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The Instrumentalisation of Water by the Islamic State of Iraq and Syria

Daniel Caves-San José [1]

Research Article

Abstract

Intrastate wars involving non-state armed groups (NSAGs) are becoming an increasingly common form of violent conflict. How water is used conflict is therefore an important area of research. While previous research has traditionally viewed the use of water by NSAGs as a military tool, the Islamic State of Iraq and Syria (ISIS) instrumentalised water for a range of reasons which has not been examined in previous research. This paper addresses this gap by analysing the range of violent and non-violent means ISIS used to instrumentalise water for both state-building and military ends, linking this to the rebel governance cycle. Secondary literature analysis and thematic analysis are used to identify patterns in ISIS' instrumentalisation of water within pre-existing literature. This is conducted in conjunction with two case studies: water governance and control of dams between 2014 and 2018. This paper finds that ISIS primarily instrumentalised water in three ways. Firstly, ISIS monopolised and institutionalised control over water services to build legitimacy as a state-like actor, symbolised by their control over dams. Secondly, ISIS used water to demarcate the territorial andudemographic boundaries of their 'alternative' state, managing water supply to specific groups and controlling dams to flood or redirect water. Thirdly, as their territorial control became increasingly under threat, ISIS instrumentalised water through 'scorched earth' tactics, abandoning their governance of water entirely from 2016. These findings suggest that a new hybrid understanding of how NSAG's interact with water (and other resources and built infrastructure)sis needed to better analyse their dynamic and varying behaviour and priorities.

Key words: Non-state armed groups, Rebel governance, ISIS, Water governance, Dams

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1. MSc Conflict Prevention and Peacebuilding, School of Government and International Affairs, Durham University, England

Email: daniel.caves-san-jose@durham.ac.uk Orcid Code: https://orcid.org/ 0009-0007-5677-7555

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Introduction

The Islamic State of Iraq and Syria (ISIS, or Daesh) is an example of a non-state armed group (NSAG) – a group not affiliated with a state actor who uses violence to achieve their primarily military objectives (Schillinger & Özerol, 2023, p. 164). At its height, ISIS controlled 100,000 square kilometres of land and established and maintained extensive bureaucratic frameworks through various violent and non-violent means. This included forms of rebel governance, defined as how an NSAG regulates non-combatants during conflict (Pfeifer & Schwab, 2023, p. 3). Specifically, ISIS instrumentalised water in multiple ways as a political, economic, and military tool, including as part of their rebel governance, in which water can serve both military and civilian functions as a result of its dual-use characteristic (Daoudy, 2020). This paper therefore addresses the question: in what ways did ISIS instrumentalise water between 2014 and 2018?

This research fills two core gaps in previous literature. First, it centres on the sectarian nature of ISIS' instrumentalisation of water, which previous studies have overlooked. Second, it contributes to a growing body of literature on the dual-use nature of water whilst taking a broad view of the range of methods ISIS used without presuming their motivations behind this.

This paper argues that ISIS instrumentalised water in three main ways. ISIS monopolised and institutionalised their control over water services to build legitimacy as a state-like actor, which their control over dams symbolised, aligning with findings in existing research. However, this research also finds that ISIS used water to demarcate the territorial and demographic boundaries of their 'alternative' state, managing water supply to specific groups and controlling dams to flood or redirect water. This is an original finding in how ISIS instrumentalised water, based on a novel form of conceptualising the weaponisation of water through state-building weaponisation. As their territorial control faced increasing threats, ISIS instrumentalised water through 'scorched earth' tactics, abandoningntheir governance of water entirely from 2016.

This paper begins by providing context to the rise of ISIS and its links to water. The literature review analyses previous research on how ISIS instrumentalised water. I use the

theory of cyclical rebel governance, as well as refining the theoretical framework of water instrumentalisation to analyse the methods and motivations for instrumentalising water, focusing on two case studies: water governance and dams. Finally, the paper discusses the chronological patterns of these developments.

On the 5th of July 2014, the Islamic State proclaimed the creation of a new Islamic Caliphate in Iraq and Syria, strictly for Sunni Muslims, becoming known as ISIS (Bamber-Zryd, 2022, p. 1314). In declaring itself a new state-like actor, ISIS entered into direct competition for power and legitimacy over territory and populations, leading to both a military and ideological war (Ehteshami, et al., 2020, p. 108). ISIS aimed to provide long-term stable control, and at its peak in January 2015 controlled over 100,000 square kilometres of territory (Mazlum, 2017, p. 109). However, it lost 20,000 square kilometres between January 2015 and January 2017, leading to a more rapid loss of territory from 2017 onwards (Bamber-Zryd, 2022, p. 1313).

Figure 1: ISIS at its Territorial Peak, January 2015 (Vohra, 2019).

ISIS' territorial control aligned with the religious demographics of Iraq and Syria. The majority of their territory was in areas with larger Sunni populations, reflecting the sectarian nature of their desired alternative state.

