type: none"> ▪ Periodic confrontations with settlers, who regularly threaten to confiscate land 	<ul style="list-style-type: none"> ▪ Constant fear of facing confrontation and destruction ▪ Constant fear of land confiscation 		

Indicators of EG endogenous to CA institution	Indicators of EG exogenous to CA institution				
Ban on altering CPR	Cultivation Indicators		Other Indicators		
	Ban on groundwater extraction		Infrastructure		
		<ul style="list-style-type: none"> ▪ Imminent threat of destruction to crops/ cultivated lands 			

Table A8.3: Exceptional governance indicators and their effects on collective action in Village C3

Indicators of EG endogenous to CA institution		Indicators of EG exogenous to CA institution			
IPNA nature reserve		Cultivation Indicators IPNA nature reserve		Other Indicators Infrastructure	
<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>
<ul style="list-style-type: none"> ▪ Changes to CPR ecosystem banned: <ul style="list-style-type: none"> - Ban on installing pumps - Ban on installing or rehabilitating existing canals/pipes - Ban on cleaning or maintaining spring - Ban on—and removal of—growth of natural awning (bush) - Ban on—and removal of—drip irrigation network 	<ul style="list-style-type: none"> ▪ Inability to increase/accelerate spring flow—water flow insufficient ▪ Inability to protect reservoir—leading to algae overgrowth and other dirt/debris buildup ▪ Inability to maintain healthy CPR—leading to unsuitability of CPR as drinking water ▪ Reduction in yield 	<ul style="list-style-type: none"> ▪ Changes to topography banned: <ul style="list-style-type: none"> - Ban on changes to cultivated land and surrounding areas - Ban on paving the dirt road - [REDACTED] - Ban on installing electric network to power existing buildings 	<ul style="list-style-type: none"> ▪ Hindered access to valley ▪ Obstruction of agriculture as viable income source ▪ Agricultural development hindered ▪ [REDACTED] 	<ul style="list-style-type: none"> ▪ General EG infrastructure: <ul style="list-style-type: none"> - Military presence: Inspections/ aerial surveillance - Valley encircled by settlements 	<ul style="list-style-type: none"> ▪ Constant threat of destruction and confiscation of cultivated lands
Insufficient water		Ban on groundwater extraction		De-development policies	
<ul style="list-style-type: none"> ▪ Water table significantly reduced due to Israeli extraction of groundwater 	<ul style="list-style-type: none"> ▪ Crops (trees) weak due to insufficient irrigation 	<ul style="list-style-type: none"> ▪ Ban on drilling wells/boreholes for additional freshwater 	<ul style="list-style-type: none"> ▪ Barred from compensating for insufficient spring flow ▪ Barred from developing agriculture 	<ul style="list-style-type: none"> ▪ Prohibition on maintaining and developing land and water resources ▪ Israeli produce flooding markets 	<ul style="list-style-type: none"> ▪ Agricultural activity rendered insufficient for sustenance ▪ Inability to compete
		Settlers descend on lands			
		<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>		
		<ul style="list-style-type: none"> ▪ Periodic confrontations with settlers, who regularly threaten to confiscate land ▪ Sewage dumped from settlement to valley ▪ Wild boars released into valley ▪ Imminent threat of destruction to cultivated lands/crops 	<ul style="list-style-type: none"> ▪ Constant fear of facing confrontation and destruction ▪ Constant fear of land confiscation 		
		Military destruction of cultivated lands/crops			
<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>				
<ul style="list-style-type: none"> ▪ Trees uprooted; very little compensation provided by Israel 	<ul style="list-style-type: none"> ▪ Loss of sustenance; forced to find alternative means of survival 				

Table A8.4: Exceptional governance indicators and their effects on collective action in Village A1

Indicators of EG endogenous to CA institution		Indicators of EG exogenous to CA institution			
Spring unaffected		Cultivation Indicators		Other Indicators	
		Limits to groundwater extraction		None reported	
<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>
<ul style="list-style-type: none"> ▪ Israeli pumping of groundwater not perceived to have any effect on spring flow 		<ul style="list-style-type: none"> ▪ Oslo II, Article 40 limits to groundwater extraction 	<ul style="list-style-type: none"> ▪ Inability to develop agriculture 		

