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Running water for the officials, rainwater for the poor: symbolic use and control of water in early modern Ottoman Crete

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Abstract This paper deals with the issue of water management on the island of Crete from the beginning of the Ottoman–Venetian war in 1645 to the beginning of its Egyptian administration in 1830. Based primarily on information given by Kandiye's (mod. Herakleion) Shariah court records, but also on a variety of published and unpublished archival material from Turkey, Greece, and France, it explores the socioeconomic aspects of water-resource exploitation in the island's urban centers, analyzes the involvement of various local and imperial actors in water management, and locates the struggles created in the above-mentioned processes. Through a detailed analysis of the challenges faced by the administration and the population of an insular area with limited water resources, such as Crete, the article tries to take a fresh look at water management on the Ottoman periphery: It redirects the researchers' focus from heavily-populated cities and large cultivated plains to the examination of smaller regions with no major hydraulic and irrigation networks and puts emphasis on the symbolic use of water in the socioeconomic context of the Ottoman Empire.

Keywords Crete · Ottoman · Water resources · Insularity · Urban centers · Water management

Water in Islamic culture has a profound importance, both as a means of religious purification, and as a natural element the management of which played a key role in the survival and expansion of the seventeenth-century Islamic empire. The harsh desert climate of

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Arabia, the Near East, and Saharan North Africa makes water a highly valuable and precious natural resource, and Islamic Law goes into great detail on the subject of water to ensure its fair and equitable distribution within the community.[1]

Despite the importance of water in Islamic societies, only a few historians have, so far, displayed interest in exploring its use in the Ottoman context. The relevant studies mainly concern areas with major hydraulic and irrigation networks, such as Istanbul and Egypt,[2] and rarely try to understand water management beyond heavily-populated cities and large cultivated plains. However, in more isolated areas with limited water resources, like insular spaces, water management could prove to have been an equally significant challenge for the Ottoman authorities. In this paper I will try to explore the way in which the Ottoman state and its officials dealt with this challenge on the island of Crete from the beginning of the Ottoman-Venetian war in 1645 to the beginning of its Egyptian administration in 1830.

For my research a variety of published and unpublished archival material from Turkey, Greece, and France was used. Yet, the sources on which this study is mainly based are the Shariah court records (*kadı sicilleri*) of the island's capital city, Kandiye (mod. Herakleion).[3] The emphasis given in various Koranic passages and *hadith*s to the rightful use of water determined the Shariah court's prominence on issues concerning its distribution. In this vein, the Ottoman *kadı*s –judges responsible for adjudicating cases in accordance with Islamic law– played a critical role in the management of water, as they were the ones to officially decide on the rights of private individuals, communities, and various institutions over water resources. The scope of water-related cases brought to court varied from petitions for the issuance of permits and the resolution of disputes concerning its use to the appointment of personnel and the authorization of credit transactions for the creation and maintenance of water-supply networks and aqueducts. This variety of sources renders the Shariah court registers ideal for the examination of the history of water in Ottoman Crete. Yet, when examining the *kadı sicilleri*, it becomes clear that, despite the indisputable legitimizing role of the *kadı*, it was in fact the balance of power between multiple institutions which defined the actual control of water on the island.

The governors (*sancakbeyi*s) of the province's three administrative divisions (*sancak*s), Kandiye, Hanya, and Resmo, were, in terms of hierarchy, the most powerful of all officials based on the island, a status also reflected in their appropriation of water resources. In early eighteenth-century Kandiye, for instance, the amount of water channeled to their residences was comparable only to that used for the city's biggest public fountains and its sultanic mosques.[4] This gradually changed in the course of the same century, as powerful local families increasingly grew into important financial and political actors, often challenging the authority of dignitaries appointed directly from Istanbul (Spyropoulos 2015, pp. 8–11). This shift can be witnessed in the changing patterns of water use in manors and gardens built by such families, the consumption of which, in some cases, would almost reach, by the second half of the eighteenth century, the levels of water supply used for the

[1] On the role of water in traditional and modern Islamic societies, see Faruqui et al. (2001), Michael (2013), Montalbano (2008), Young et al. (1986). On water management in the early modern era, see Schriwer (2015), Tomory (2017), Tvedt and Coopey (2010), Tvedt and Oestigaard (2010).

[2] See, for instance, Aynur and Karateke (1995), Crow (2014), Çeçen (1991a, b, 1992, 1996, 2000), Hamadeh (2002), İnce (2004), Karakaş (2015), Lawson (2010), Michael (2011, 2015), Öztürk (2006).

[3] The registers are preserved at the Vikelaia Municipal Library of Herakleion, Crete, Greece.