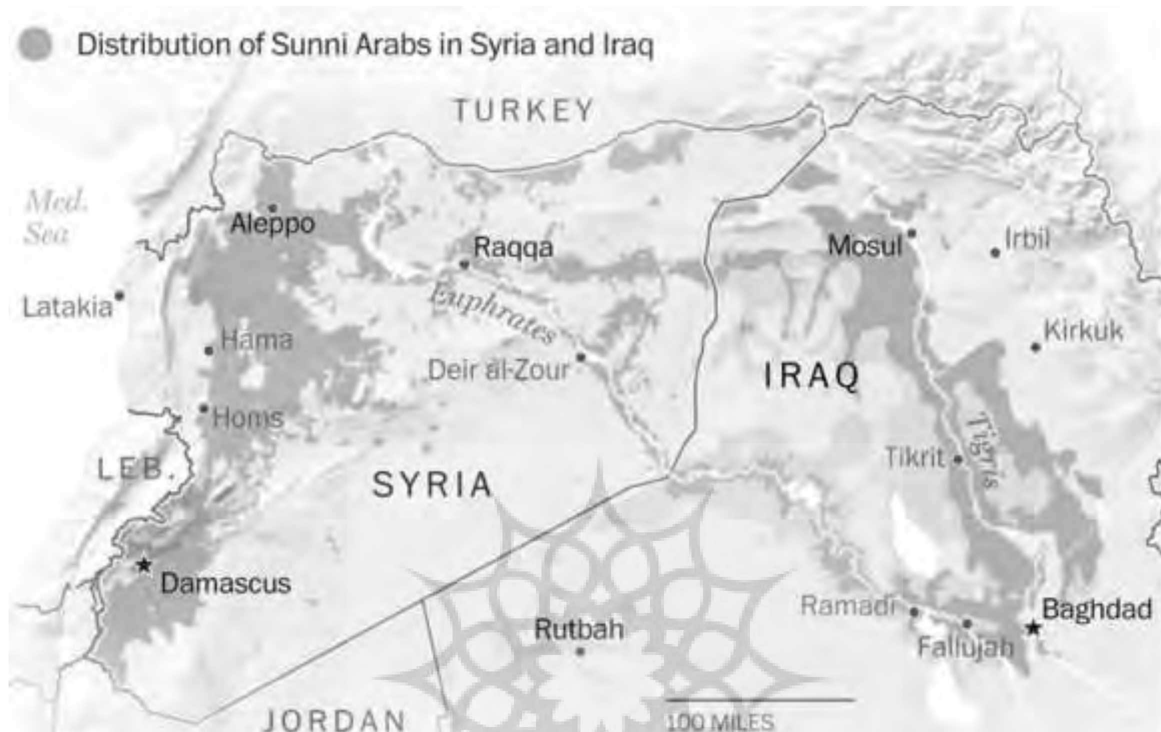

Figure 2: Distribution of Sunni Muslims in Syria and Iraq (Sly, 2016).

A key factor leading to the rise of ISIS was poor water management. Since the 1990s, vast parts of Iraqi and Syrian water infrastructure suffered from poor maintenance and delayed modernisation (von Lossow, 2016, p. 86). As such, even before the beginning of the Syrian civil war and armed conflict with ISIS, the region faced economic and social troubles due to droughts (Mazlum, 2017, p. 110). For example, between 2006 and 2010 in Syria and 2011 and 2012 in Iraq, severe droughts made agricultural activities - a major source of employment - impossible (Mazlum, 2017, p. 110). ISIS took advantage of this context by providing an alternate source of employment for locals by recruiting them (von Lossow, 2016, p. 86). ISIS was clearly aware of the importance of water for the populations they controlled, and that with the onset of armed conflict, disruption to water infrastructure

would lead to gaps in water service provision that could be later monopolised by them (Schillinger & Özerol, 2023, p. 166).

The 2011 withdrawal of US troops from Iraq left a power and security vacuum in the country. Weapons and military vehicles were left behind and stored in Iraqi military stocks which were later taken by ISIS as they took control of cities (Chulov, 2011; Amnesty International, 2015). At the same time, the Iraqi government became increasin. ly sectarian, enlisting Shi'a militias into the armed forces and thereby curbing Sunni-led protests.(Bamber-Zryd, 2022, p. 1326). This gave potency to the narrative driven by ISIS as the legitimate protector of the Sunni population. Sectarian tensions were also present during the Syrian civil war which gave ISIS space to set up training camps and move resources to and from Iraq and Syria. The rise of ISIS was therefore catalysed both by water insecurity and sectarian tensions (Mehmetcik & Kurşun, 2018, p. 58).

Literature Review

Literature on ISIS' instrumentalisation of water typically falls. into four categories. Firstly, those who limit their analysis to weaponisation, assuming NSAGs use water solely as a violent tool. Secondly, those who reference water as a means for territorial expansion. Thirdly, those who observe how ISIS governed water through non-violent means. Finally, those who focus on the dual-use of water for military and non-military objectives.

Rebel governance literature typically discusses service provision in education or healthcare, neglecting water (Schillinger & Özerol, 2023, p. 164). When NSAGs are linked to water, they are typically viewed as solely weaponising water for military advantages. For example, Kibaroglu and Caner Sayan argue that ISIS deliberately flooded towns and ruined economies, but fails to discuss the possible motivations for this (2021, p. 152). This perspective is unhelpful for this research, as they take the expected behaviour of ISIS as a violent non-state actor as a sufficient explanation for their instrumentalisation of water as a weapon, presuming they are opportunistic actors without tactical or long-term goals (Revkin, 2018, p. 110).

Some address this assumption by considering how water can be used for territorial expansion using dams. Control of dams aligned with one of ISIS' main goals: territorial expansion (King, 2016, p. 159). Von Lossow notes that control of dams allows for de-facto control over large territories by retaining, diverting or flooding water (2016, pp. 84-6). By controlling dams, ISIS could project control over vast swathes of territory downstream, threatening the destruction of populations and factors challenging their control, such as the movement of enemy troops. Al-Marashi (2015) goes as far as to call this form of instrumentalisation "hydro-terrorism", noting cases of dam manipulation to hinder the Iraqi military's mobilityowhich in the process displaced local populations. Lefevere applies the term hydro-terrorism more broadly, to include the deliberate flooding of areas to force populations flee or destroy their livelihoods for reasons beyond military opportunism (Lefevere, 2020, p. 19). This highlights an important consideration by King: water is a "relatively indiscriminate weapon" (2019, p. 299), meaning population displacement is a frequent form of collateral damage when water is weaponised. Therefore, it is important to consider dams as the second key example of how ISIS instrumentalised water, as well as how ISIS' priorities changed understandings of and concerns with collateral damage.

Critics claim this is a narrow view of how water can be instrumentalised, failing to consider the importance of wartime governance of water and motivations for this to achieve an NSAG's objectives (Schillinger & Özerol, 2023, p. 164). Armed groups like ISIS with long time horizons (a desire for long-term control) prefer 'rebelocracy' (the governance of services) over 'aliocracy' (in which NSAGs do not take responsibility of governance themselves) because the former facilitates territorial control and elicits civilian cooperation (Arjona, et al., 2015, p. 11). Schillinger and Özerol have developed the most comprehensive theory of motivating factors, claiming that the most powerful motivator is the quest for legitimacy and acceptance by the local population (2023, p. 166). Other motivating factors include undermining the ruling state's authority and legitimacy, driving local recruitment, and enabling economic activity. Caris and Reynolds argue that the humanitarian assistance provided by ISIS, including water governance, was instrumentalised in order to develop a relationship of dependency to consolidate their

territorial and demographic control in urban areas (2014, p. 21). However, this view fails to consider how ISIS attempted to develop a social contract with citizens through water governance.