Table A8.5: Exceptional governance indicators and their effects on collective action in Village A2

Indicators of EG endogenous to CA institution		Indicators of EG exogenous to CA institution			
Spring unaffected		Cultivation Indicators		Other Indicators	
		Agro-sabotage		Lack of immediate/ conspicuous infrastructure	
<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>
<ul style="list-style-type: none"> ▪ Israeli pumping of groundwater not perceived to have any effect on spring flow 		<ul style="list-style-type: none"> ▪ Belief that Israel deliberately unleashed diseased seedlings 	<ul style="list-style-type: none"> ▪ Wrinkled zucchini/ courgette ▪ Reduced yield 	<ul style="list-style-type: none"> ▪ General EG infrastructure not visible, but surrounding entire Area A zone: <ul style="list-style-type: none"> - Area A zone surrounded by Area C zone - Surrounded by settlements 	<ul style="list-style-type: none"> ▪ Anticipated threat of settlement expansion

Table A8.6: Exceptional governance indicators and their effects on collective action in Village A3

Indicators of EG endogenous to CA institution		Indicators of EG exogenous to CA institution			
Ambiguous effect on spring		Cultivation Indicators		Other Indicators	
		Over extraction of groundwater		Israeli state surveillance	
<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>	<i>Reasons/Manifestation</i>	<i>Response/ Effects</i>
<ul style="list-style-type: none"> ▪ Mixed perceptions on whether Israeli pumping of groundwater has any effect on spring flow 		<ul style="list-style-type: none"> ▪ Israel pumping beyond 150m 	<ul style="list-style-type: none"> ▪ Water table lowered ▪ Water available above 150m is saline 	<ul style="list-style-type: none"> ▪ Satellite monitoring ▪ Monitoring groundwater pumped 	
		Limits to groundwater extraction		De-development policies	
		<ul style="list-style-type: none"> ▪ Oslo II, Article 40 limits to groundwater extraction 	<ul style="list-style-type: none"> ▪ Inability to reach freshwater ▪ Inability to develop agriculture 	<ul style="list-style-type: none"> ▪ Middleperson/distributor auctions produce at low prices ▪ Importing produce ▪ Subsidies to Israeli farmers ▪ Israeli farmers insured 	<ul style="list-style-type: none"> ▪ Barriers to marketing