[4] Stavrinidis (1984), pp. 48–51; Turkish Archive of Herakleion (hereafter: TAH) 15:266–268.

residences of *sancakbeyi*s.[5] This development notwithstanding, the governors of the island's three *sancak*s, whose names decorated dozens of fountains and water-related buildings in Kandiye, Hanya, and Resmo, seem to have remained during the whole period in question the most important driving forces behind the creation of infrastructure that facilitated the channeling of water to the cities. In Hanya, for instance, it was the governor Ali Paşa who in 1783–1784 ordered the creation of a new network of pipelines that channeled a large amount of running water to the city's fountains, an act that earned him the nickname "Water-Pipe Worker" (*Su Yolcu*).[6]

Being a frontier province, Crete was home to a military and administrative apparatus of considerable size, which included imperial Janissary regiments appointed by Istanbul to the island's three cities and various local corps based in both its urban centers and minor fortresses. As the thousands of soldiers of the island had to be supplied with water on a daily basis, a large amount of its resources was diverted to fountains next to their barracks (TAH.37:103–104). In 1719, almost one-tenth of Kandiye's running water was used for the needs of army-related infrastructure (Stavrinidis 1984, pp. 48–51; TAH.15:266–268), and groups of soldiers were appointed for its management and maintenance. Both the imperial Janissaries and the local corps had officers who bore the title "*saka*" (water carrier) and were in charge of their regiments' water supply (TAH.42:1). In Kandiye, the infantry corps of the *mustahfızan* (soldiers under the orders of the city's garrison commander, the *dizdar*) included a special company called *cemaat-ırah-ı abyan* (regiment of water-pipe workers), while in Hanya water-pipe workers were also to be found on the official payrolls of the local corps of *cebeci*s (armorers).[7] The above-mentioned military personnel, who were led by a technician under the title *serrah-ı abyan* or *su yolcubaşı* (head water-pipe worker), were paid regularly by the island's public treasury and were charged with the duty of public water-infrastructure maintenance. Besides their important role in ensuring the proper functioning of the public water-supply network, members of various military corps were also entrusted by private endowments (waqfs) with handling the construction and maintenance of privately-owned water infrastructure.[8] Another important responsibility of the army was guarding public fountains. The Ottoman sources mention, for instance, the existence of a Janissary watch by the city's central Venetian fountain (Stavrinidis 1985, p. 182; TAH.9:339), a fact that underlines the value attributed to running water by the local administration.

The soldiers made use of the political and financial leverage which stemmed from their position as protectors of the island's water resources and maintainers of their infrastructure. By the second decade of the eighteenth century, the various military institutions and private residences of military personnel in Kandiye were entitled to almost one-third of the running water channeled to the city (Stavrinidis 1984, pp. 48–51; TAH.15:266–268). In the eighteenth and early nineteenth centuries, of all military corps of the island, the imperial Janissaries were the ones who had gained the greatest political and financial power, mainly

[5] See, for instance, the amount of water used for the Hanyevi residence in 1764 (Stavrinidis 1985, pp. 239–241; TAH.28:71–72).

[6] On Ali Paşa and his governorship in Hanya, see Spyropoulos (2015), pp. 171–172; Başbakanlık Ottoman Archive (hereafter BOA), KK.d.827:7.

[7] For the above-mentioned regiment of the *mustahfızan* corps, see BOA, MAD.d.6461:21. For a person bearing the title "head water-pipe worker" (*su yolcubaşı*) referred to as member of the corps of the *cebeci*s of the city of Hanya, see BOA, İE.AS.60/5486.

[8] For the appointment of a soldier of the local cavalry corps of the *gönüllüyan-ı yemin* (volunteers of the right wing) as responsible for the maintenance of a fountain wakf in Kandiye, see TAH.43:88.

through the creation of extended networks which included a large part of the local population (Spyropoulos 2014). As their power increased, conflicts with other local or imperial power-brokers, including a number of governors, grew larger both in number and size, and water became one of the tools used in their struggle for political domination. In the course of the eighteenth century, financing the creation of fountains became a method extensively utilized by the local military elite for attracting people to their patronage networks. During that time, the fountains sponsored by local families surpassed for the first time those funded by Istanbul-sent officials, which used to dominate Crete's urban landscape in the late seventeenth century.[9] As political conflicts on the island intensified, even unauthorized manipulation of running water on the part of the army was considered as an option in its unofficial fight over the control of cities. To give an example, in 1807, the French consul at Hanya described the plan of a powerful local military leader to start a military insurrection –directed against some of the local authorities and the Austrian consul– which included "cutting the water, blockading the city, and forcing the latter to surrender to him."[10]

As one can conclude from the above-mentioned information, during the whole period in question, running water was treated as a symbol and instrument of political and financial domination, while its use and control expressed the shifting balance of power between the various elites of the island. This important role of water can be better understood only if examined in a historical perspective.

Crete's capital, Kandiye, was established on the Arab conquest of the island in the 820 s by the forces of the Andalusian Abu Hafs, passed into Byzantine hands in 961 after a successful campaign orchestrated by the Emperor Nikephoros II Phokas, and was conquered by the Venetians in 1210. Although the city was built on a location without running water, the Arabs and Byzantines did not construct large water-supply networks, a fact that led to the creation of numerous privately-owned wells and cisterns inside the city-walls. This practice gave birth to a decentralized grid of water-tanks that remained intact and defined the city's architectural character even during its Ottoman period. To the privately owned cisterns and wells, public tanks were added for the needs of state buildings, such as barracks and courts, but prior to the island's late Venetian rule there was no provision for the creation of infrastructure that would channel water from outside the walls to decrease the risk of water shortage in times of drought.