McLoughlin highlights the importance of public service provision as a key source of state legitimacy, as opposed to the use of water for coercive means (2015, p. 341). In this sense, water provision is a material expression of the social contract between a government and its citizens, enhancing state legitimacy (Grynkewich, 2008, p. 351). From this, King notes the importance of the successes and failures of service provision in shaping ISIS' capacity to legitimise their presence (2016, p. 161). Finally, Revkin and others view water governance as a way of developing a form of 'competitive governance' to facilitate the perception of ISIS as legitimate and a viable alternate state (2020, p. 24; Asal, et al., 2022, p. 835). As such, there is a consensus on the importance of legitimacy for rebel governance, but there is a diversity of other possible motivating factors for the instrumentalisation of water. Crucially, however, this body of literature has failed to analyse the role of ideology in understanding rebel governance (Pfeifer & Schwab, 2023, p. 7). Therefore, there has been no explicit discussion of how ISIS instrumentalised water to attempt to build their 'alternative' state, in other words to delimit new territorial and demographic outlines of their idealised state along sectarian lines.

Recent scholarship has moved beyond seeing water as either a weapon or a governance tool. They centre instead on the dual-use nature of water, serving both military and state-building functions, Which Daoudy finds ISIS achieved using non-violent means (as well as violent ones) (2020, p. 1350). Von Lossow uniquely views the dual-use characteristic of water as causing an inherent tension between water provision (to develop legitimacy as a state-building tool) and the use of water as a weapon (which causes infrastructure damage as a military tool) (2016, p. 93). However, he limits his understanding of the use of water as a weapon to dam control. This research provides a wider analysis of the overlapping use of violent and non-violent means used by ISIS for military and state-building ends which themselves cannot be clearly distinguished at times.

Theoretical Frameworks

The Governance Cycle of Rebel Groups

It is crucial to scrutinise the spatial and temporal dynamics involved in rebel governance (Pfeifer & Schwab, 2023, p. 4) in order to move away from ahistorical understandings of rebel governance and how they emerge. For example, Krause understands ISIS' governance as having insurgent, state-like, and revolutionary characteristics simultaneously. However, this omits how and why water was instrumentalised and how this changed over time and space (Bamber-Zryd, 2022, p. 1316).

Pfeifer and Schwab identify three distinct phases of territorial control: conquest, consolidation, and loss of territorial control, as well as three phases for rebel governance itself: development, consolidation, and decay of rule (2023, p. 8). These cycles impact the relationship between a rebel group, territorial control, and civilians, particularly the extent to which a group can or wants to govern civilians. Bamber-Zryd, on the other hand, identifies four phases, separating conquest into insurgency and territorial control:

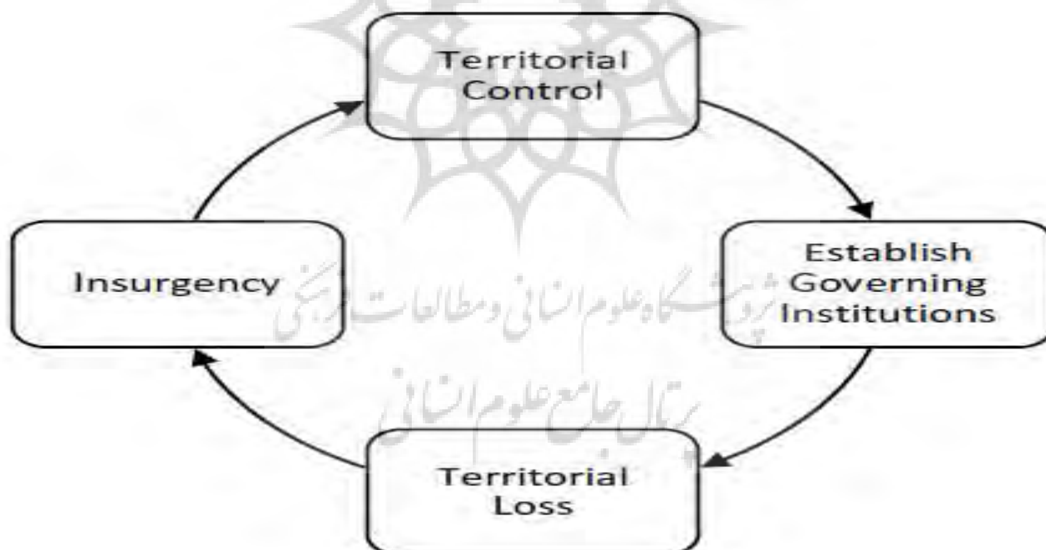

Figure 3: Phases of Rebel Governance (Bamber-Zryd, 2022, p. 1318)

In this research, I utilise Bamber-Zryd's conception of rebel governance, as it distinguishes between defensive and offensive military tactics (defensive during the processes of territorial loss, and offensive during insurgency), and combines Pfeifer and

Schwab's two cycles together, as the rebel governance and territorial control cycles overlap. This research looks at the temporal, rather than the spatial elements of this. This is a necessary limitation of the scope of this research, and reflects the fact that most of ISIS' territories fell under the same stage (Bamber-Zryd, 2022, p. 1319).

The way these phases of rule interact with the methods and motivations for control have been under-analysed. These governance phases are not entirely distinct, as the methods used to instrumentalise water can serve more than one motivation. This is reflected in that both the stages of territorial control and the establishment of governing institutions occurred simultaneously, until 2015. Depending on the phase, a rebel group encounters distinct constraints and prioritises different objectives. This is crucial for conceptualising how ISIS instrumentalised water at different phases of its life cycle and why they changed.

Water Instrumentalisation

Two key conceptual framings are crucial when discussing water instrumentalisation. Firstly, as Daoudy notes, water instrumentalisation includes various violent and non-violent methods, and so does not fit neatly into the categories of 'conflict' (weaponisation) or 'cooperation' (governance) (2020, p. 1349). Therefore, it is difficult to divide the motivations for the weaponisation of water as either being for military or state-building purposes, as they are often intertwined. This relates to the dual-use nature of water as serving both military and civilian purposes. Relational ontology is an important concept to strengthen this basis. Relational ontology is an understanding of being in the world in which the characteristics of an object or agent are not innate and fixed, but rather are fundamentally malleable and "in flux" (Qin, 2016, p. 34). This is because an objects characteristics are defined by interaction, not an internal fact. This can be applied to understanding how water can serve both functions based on violent and non-violent use. As the literature review has uncovered, neither ISIS nor water contain fixed or innate characteristics. ISIS' practices and aims changed over time, and water itself is not inherently violent or non-violent nor serves merely military or civilian purposes. Instead, it is the interaction between ISIS and water that characterises them both.