Appendix 9: Tables of Collective Action Indicators

Table A9.1: Collective action indicators in Village C1

Dimension	Results			
	Indicator	Result		
Property rights	Type of property regime	Modern: land and water private property		
	Land and water property rights	Connected/appurtenant: land and water rights held jointly		
	CPR land rights regime	CPR located on private land		
	CPR rights regime	CPR: common property apropos operational and collective choice rights		
	Cultivated land rights regimes	Cultivated land: owned or leased		
Integrity of property regimes	Operational and collective choice rights compromised by exceptional governance conditions			
Origins of CA arrangements	Founding	Recorded: [REDACTED]		
	Conception	Organically conceived by community members		
	Impetus	Intended as preventive measure to protect villagers from Israeli land confiscation and to provide water resource for village's farmers		
	Startup costs	Procured grant [REDACTED]		
Formalization of institution	Registered officially as co-operative, wherein official documentation is filed			
Institutional arrangements	Resource	[REDACTED]	[REDACTED]	
	Resource units (RU)	Daily production: [REDACTED] m ³ /day ([REDACTED] hours) \cong [REDACTED] m ³ /hour (Users request water units according to need)		
	Resource system (RS)	<i>Irrigation network</i>	<i>Distribution/rotation system</i>	
		Motorized pumps extract water from boreholes, pump up the hill to two reservoirs, distribute to cultivated lands in valley via gravity irrigation	Low complexity: every [REDACTED] days (due to adaptive farming practices, water is sufficient to meet cultivators' needs)	
	Users and property rights bundles	Type of user	Property right holder	Associated property rights
		[REDACTED] farming households	Authorized users	Access and withdrawal
		[REDACTED] landowners	Claimants	Access, withdrawal, management
		[REDACTED] active co-op members	Owners	Access, withdrawal, management, and exclusion
		3 co-op leaders	Proprietors	Access, withdrawal, management, exclusion, and alienation
	Costs	Members	Non-members	
	[REDACTED] NIS/m ³ \cong [REDACTED] NIS/hour; (for electricity-powered extraction)	[REDACTED] NIS/m ³ \cong [REDACTED] NIS/hour		
Cultivation Crops	"Intensive agriculture": raised beds in greenhouses; irrigated through drip irrigation network Nightshade vegetables: tomatoes, bell/sweet peppers; eggplant/auergine; cucumbers			
Rules	Rules	Formalized: well-established, recorded, and generally adhered to		
	Meetings	Formal meetings wherein decision-making requires 51% attendance		
	Defection	Perception	Policies	
		Defection generally perceived to be result of personal extenuating circumstances or EG conditions (i.e. lands enclosed behind the Wall)	- Installed water gauges impervious to tampering - Sought legal advice	
Monitoring	CPR guarded by foreman (<i>muraqib</i>) who is paid via co-op revenues Main gauge and individual irrigators' gauges monitored by foreman			
Maintenance	Repairs	Maintenance done by hired mechanics paid via co-op revenues		
	Cleaning	<i>Muraqib</i>		
Co-management and external intervention	Foundation	Organic/grassroots founding of CA institution		
	Management	Managed independently by co-op leaders without external interference		
	Funding	Funding sought by co-op leaders [REDACTED]		
	Summary	CA institution founding and functioning are organic. Absence of co-management arrangements External intervention sought by co-op leaders		
Trust and reciprocity	Perception	Insiders	Outsiders	
		Perceive high level of trust amongst CA institution actors	Perceive lack of trust amongst CA institution actors: perceive corruption, fraud, self-serving behavior Caveat: perceive existence of trust in wider context—i.e. amongst cultivators in the village	

²⁸¹ This cannot currently be triangulated.

Table A9.2: Collective action indicators in Village C2

Dimension	Results			
	Indicator	Result		
Property rights	Type of property regime	Hybrid (combination of traditional and modern): land and water private property but acquired via traditional patrilineal inheritance; water shares owned traditionally by clans and divided amongst families in each clan proportionally to land shares		
	Land and water property rights	Connected/appurtenant: land and water rights held jointly		
	CPR land rights regime	CPR, canals, and reservoir located on public land		
	CPR rights regime	CPR: open access apropos operational rights (for drinking and husbandry purposes) and common property apropos collective choice rights (for irrigation purpose)		
	Cultivated land rights regimes	Cultivated land: <i>mashakeb</i> owned or leased		
	Integrity of property regimes	Operational and collective choice rights not compromised by exceptional governance conditions		
Origins of CA arrangements	Founding	Unrecorded and unknown; perceived as age-old, with variations amongst respondents ranging from Roman Era to pre-1940s		
	Conception	Conceived by community members' ancestors		
	Impetus	Unknown		
	Startup costs	Unknown		
	Formalization of institution	Informal but preserved over generations		
Institutional arrangements	Resource	Freshwater spring		
	Resource units (RU)	Spring flow = N.D. ²⁸²		
	Resource system (RS)	<i>Irrigation network</i> Spring water emerges from fountain in public square, flows through underground pipe via gravitational force to open cement canal atop arch leading to reservoir. Water collected in reservoir from sunset to sunrise. At sunrise, one community member measures reservoir stock with <i>ma'adud</i> . Opening on opposite end of reservoir releases outflow of spring water.	<i>Distribution/rotation system</i> High complexity: irrigation rotation every 8 days, whereby each clan is allocated water on one day. During cultivation seasons that entail crops requiring more frequent irrigation, rotation occurs every 4 days. Each clan distributes their allotted day's stock in accordance with each family's water shares (proportionate to land area). Spring water is released to cultivated <i>mashakib</i> via open dirt canals, from sunrise to sunset. Irrigators redirect spring flow to their individual <i>mashakeb</i> via a makeshift barrier comprised of dirt, stones, and rags.	
	Users and property rights bundles	<i>Type of user</i>	<i>Property right holder</i>	<i>Associated property rights</i>
		Members of the public (including tourists)	Authorized users	Access and withdrawal (open access)
		Outsiders (irrigators not from village)	Claimants	Access, withdrawal, management (pay a fee)
		Land renting insiders (minority)	Claimants	Access, withdrawal, and management (no fee)
		Landowning insiders (majority): 8 clans; approx. 40 irrigators	Proprietors	Access, withdrawal, management, exclusion, and alienation
	Costs	<i>Members</i> No charge for water, due to appurtenance of land and rights	<i>Non-members</i> "small fee" for outsiders who seek to harvest irrigation water	
	Cultivation	Traditional agriculture on small <i>mashakeb</i> . Irrigated through flood irrigation		
Crops	Vegetables and herbs: famous for Battiri eggplant/aubergine; herbs (mint, parsley); peas.			
Rules	Rules	Informal but complex: implement complex rules that are inherited from ancestors, but not formalized		
	Meetings	Informal community-based discussions/meetings occur on <i>ad hoc</i> basis, result in "oral rules". Decision-making loosely based on principle of consensus		
	Defection	<i>Perception</i> Chasm between assertion of lack of defection and perception of occasional defection	<i>Policies</i> Informal confrontation, leading to "financial penalty" and "moral penalty" (i.e. public shaming)	
	Monitoring	No formal monitoring: irrigators present in the field take it upon themselves to monitor CPR on informal basis		
Maintenance	Repairs	Funds collected from all water proprietors to cover costs of repairs on common property parts of the network (spring, canals, reservoir, <i>sanasil</i>). Contributions are proportional to water shares		
	Cleaning	Funds collected from all water proprietors to cover costs of cleaning common property parts of the network (spring, canals, reservoir, <i>sanasil</i>). Contributions are proportional to water shares		
Co-management and external intervention	Foundation	Organic/grassroots founding of CA institution		
	Management	Managed by water proprietors without external interference		
	Funding	In 1998, NGOs funded and implemented rehabilitation project to upgrade network by installing pipes and filters		
	Summary	CA institution founding and functioning are organic. Absence of co-management arrangements. External intervention perceived as incongruent with context, leading to challenges for irrigators		
Trust and reciprocity	Perception	<i>Insiders</i>	<i>Outsiders</i>	
		- Perceive high level of trust amongst CA institution actors - Exception is participant who rents land and water, and perceives low level of trust and virtually no reciprocity	Chasm between assertions and perceptions of trust and reciprocity: initial assertions of high levels of trust, with emphasis on co-operative culture; perceptions of a more nuanced situation emerged later	

²⁸² Data gaps currently cannot be filled.