The second conceptual framing is von Lossow's distinction between water as a weapon (in which resources are a direct tool in conflicts) and water as a target (meaning the destruction of water infrastructure) (2016, pp. 84-6). This distinction clarifies the motivations behind water instrumentalisation. To simply describe water as being 'weaponised' omits this nuance. King (2019) outlines two important forms of weaponisation: tactical weaponisation, disabling military access to territory, and water as an instrument of psychological terrorism, threatening the use of water as a weapon to create fear and ensure compliance. However, this paper argues a further form of water weaponisation should be considered, which I term state-building weaponisation. Following this paper's original findings, this refers to using water to violently reshape the demographic and territorial boundaries of ISIS' imagined state, illustrating how water can target both people and space. By exploring the motivations for instrumentalising water, one can better understand the fluctuating use of violent and non-violent methods to achieve this.

Research Method

The research methods used in this research are qualitative. Secondary data analysis refers to the use of existing data and literature to find answers to an original question (Tripathy, 2013, p. 1478). This form of qualitative research is used in conjunction with thematic analysis to identify and analyse patterns in ISIS' instrumentalisation of water within pre-existing literature to develop a comprehensive and chronological understanding of how this developed and changed over time (Braun & Clarke, 2006).
Case studies are in-depth analyses of particular phenomena to explore complex processes (Pierce, 2008, p. 52). The analysis section focuses on two cases: water governance and dams, focusing on territories controlled by ISIS from 2014 to 2018. Therefore, a temporal, spatial, and thematic scope are set to focus the case study analyses. This period includes ISIS' rise, peak, and fall in territorial control, spanning all four phases of rebel governance: gaining territorial control and establishing governing institutions (until 2015), territorial loss (mainly until 2017), and insurgency (beyond 2018) (Bamber-Zryd, 2022, p. 1318). Water governance has been chosen as water provision is essential for

daily life and relates directly to questions of legitimacy (Martínez & Eng, 2018, p. 239). Dams serve as the second case study, as they exemplify the dual-use nature of water. The contamination of water as an alternate case study was not chosen because cases often involve questions of intentionality, and as such make for an unclear basis for analysing how ISIS instrumentalised water (Mazlum, 2017, pp. 117-8; Lewis, 2014). The case studies are structured by illustrating ISIS' primary motivations for water governance and dam control, outlining the range of violent and non-violent methods used.

Analysis - Water Governance

The first case study is water governance. Water governance is defined as the implementation of systems to "develop and manage water resources, and the delivery of water services" (Schillinger & Özerol, 2023, p. 165). The following section is organised by the primary goals ISIS had in their statebuilding and military aims, analysing the range of methods relating to water governance that they used to achieve them.

Developing Legitimacy

Developing legitimacy is arguably the most important motivating factor for rebel groups to provide forms of governance, including water governance (Schillinger & Özerol, 2023, p. 165; McLoughlin, 2015, p. 341; Grynkewich, 2008, p. 351). The link between water provision and public perception of legitimacy is clear: in the context of a violent takeover of a city, such as Mosul in June 2014, water provision was cut off to cause chaos and provide ISIS a military advantage as a result (Mazlum, 2017, p. 115). In the process, many residents fled the city and returned only when ISIS restored water services. Once in control of a city, ISIS typically took over local councils, monopolising governance and hence control over the population (Al-Tamimi, 2015, p. 123). This monopolisation engendered legitimacy in the face of chaos, in which the provision of water is seen as a lifeline and a fundamental state activity. This is particularly important as Schwab and Pfeifer (2023, p. 441) note that NSAGs are likely to be perceived as more legitimate if service provision were of a similar or higher quality than the previous state actor. As such, the return of residents demonstrated an implicit acceptance of the authority of ISIS and

the necessity of water governance to achieve this. Developing legitimacy also involved undermining the authority of the previous state actor. This was achieved by institutionalising and bureaucratising their own forms of governance. As well as through taxation (discussed in the next section), ISIS created new Diwans (government departments), such as the Diwan al-Khidamat, which focused on water and electricity services (Al-Tamimi, 2015, pp. 123-4). Therefore, by institutionalising water governance, ISIS legitimised their control by acting in the same way as the previous state actors had, and, in the process, undermined previous authorities.

These processes were focused in urban areas in order to reach the highest number of people using pre-existing infrastructure as easily as possible (Caris & Reynolds, 2014, p. 21). Water provision and maintenance is also easier in places with higher population density, as opposed to dispersed, rural communities. This can also be mapped along where the centres of ISIS' territorial control was, as the focus on urban areas shows how water governance was not used as a form of extending or projecting territorial control. Within urban areas, state personnel were often kept in their positions or brought in when needed to maintain pipelines and complex infrastructure (von Lossow, 2016, p. 94), demonstrating the long-term plans to provide water security to populations under their control.

Enabling Economic Activity

Water governance interlinks with economics in two ways: coercive extraction of funds, and taxation. The projection of territorial control in downstream areas by controlling dams allowed for the exploitation of populations living outside of ISIS governed areas. By threatening to flood or cut off water supply to downstream villages, ISIS 'offered' villages continued supply in exchange for payment (von Lossow, 2016, p. 94). This tactic enabled them to extort funds by using water as a psychological weapon, creating fear among the population to ensure compliance (King, 2019, p. 299).

The second form of raising funds is taxation. Most literature on rebel governance treats taxation as a short-term extractive tool, similar to that of looting (Revkin, 2018, p. 110). However, ISIS used taxation as a process of investment into infrastructure needed for

long-term governance. For example, in 2014, ISIS set up a taxation authority in Raqqa - the de facto capital of the Islamic State in Syria - to collect the equivalent of $20 twice a month from business owners to fund electricity and water services (Mazlum, 2017, p. 115), where they also collected taxes from populations in exchange for water access (King, 2019, p. 301). Local populations were threatened with significant fines if such taxes were evaded (Daoudy, 2020, p. 1357). Although King claims these funds were used to procure weapons, it is more likely the funds serve as part of a feedback loop to maintain water services, given the importance of developing legitimacy through secure water supply, particularly in large urban areas.

Therefore, taxation is relevant for water governance as it facilitates state-building in two key ways. Firstly, it demonstrates social control, contributing to the perception that ISIS has a monopoly over resources and is a strong authority. Secondly, it plays a part in the formation of a collective identity, as taxation turns individuals in the midst of violence and chaos into citizens of a new political community (Revkin, 2018, pp. 110-1). The difference between coercive extraction and taxation is fundamental to understand the core motivation behind how water was instrumentalised by ISIS: to build an alternative state by reshaping the territorial and demographic boundaries of who is included as part of the state. Those outside of ISIS' governance interacted with them in different ways than those within areas where they governed. Therefore, as the social contract did not apply to those outside of ISIS' imagined state, they were able to use coercion and threats more easily as part of their financing, whereas taxation, as a key state activity, was used 'within' this alternative state. However, this distinction is one overlooked in pre-existing literature.