Table A9.3: Collective action indicators in Village C3

Dimension	Results		
Property rights	Indicator	Result	
	Type of property regime	Hybrid (combination of traditional and modern): land and water private property but acquired via traditional patrilineal inheritance. Water shares proportional to land shares and divided amongst families in clan	
	Land and water property rights	Connected/appurtenant: land and water rights held jointly	
	CPR land rights regime	CPR located on public land	
	CPR rights regime	CPR: open access apropos operational rights (for drinking purpose); common property apropos collective choice rights (for irrigation purpose)	
	Cultivated land rights regimes	Cultivated land: owned	
Origins of CA arrangements	Integrity of property regimes	Operational and collective choice rights acutely compromised by exceptional governance conditions	
	Founding	Unrecorded and unknown: management system inherited and maintained. Co-operative dynamic greatly enhanced [redacted] years prior to fieldwork, wherein CA institution was formalized and made more complex [redacted]	
	Conception	Conceived by community members' ancestors and formalized by CPR owners	
	Impetus	Response to water shortage created by acute exceptional governance conditions was to formalize and increase complexity of CA institution—i.e. CA institution formalized due to perceived need created by water shortages	
	Startup costs	Unknown	
Institutional arrangements	Formalization of institution	Initially informal yet preserved over generations. Currently formalized	
	Resource	Freshwater spring	
	Resource units (RU)	Spring flow = N.D. ²⁸³	
	Resource system (RS)	<i>Irrigation network</i>	<i>Distribution/rotation system</i>
		Spring water flows through main pipe connected to water gauge; flows through the open canals to each plot of cultivated land	Moderate complexity: irrigation rotation every [redacted] days (despite agricultural requirement of 5-day irrigation rotation), [redacted] In practice, rotation occurs every [redacted] 14 days, depending on spring flow. High levels of flexibility amongst users, as common goal is to ensure all irrigators receive water. Each family receives water shares proportional to land area. Spring water is released to cultivated lands via open dirt canals, lasting approx. 30-60 minutes. Irrigators redirect spring flow to their individual plots via a makeshift barrier comprised of dirt and stones
	Users and property rights bundles	<i>Type of user</i>	<i>Property right holder</i>
		Members of the public (including tourists; Israeli settlers, soldiers)	Authorized users
		Landowners	Proprietors
	Costs	<i>Members</i>	<i>Non-members</i>
		No charge for water, due to appurtenance of land and rights N/A	
Cultivation Crops	Orchards and some mixed cropping. Irrigated through traditional irrigation system via open dirt canals		
	Fruit trees: olive, pomegranate, plum, guava		
	Crops: grapevines, wild thyme (<i>za'atar</i>)		
Rules	Rules	Formal and moderately complex: formally calculated and implemented <i>oral</i> rules created in response to changing geo-political and ecological conditions, but not officially established or recorded	
	Meetings	After initial formal meeting to establish CA rules, informal discussions/meetings occur on <i>ad hoc</i> basis and result in "oral rules". Decision-making based on principle of consensus amongst users, all of whom hail from single clan	
	Defection	<i>Perception</i>	<i>Policies</i>
		Perception that defection does not occur, due to flexibility and reciprocity amongst irrigators. Perception that everyone looks out for each other, going so far as to relinquish their share to ensure their neighbor receives water	No perceived need for policies, based on perceived lack of defection
Monitoring	No formal monitoring: irrigators present in the field take it upon themselves to monitor CPR on informal basis. No internal threat perceived. All threats are perceived to be in the form of official Israeli presence (i.e. Israeli military, IPNA). Notably, no perceived threat from Israeli settlers (although the existence of settlements themselves is perceived as existential threat, with conspicuous consequences)		
Maintenance	Repairs	Funds collected from all water proprietors to cover costs of repairs on common property parts of the network (spring, canals, reservoir)	
	Cleaning	Funds collected from all water proprietors to cover costs of cleaning common property parts of the network (spring, canals, reservoir)	
Co-management and external intervention	Foundation	Organic/grassroots founding of CA institution, based on water scarcity. Initial meeting with [redacted] people, including from municipality and the Village C3 Cultivator's Association	
	Management	Managed by water proprietors without external interference	
	Funding	N/A	
	Summary	CA institution founding and functioning are organic. Absence of co-management arrangements. External intervention perceived as impossible, based on perception of nonexistent local/national authority (this does not include IPNA/Israeli state)	
Trust and reciprocity	Perception	<i>Insiders</i>	
		Perceived high level of trust amongst CA institution actors. Perceive high level of reciprocity, resulting in willingness to sacrifice for others	
	<i>Outsiders</i>	Perceived high level of trust within CA institution	

²⁸³ Data gaps currently cannot be filled.