Building an Alternative State

As discussed, ISIS went to great lengths to legitimise their presence while undermining the authority and legitimacy of previous state actors. However, these efforts went beyond subverting the previous authorities, developing an 'alternative' state. This meant the creation of a state specifically by ISIS, as opposed to simply controlling territory and populations within Iraq and Syria. This follows the core aspects of a state in Article 1 of the Montevideo Convention (1933, p. 3): "a permanent population [and] a defined

territory". Mehmetcik & Kurşun (2018) and Clément, et al. (2021) argue that to claim ISIS' state-building processes were similar to that of pre-existing states is misleading, as ISIS opposes the current state system in creating a Caliphate. However, I argue that the processes of state development in the ISIS case (territorial and demographic control) are identical to those outlined in the Montevideo Convention. More importantly, where was not and who was not considered part of ISIS' state is crucial to understand how they instrumentalised water, so to ignore this as simply a unique form of state-building is misguided. Alternative state-building can be carried out in two ways: the active acceptance of certain groups (and hence the space they inhabit), or the active rejection of other groups. In relation to the instrumentalisation of water through water governance, this was achieved through the provision of water to Sunni Muslims and the active removal of water services or forced expulsion through using water as a weapon to areas with larger Shi'a or Chirstian populations, a form of state-building water weaponisation. As such, the creation of an alternative state was developed along sectarian lines.

ISIS' focus on controlling territories and populations with larger Sunni Muslim populations (conforming to their sectarian ideological vision of their Caliphate) existed within a context in which Sunni Muslims were marginalised, and sectarian politics was rampant in both Iraq and Syria (Mehmetcik & Kurşun, 2018, p. 58). Sectarian forms of water provision gave greater legitimacy to ISIS as the citizen-authority link was made stronger through sectarian ties. This shaped the demography of who the citizens of ISIS' alternative state were. For example, in the taking of Mosul and Tikrit in June 2014, water services were offered at a discounted rates to Sunni residents, therefore developing a hierarchy of citizenship along sectarian lines (King, 2016, p. 162). Therefore, the provision of water to cities which were previously marginalised meant Sunni Muslims saw ISIS as liberators (von Lossow, 2016, p. 93). More common, however, was the shaping of an alternative state by suspending water supply or destroying villages with large Christian or Shi'a communities. Following the case of Mosul, water purification processes were suspended from Mosul to Christian minority villages on the outskirts of the city, such as Qaraqosh and Bartalla (King, 2016, p. 158). Water pipes were also blocked, which formed part of the forced expulsion of 50,000 residents in the region

(King, 2016, p. 158). Similar processes occurred in Shi'a areas of Diyala province, East of Baghdad (von Lossow, 2016, pp. 87-8). These examples of water weaponisation move beyond the core forms outlined by King (2019) and instead highlights a novel form through state-building weaponisation of water.

As von Lossow argues, although ISIS did not build new infrastructure, state-building through maintaining water provision was still fundamental to increase popularity (2016, p. 94). What this highlights is the importance of the perceived or actual successes and failures of service provision to indicate ISIS' capacity to legitimise their authority (King, 2016, p. 161). As such, it is important to note that, despite the widespread instrumentalisation of water for a range of state-building processes, there are extremely varied discussions as to whether the (primarily) Sunni populations under ISIS' control perceived their water governance to be successful or not.

Using the earlier discussed case of Mosul, Revkin estimates that, although ISIS allowed for the free movement of civilians in the first few months of its control after June 2014, 75% of Mosul's population of 1.2 million remained in the city eight months after the group's arrival (Revkin, 2020, p. 24). She claims that this reflects the concept of 'competitive governance', in which civilians perceived ISIS' control of water services as favourable compared to the previous regime, reflecting their desire to remain in the city. She refers, for example, to an interview conducted in June 2014 with a local taxi driver who stated that "the water is back… the prices are lower", noting some of the ways water was instrumentalised to develop legitimacy (Revkin, 2019, p. 94).

On the other hand, da Silva et al. found, when conducting interviews in 2018, that "almost universally the provision of electricity, gas, [and] water… was deemed to be worse than that provided by the Iraqi government and Syrian regime" (2024, p. 52). This reflects a time in which almost all residents in Mosul got their water from hand dug wells (Lafta, et al., 2018, p. 4), which can be extrapolated to other cities as ISIS lost territorial control and governance capabilities. However, interviewees often noted that the cause of this water insecurity was the consequence of war disrupting service provision, not ISIS governance itself. Overall, this huge change in perception towards ISIS' provision of water between 2014 and 2018 can be disentangled through a chronological discussion of

the instrumentalisation of water by ISIS. Dams are therefore a crucial second case study to analyse how they were used in both state-building and military processes, before discussing the overall changes in water instrumentalisation over time.

Analysis - Dams

The second section of analysis relates to dams, an important case study as they can uniquely serve both military and state-building processes. Dams are, therefore, an extension of water's dual-use characteristic, allowing for the projection of territorial control and legitimacy of ISIS as a state-like actor, as well as enabling economic activity through agricultural production – the core non-violent state-building uses of dams. Yet the manipulation of water flow also served to violently reshape the demographic and territorial boundaries of their alternative state and as a tool in their military activities against enemy forces. Dams were therefore key centres of ISIS' strategy to combine military operations with resource management and state-building (Daoudy, 2020, p. 1360). The section is organised by the primary goals ISIS had and the ways in which dams were used to achieve them. The figure below outlines ISIS' control of major dams:

Table 1: ISIS Control of Major Dams (von Lossow, 2016, p. 88; Mazlum, 2017, pp. 113-8; von Lossow, 2020, p. 154).

Dam	Under ISIS Control
Iraq	
Mosul	August 7-18, 2014
Samarra	04/2014 – 10/2015
Ramadi	05/2015 – 01/2016
Fallujah	02/2014 – 06/2016
Syria	
Tabqa	02/2013 – 10/2017

Developing Legitimacy

Dams are a key example of symbolic politics, used to project an image of legitimacy and effectiveness (Benedetta, 2016, p. 5). Physically, dams represent the governance

capabilities of an NSAG to control complex infrastructure. Symbolically, dams can be used to project territorial control over downstream populations who are dependent on water flows, even if those territories are not (yet) under the direct control of the rebel group (Arjona, et al., 2015, p. 8). Both the physical and symbolic nature of dams build a sense of legitimacy in the eyes of local populations that an actor has state-like characteristics.

This process was particularly important for ISIS as they controlled a number of dams for several years (von Lossow, 2020, p. 154). Captured dams allowed control over the majority of agricultural production in Northeastern Syria and Northern Iraq through manipulating water flows depending on the intensity of agricultural production and what land was accessible to ISIS. This was achieved at comparable rates to those before the invasion (Daoudy, 2020, p. 1357), adding a distinct economic dimension towards perceptions of ISIS' legitimacy as a state actor. Given the complex infrastructure involving dams, ISIS' sustained control of them, which was facilitated by civilian experts who were hired or coerced by ISIS to remain on site, demonstrates their long-term aim for territorial control (Caris & Reynolds, 2014, p. 21; von Lossow, 2016, p. 94). Furthermore, legitimacy building seemed to outweigh possible military advantages ISIS could have gained through manipulating the water flows of particular dams. For example, as a result of ISIS taking control of Samarra dam in April 2014, they, theoretically, had the capacity to cut off Baghdad's access to electricity and running water, supplied by the dams through hydroelectricity (Mazlum, 2017, p. 117; King, 2016, p. 160), yet they did not do so. The control of these dams without 'using' them actively suggests (a) further examples of territorial projection particularly in highlighting their proximity to Iraq's capital, and (b) their concern with public perception and legitimacy were they to disrupt the lives of millions.

However, dams were also used to build legitimacy by undermining other state actors. Most notably, the gates of Fallujah dam were opened in April 2014 to flood areas of Anbar province to disrupt Iraq's parliamentary elections (von Lossow, 2016, p. 88). This successfully challenged the control the Iraqi state had over territories and populations, and ultimately led to only a third of polling stations opening (Mazlum, 2017, p. 119). By

delegitimising other state actors by limiting their ability to carry out their responsibilities, ISIS was able to build legitimacy as a viable alternative.

Another important case occurred in March 2017, when, in the midst of battle with the US over control of Tabqa dam, ISIS warned of the dam's "imminent collapse", the cause of which they cited as American air strikes which threatened to cause the flooding of 90,000 residents (Daoudy, 2020, p. 1360). This incited populations against the American-led coalition as part of ongoing accusations of high civilian casualties caused by the West in the fight against ISIS. The US faced backlash domestically and internationally as a result of the airstrike, as dams were considered critical infrastructure (Krick, et al., 2025, p. 5). This meant Tabqa dam was protected as a "no-strike" facility (Hathaway, et al., 2025, pp. 45-6). This situation led to delays in further air strike action in the region, allowing ISIS to retain control of the dam until October 2017 (Daoudy, 2020, p. 1361). Therefore, on a rhetorical level at least, ISIS utilised military activities to build legitimacy to attempt to frame themselves as a more responsible actor regarding dam control than other state actors.

Building an Alternative State

ISIS also used dams (as well as water governance) to create an alternative state along sectarian lines. Dams were used to deliberately flood or divert water away from large Shi'a and Christian minority communities in villages downstream by destroying homes or cutting off access to water, the second key example of water weaponisation for state-building. For example, ISIS deliberately changed water flows to flood or deprive communities of water in the weeks after seizing Fallujah, Mosul, Samarra, and Ramadi dams (von Lossow, 2016, pp. 87-8). The fast rate at which this was conducted after taking control of these dams suggests this was a priority for ISIS, to clearly state their perceptions of who was considered part of their state and hence who was considered an outsider and a threat.

Fallujah and Ramadi dams, strategically located between Ramadi and Baghdad, served as key hubs for establishing an alternative state. For example, ISIS closed the Fallujah dam's gates, halting water flow to the predominantly Shi'a cities of Karbala, Najaf, Babil, Nasiriyah, and Qadisiya, located west and southwest of Baghdad (Al-Marashi, 2015;

Daoudy, 2020, p. 1359). Twenty-two Shi’a villages around these cities were then flooded for the same purpose (Daoudy, 2020, p. 1359). Lefevere claims this was done in order to force the locals to evacuate (Lefevere, 2020, p. 19), suggesting an intentional shaping of the demographic makeup of ISIS’ alternative state. This also projected ISIS’ territorial control closer to the centre of their competitor state (Baghdad), a form of psychological terrorism to threaten their control. Similarly, when Ramadi dam was captured in May 2015, the dam gates were closed to reduce the flow of the Euphrates River by up to 50%, diverting water into Lake Habbaniya, providing a more reliable source of water to the city in doing so. In the process, they radically reduced water for irrigation systems and treatment plants in Shi’a populated areas downstream (von Lossow, 2016, p. 87)

Noting the “relatively indiscriminate” (King, 2019) nature of water when used to flood or divert water away from certain areas, Sunni populations were inevitably part of the collateral damage of these tactics. This demonstrates that, in terms of instrumentalising water by causing flooding, ISIS’ priority was to create an alternative state, as opposed to achieving legitimacy from all Sunni groups including those living among larger Christian and Shi’a communities, or using the threat of flooding for financial extortion. However, the specific case of Baghdad is important to highlight as its value as the economic and infrastructural centre of Iraq meant it was likely too important to be subjected to the same tactics. The displacement of Sunni Muslims in such cases would have likely caused irreparable damage to their image as a legitimate state-like actor.

Beyond the violent methods used to delineate new territorial and demographic scope of their alternative state, ISIS strategically utilised dams to consolidate and connect the various territories under their control. Given that ISIS controlled territories across Syria and Iraq, two different countries with different polities and trading patterns, dams were used to reshape water flows to develop corridors of control between the former border to guarantee supply lines and movement between the two countries (Daoudy, 2020, p. 1360). As such, ISIS attempted to de-border the area between Iraq and Syria to reshape their territory and hence develop a sense of economic and conceptual unity between the two states. Overall, dams served a clear purpose of delineating populations and geographical

areas which were of concern to ISIS (to enable economic activity and movement), and those which were not (allowing for the destruction of Shi'a communities' homes and livelihoods).