Table A9.4: Collective action indicators in Village A1

Dimension	Results		
	Indicator	Result	
Property rights	Type of property regime	Modern: land and water private property	
	Land and water property rights	Two arrangements: <i>basateen</i> (appurtenant land and water rights) and <i>muftalah</i> (separate land and water rights)	
	CPR land rights regime	CPR located on public land	
	CPR rights regime	CPR: open access apropos operational rights and common property apropos collective choice rights	
	Cultivated land rights regimes	Cultivated land: owned or leased (majority)	
	Integrity of CPR property regimes	Operational and collective choice rights compromised by co-management arrangements and lack of adherence to co-management conditions—i.e. not due to exceptional governance conditions	
	Origins of CA arrangements	Founding	Unclear ²⁸⁴ ; reported around [redacted]
Conception		Original institution organically conceived by community members. Later institution of co-management and WUA imposed by [redacted] municipality [redacted]	
Impetus		Unknown	
Startup costs		Original iteration unknown. Current iteration: international NGO	
Formalization of institution		Registered officially as WUA in [redacted]. Formal arrangements not upheld post [redacted]	
Institutional arrangements	Resource	Freshwater spring VillageA1/Village A1 Spring	
	Resource units (RU)	Daily production: \cong [redacted] m ³ /hour	
	Resource system (RS)	<i>Irrigation network</i> Point of emergence housed in municipality property [redacted] Pumped and distributed to irrigators [redacted] Irrigators have individual gauges	<i>Distribution/rotation system</i> High complexity: [redacted] <i>qanawatis</i> distribute <i>basateen</i> and <i>muftalah</i> water via reported [redacted] irrigation openings (only [redacted] of [redacted] are authorized). <i>Basateen</i> water receive [redacted] m ³ /week
	Users and property rights bundles	<i>Type of user</i> [redacted] water users (lease and own water) Water leasers Water owners	<i>Property right holder</i> Claimants Proprietors
	Costs	<i>Members</i> [redacted] /m ³ \cong NIS/hour for electricity-powered pumping	<i>Non-members</i> N/A
	Cultivation	Orchards and greenhouses. Irrigated through drip irrigation network	
	Crops	Fruit trees: banana, date palm Crops:	
Rules	Rules		
	Co-management	Highly formalized: meticulously calculated and recorded, but not adhered to	
	Intra-communal (WUA)	Formalized: formalized rules of WUA in [redacted], but not adhered to	
	Meetings	N.D.	
	Defection	<i>Perception</i> - Defection within WUA - Municipality illegally increasing irrigation hydrants from [redacted] to [redacted] - Bribery to gain favor with <i>qanawatis</i> . - Municipality providing 50% of water shares while still charging full price	<i>Policies</i> N.D.
Monitoring	CPR guarded by municipality		
Maintenance	Repairs	Maintenance done by hired mechanics paid by municipality	
	Cleaning	Cleaning done by municipality	
Co-management and external intervention	Foundation	Co-management imposed on community members	
	Management	Managed by municipality	
	Funding	Funding provided by [redacted] to rehabilitate network and set up co-management arrangements	
	Summary	CA institution founding and functioning via external interventions	
Trust and reciprocity	Perception	<i>Insiders</i> - Mixed perceptions: oscillating affirmation and denial of presence of trust and reciprocity amongst CPR users - Perception of corruption (including bribery), and of conflict between cultivators and <i>qanawatis</i>	
		<i>Outsiders</i> - Notable lack of trust, coupled with competing interests - Perception of corruption	

²⁸⁴ Data gaps currently cannot be filled.