Gaining Military Advantage

Dams, unlike water governance, can directly serve military interests. Ramadi and Fallujah dams are, like in the previous section, the centres of this. For example, a few days after the Ramadi dam gates were closed in May 2015, ISIS troops were able to cross the Euphrates River beneath the dam and attack Iraqi troops who controlled the southern banks of the river, as part of their subsequent advance on the city of Ramadi itself (von Lossow, 20216, pp. 88). Similarly, in April 2014, Fallujah dam was opened to flood government facilities and disable attempts at surveying ISIS movements and possible plans at launching attacks (Mazlum, 2017, p. 118). In the process, 60,000 residents were displaced, demonstrating a clear prioritisation of military opportunism over legitimacy-building (Al-Marashi, 2015). More generally, dams, given their physically secure location and buildings, have served as detention facilities and military headquarters (Caris & Reynolds, 2014, p. 22). These are the core examples of what King (2019) calls tactical weaponisation, in which water is used to deny military targets access to territory and provide ISIS a military advantage.

However, cases of ISIS using dams for military purposes are rare. Overall, as von Lossow rightly claims, ISIS often used dams to reshape the boundaries of their alternative state through flooding or diverting water, or to launch military attacks only shortly after conquering a dam, rather than sustaining such behaviour for prolonged periods of time (2016, p. 95). However, he fails to discuss possible reasons for this. This question, as well as broader chronological patterns in the ways in which ISIS instrumentalised water, are discussed in the next section.

Discussion - Chronological Patterns in Water Instrumentalisation

After examining the two primary ways ISIS instrumentalised water, it is crucial to put this into chronological context, particularly in relation to their territorial control. Figure 5 outlines ISIS' territorial control over time (the dotted line) as well as the number of

governing institutions (the solid line). Here, there is a clear correlation between the number of ISIS governing institutions and territorial control. I have annotated the figure to compile all the major dated cases of water instrumentalisation discussed and how this plots relative to territorial control and the broader institutionalisation of governing practices.

The text boxes below the figure outline the key dates relating to water governance: namely the establishment of water services and taxation authorities to fund them, the closure of the Diwan al-Khidamat, and interview-based data in 2018 demonstrating the complete absence of water governance in Mosul. The text boxes above the figure relate to events involving dams: when ISIS took control, how they used them, and when they lost them. There is a clear link between the institutions and state practices relating to water governance and the broader governance patterns outlined in the figure. Dam control also maps well onto the graph, given that (a) the main cases in which ISIS actively instrumentalised water using dams occurred as ISIS rapidly gained territory and at their peak, and (b) the loss of control over dams occurs in line with broader territorial losses throughout 2016 and 2017.

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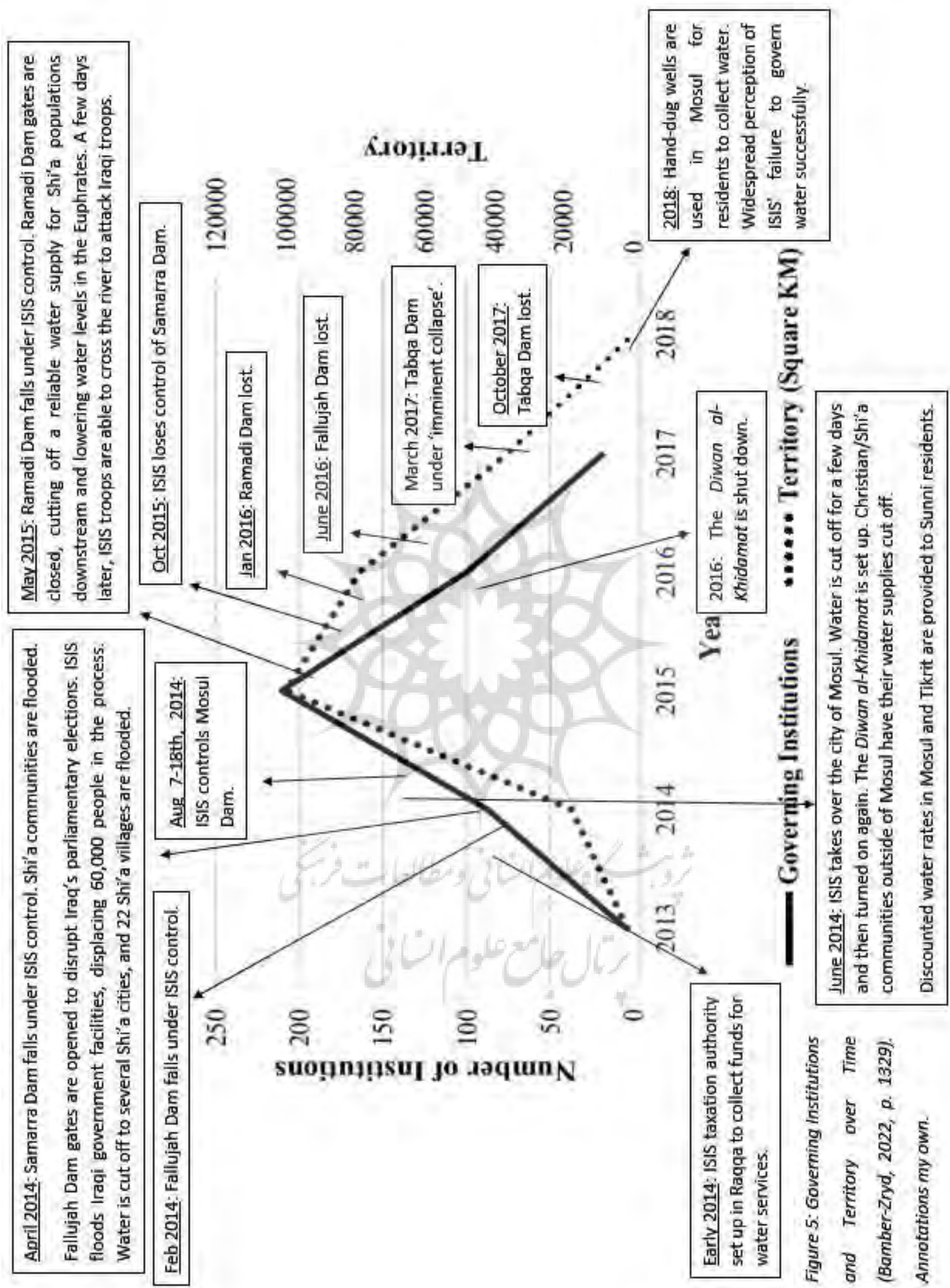

Figure 4: Governing Institutions and Territory over Time (Bamber-Zryd, 2022, p. 1329). Annotations my own.

The gap in case studies which have a specific date between 2015 and 2018 suggests that no new water governance institutions were developed. In 2016, the Diwan al-Khidamat was shut down, leaving only five governing institutions by 2017: Soldiery, Judiciary and Ombudsman, the Morality Police, and the Treasury (Bamber-Zryd, 2022, p. 1330). This reflects a shift in focus toward other essential state services, such as law, order, economy, and security, rather than those related to service provision. Furthermore, interviews with local populations conducted in 2018 demonstrated that the public services provided by ISIS "significantly diminished over the duration of its rule" (da Silva, et al., 2024, p. 53).