Table A9.5: Collective action indicators in Village A2

Dimension	Results			
	Indicator	Result		
Property rights	Type of property regime	Hybrid: land is private property and water is private property or “shared” via <i>sharaka</i> arrangement. <i>Sharaka</i> users share a portion of their agricultural yield with water proprietors		
	Land and water property rights	Separated: land and water rights held separately		
	CPR land rights regime	CPR located on public land		
	CPR rights regime	CPR: open access apropos operational rights. Common property apropos collective choice rights (for irrigation purpose).		
	Cultivated land rights regimes	Cultivated land: owned or leased		
	Integrity of property regimes	Operational (access and withdrawal) and collective choice (management) rights compromised by co-management arrangements		
	Origins of CA arrangements	Founding	Unrecorded and unknown	
Conception		Conceived by community members’ ancestors		
Impetus		Unknown		
Startup costs		Unknown		
Formalization of institution		Informal but preserved over generations		
Institutional arrangements	Resource	Freshwater Spring		
	Resource units (RU)	Spring flow = N.D.		
	Resource system (RS)	<i>Irrigation network</i> Point of emergence, pump, canals, and water pipes enclosed and guarded by municipality. Spring water first flows through wide, stone/cement-lined open canals, then through pipes, then through open canals and distributed to the cultivated lands via gravitational flow. Each irrigator redirects water flow to their lands by closing/opening a metal gate to canal (<i>qattir</i>). Water is collected in individual reservoirs and stored to be used at each irrigator’s discretion	<i>Distribution/rotation system</i> <u>Low complexity</u> : irrigation rotation every [redacted] days. One irrigation “hour” lasts for 60 minutes. Schedule created by head of committee, sometimes referred to as a “ <i>qanawati</i> ”—although he is not literally a canal operator	
	Users and their property rights	<i>Type of user</i>	<i>Property right holder</i>	<i>Associated property rights</i>
		Approximately [redacted] total		
		<i>Sharaka</i> users	Claimants	Access, withdrawal, management
		Water leasers	Claimants	Access, withdrawal, management
		Water owners (majority from large land-owning families, Greek Orthodox and Coptic churches)	Proprietors	Access, withdrawal, management, exclusion, and alienation
	Costs	<i>Full hour</i> [redacted] JD	<i>minute “hour of water”</i> ([redacted] hours) [redacted] JD	
	Cultivation	Orchards and greenhouse cultivation; irrigated through drip irrigation		
Crops	Fruit trees: banana, date palm, citrus, guava Crops: nightshade vegetables: tomatoes, zucchini/courgetti, eggplant/aubergine			
Rules	Rules	Informal: rules are inherited from ancestors, but not formalized. Community members hold each other accountable		
	Meetings	Committee makes decisions independent of users. Head of committee is the “ <i>qanawati</i> ”		
	Defection	<i>Perception</i>	<i>Policies</i>	
		- <u>Perception of lack of intentional defection</u> - <u>Perception of occasional mistakes/neglect due to forgetting</u> - <u>Perception of children’s interference as playful</u>	Community members informally address each other	
Monitoring	No formal monitoring. Irrigators present in field informally monitor			
Maintenance	Repairs	<u>First fieldwork phase (April-May 2017)</u> : village council conducted repairs by collecting money from all irrigators <u>Second fieldwork phase (October-November 2017)</u> : upgraded to municipality, which funds repairs on parts of network located on public/municipal grounds		
	Cleaning	Same as above		
Co-management and external intervention	Foundation	Organic/grassroots founding of CA institution. Municipal management began later ²⁸⁵		
	Management	Point of emergence of spring located on municipal grounds, inaccessible to CPR users. Municipality appropriates [redacted] m ³ /hour?? as eminent domain, allocated for domestic purposes		
	Funding	Municipal funding for network maintenance. Health department funds/conducts water quality testing		
	Summary	CA institution founding is organic. Co-management only at point of emergence and public grounds		
Trust and reciprocity	Perception	<i>Insiders</i>	<i>Outsiders</i>	
		Perceived high level of trust amongst CA institution actors. Perceived as uniquely lacking encroachment on each other’s rights (also attributed to maintaining network of open canals)	- <u>Gatekeeper</u> : perceived property rights as not being honored due to cronyism - <u>Participant from village C3</u> : perceived high level of trust and lack of encroachment on rights	

²⁸⁵ Data gaps currently cannot be filled.