Overall, there seems to be a 'honeymoon' period in which water provision is stable and positively interpreted by citizens, likely until part-way through 2015. This allowed ISIS to develop a sense of legitimacy as an authority and build an alternative state. This is followed by a decline in the quality of water provision, often attributed by residents to corruption and a prioritisation of military operations (Schwab & Pfeifer, 2023, p. 441). Therefore, ISIS began instrumentalising water for state-related activities (legitimacy and creating an alternative state), but this became increasingly unfeasible as military concerns grew and territorial losses increased. Ultimately, there is a clear changing of priorities away from water governance, leading to fewer incentives for ISIS to restrain their behaviour and be concerned with questions of collateral damage or legitimacy (Arjona, 2016, p. 10).

Regarding the instrumentalisation of water through dam control, it is unclear why ISIS did not continue manipulating flood gates for military advantage whilst losing territory. There are two likely explanations for this: firstly, most empirical evidence suggests dams were prioritised as symbolic state-building tools and to establish the scope of their alternative state, rather than for direct military use. Second, the US-led coalition's shift to air-based military operations from August 2014 in 'Operation Inherent Resolve' limited the utility of dams in direct military engagements (Bamber-Zryd, 2022, p. 1330), given that the use of water as a weapon through flooding is limited to disrupting ground warfare (Krick, et al., 2025, p. 5; Goulter, 2022, p. 153; Mills, 2017, p. 4).

ISIS' ability to threaten territories beyond their control through dams diminished significantly with the loss of major dams between October 2015 and October 2017. Von

Lossow identifies this period as when ISIS became increasingly comfortable using 'scorched earth' tactics, defined as 'the tactics of destroying anything that might be useful to the enemy' including the targeting of water supplies and populations (Lefevere, 2020, p. 29; von Lossow, 2020, p. 156). This shift reflects Bamber-Zryd's claim that 2016 was a time of "critical self-reflection" for ISIS (2022, p. 1315) to understand their military and governance failures failure and adopt new strategies as a result. ISIS' governance practices were based on stable territorial control to establish institutions and long-term governance. Equally, their use of dams was based on the threat of flooding which do not serve mobile or aerial forms of warfare. This forced ISIS to reconsider their methods of water instrumentalisation. As the territorial security needed for these activities could no longer be guaranteed, ISIS was no longer willing or able to direct funds to them, turning to mobile form of insurgent warfare such as scorched earth tactics.

ISIS' use of scorched earth strategies is exemplified in the move towards urban armed warfare between ISIS and Iraqi troops in Mosul in November 2016. ISIS cut off clean water access to over 300,000 people in the city by destroying a major water pipeline under their control to cause chaos and disrupt the advance of Iraqi troops (Lefevere, 2020, p. 18). Local citizens and officials accused ISIS of deliberately not repairing the pipeline afterwards and continuing to shutter water supply on and off to disrupt the Iraqi army's ability to regroup and instil order in the parts of the city they controlled (Lefevere, 2020, p. 18). Similarly, as ISIS lost control of urban centres, such as Bashiqa, they destroyed and planted explosives around water treatment facilities and pipelines (Black, 2017). These cases illustrate changing priorities away from service provision as threats to their territorial control became increasingly acute and towards military success and impactful insurgency campaigns. Furthermore, ISIS caused oil spills into bodies of water to make it undrinkable and unusable for agricultural purposes. This demonstrates that the target of their violent forms of water instrumentalisation had become people and land more broadly (as opposed to explicitly the military), as part of their "toxic farewell" (El-Ghobashy & Warrick, 2018) as the Iraqi state retook control.

Overall, there is a clear chronological pattern in terms of water governance, from an initial 'honeymoon' period until 2015, a decline and end of water governance practices in 2016,

and an empirical and discursive failure of ISIS water governance by 2018. Dams were instrumentalised for legitimacy and state-building purposes until ISIS began to lose control of them in late 2015, with the few examples of dams being used directly for military advantage at the peak of their territorial control. ISIS increasingly began to use scorched earth tactics as their incentives to target solely the military and their concerns with legitimacy, state-building, and collateral damage faded.

Conclusion

Using the case studies of water governance and dams, this paper argues that ISIS instrumentalised water in a number of ways. Primarily, ISIS monopolised and institutionalised control over water services to build legitimacy as a state-like actor in times of conflict, in which the provision of water was seen as a lifeline and a fundamental state activity. Dam control served to further legitimise this control both physically (demonstrating the ability to govern and maintain complex infrastructure), and symbolically (projecting territorial control over downstream populations). Taxation and coercive extraction of funds were used to finance their control over water services. Taxation in particular served as a tool of social control and regulation, as well as collective identity formation, turning individuals in times of conflict into citizens of a new political community. The difference between how ISIS used taxation and the coercive extraction of funds indicated their desire to reshape the territorial and demographic boundaries of who was included as part of the state. Those within their imagined state were part of a social contract in which taxes were collected in order to provide service, whereas those outside of ISIS' governance were subject to coercion and threats as part of their financing. This distinction is one overlooked in pre-existing literature. More broadly, I find that ISIS provided water along sectarian lines, cutting off water supply to Shi'a and Christian communities and providing discounted water rates to Sunni Muslims in urban areas. Dams were similarly used to flood or divert water to cities and villages along sectarian lines, setting out the territorial and demographic contours of ISIS' alternative state. This is an original finding in how ISIS instrumentalised water, based on a novel form of conceptualising the weaponisation of water through state-building weaponisation. To a

limited extent, ISIS used dams for military purposes, though these considerations were often outweighed by the desire to use dams to project the territorial outlines of their alternative state and symbolise their territorial control. Furthermore, in the context of the US-led coalition's changing focus to air-based military operations, the utility of dams in direct military engagements became increasingly limited. Water governance ended in 2016, and ISIS increasingly instrumentalised water through scorched earth tactics as the territorial security needed for service provision and other state-building activities could no longer be guaranteed. Overall, the range of methods outlined are depicted in Figure 5 chronologically. This allows this research to sit within broader patterns of ISIS' territorial control and the creation of governing institutions and the correlations between them. Further research should analyse how water (and other resources and built infrastructure) is used by non-state armed groups, and centre on water as the referent object of analysis as an agentive actor in times of conflict.

Ethical considerations

This article is not sponsored.

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