Table A9.6: Collective action indicators in Village A3

Dimension	Results		
	Indicator	Result	
Property rights	Type of property regime	Modern: land and water are private property	
	Land and water property rights	Separated: land and water rights held separately	
	CPR land rights regime	CPR located on public land	
	CPR rights regime	CPR: open access apropos operational rights. Common property apropos collective choice rights (for irrigation purpose).	
	Cultivated land rights regimes	Cultivated land: owned or leased (majority)	
	Integrity of property regimes	Operational (access and withdrawal) and collective choice (management) rights compromised by co-management arrangements	
	Origins of CA arrangements	Founding	Unrecorded and unknown (pre-1967). Participant [redacted]: [redacted] establishment of Water Committee for Village A3
Conception		Conceived by community members' ancestors. Participant [redacted]: [redacted] canals were built by large landowner	
Impetus		Unknown	
Startup costs		Unknown. Participant [redacted]: funded by large landowner.	
Formalization of institution		Informal but preserved over generations	
Institutional arrangements	Resource	Freshwater spring	
	Resource units (RU)	Spring flow: [redacted] m ³ /hour	
	Resource system (RS)	<i>Irrigation network</i>	<i>Distribution/rotation system</i>
		Point of emergence and pump enclosed and guarded by municipality. Spring water first flows through wide, stone/cement-lined open canals, then through water pipes, then through open canals and distributed to the cultivated lands via gravitational flow. Each irrigator redirects water flow to their lands by closing/opening a metal gate to canal (<i>qattir</i>). Water is collected in individual reservoirs and stored to be used at each irrigator's discretion	Moderate complexity: irrigation rotation every [redacted] days. O irrigation "hour" lasts [redacted] minutes. Schedule created by head of Water Committee for Village A3, sometimes referred to as a " <i>qanawati</i> ". Scheduling entails high level of complexity
	Users and property rights bundles	<i>Type of user</i>	<i>Property right holder</i>
		Approximately [redacted] ⁶ total	
		<i>Sharaka users</i>	Claimants
		Water leasers (majority)	Claimants
	Costs	Water owners (majority from large land-owning families, Greek Orthodox and Coptic churches)	Proprietors
		[redacted] minute "hour of (irrigation) water": annual payment of [redacted] JD/hour to " <i>qanawati</i> "	
Cultivation	Orchards and greenhouse cultivation; irrigated through drip irrigation		
Crops	Fruit trees: banana, date palm, citrus, guava		
	Crops: nightshade vegetables: tomatoes, zucchini/courgetti, eggplant/aubergine		
Rules	Rules	Informal: rules are inherited from ancestors, but not formalized	
	Meetings	Nine-person committee makes decisions independent of users. Membership is clan-based. Head (" <i>qanawati</i> ") is position acquired via patrilineal inheritance	
	Defection	<i>Perception</i>	<i>Policies</i>
		Perception of lack of accountability for water theft. Perception that traditional accountability and law enforcement mechanisms are ineffective	Chaos due to ineffective rule implementation
Monitoring	No formal monitoring: irrigators present in the field take it upon themselves to monitor CPR on informal basis		
Maintenance	Repairs	First fieldwork phase (April-May 2017): village council conducted repairs by collecting money from all irrigators Second fieldwork phase (October-November 2017): upgraded to municipality, which funds repairs on parts of network located on municipal grounds	
	Cleaning	" <i>Qanawati</i> " responsible for cleaning canals	
Co-management and external intervention	Foundation	Organic/grassroots founding of CA institution. Municipal management began later ²⁸⁷	
	Management	Point of emergence of spring located on municipal grounds, inaccessible to CPR users. Municipality appropriates [redacted] m ³ /hour as eminent domain, allocated for domestic purposes	
	Funding	Municipal funding for network maintenance	
	Summary	CA institution founding is organic. Co-management only at point of emergence and municipal grounds	
Trust and reciprocity	Perception	<i>Insiders</i>	
		<i>Outsiders</i>	
	Mixed perceptions: oscillating affirmation and denial of presence of trust and reciprocity amongst CPR users. Assertion of mutual respect. Simultaneous admission of theft problem originating 30 years prior to fieldwork	Perceived theft problem	

²⁸⁶ Data gaps currently cannot be filled.

²⁸⁷ Data gaps currently cannot be filled.