This policy started to change in the late sixteenth and early seventeenth century, when running water was discovered outside the city walls and was channeled by the Venetian authorities to two public fountains in Kandiye. Following these constructions, an aqueduct which brought water to the city from the nearby area of Archanes was built in 1626–1628. Subsequently, before the beginning of the War for Crete (1645–1669), the Venetians already possessed both an extended system of cisterns and tanks for the collection of rainwater and a newly built running-water-supply network which stretched 15 km outside the city walls to the south. This access to different water resources made Kandiye more self-sufficient in times of peace and less exposed to outside threats in times of war. Yet, the available running water would still not suffice for the increased needs of the city during the Ottoman-Venetian War. As a result, in 1666, the Venetian prefect had to divert the water of some newly discovered springs right outside the city walls to its fountains (Xantoudidis 1927, pp. 84–91).

[9] For a comparison of the number and names of fountains in the island's three cities in the course of the seventeenth and eighteenth centuries, see digitalcrete.ims.forth.gr.

[10] Ministère des Affaires Étrangères (MAE), CCC, La Canée, vol. 21, 32–34.

When the Ottomans finally conquered Kandiye, in 1669, they restored its damaged water-supply network and proceeded to extensive repairs and modifications (Aivali et al. 2014, pp. 324–325; Stavrinidis 1986a, pp. 268–289, 1986b, pp. 155–156; Varoucha et al. 2008a, pp. 65–66; TAH.2:126; 5:11). Their main concerns at the time were the re-population of the city, its Ottomanization, and the establishment of a new administrative elite with firm control over the newly conquered Cretan population (Greene 2000, pp. 78–109). Water management played a central part in this endeavor. Many of the architectural structures used for the Ottomanization of the urban setting of not only Kandiye, but also of Hanya and Resmo, were fountains and public baths commissioned by Ottoman officials (Karantzikou 1999–2000, p. 27). These buildings supported an 'internal' system of legibility that proclaimed Ottoman Muslim hegemony to the local urban populations, as opposed to the prominent sultanic mosques and their tall minarets which were designed as symbols of Ottoman domination visible by external observers (Bierman 1991, pp. 59, 64, 69–70).

Such structures were palimpsests on the old Venetian urban fabric which aimed at creating new points of reference for the urban population's everyday life. New neighborhoods and market places were formed around mosques, fountains, and public baths which were sponsored by the island's new elite (Karantzikou and Photeinou 2003, p. 467; Stavrinidis 1985, pp. 226–227; TAH.3:419–421). The Ottoman hegemony had many faces and was not promulgated just in the name of a distant sovereign residing in Istanbul: Every Ottoman official who brought water to a new neighborhood was pompously celebrated in inscriptions for his contribution (Evliya Çelebi 2004, pp. 228–229). Since, as has been explained, running water was never in abundance in the cities of the island, the creation of a fountain acted as a strong public statement and as an official's indelible mark on Crete's urban setting, legitimizing his authority and elevating his status in the eyes of the local population. Compared to rainwater, water from rivers and springs ran in larger quantities, was less affected by droughts, could be used more extensively for irrigation, and was seen as a better potable option, as it rarely remained stagnant in tanks. However, its private use was not for free and its channeling to residences and waqfs was an elaborate and expensive process (Aivali 2010a, pp. 388–389; Stavrinidis 1986b, pp. 140–141; TAH.4:249; 31:33; 32:127; 37:103–104; 41:104, 112). Thus, it should not come as a surprise that private access to running water in the cities became an important status indicator among the most affluent city notables and officials. According to an Ottoman source of 1719, the vast majority of private individuals who had access to running water in Kandiye belonged to the island's military and administrative elite (Stavrinidis 1984, pp. 48–51; TAH.15:266–268). That same year, 118.5 *masura*s or 533.25 l/min of water,[11] an amount capable of meeting

[11] The Ottoman measuring system of water flow was based on a unit called "*lüle*". The water flow of a pipe of 26 mm nozzle diameter, equaling a flow of 36 l/min, is described by the Ottoman sources as 1 *lüle*. Different nozzle sizes corresponded to flows of binary multiples and submultiples of that basic unit. In Crete, the dominant measuring unit mentioned in the documents is the *masura*, which is estimated at 1/8 of a *lüle* (4.5 l/min) (Çeçen 1996, pp. 165–167). The Ottoman judicial records give us interesting information on the methods used for the just and proper measurement of water by the Ottoman authorities of Kandiye. According to one document of 1782, the authorities measured the water flow in the presence of "Muslims, the head-architect of the city, the water overseer, and people who are familiar with the process" (*müslimin ve sermi'mar-ı belde ve sa'ir su nazırı ve ehl-i vukuf ma'rifetiyle nazar olındıkda*) through the use of "special sealed nozzles" (*ma'-i mezkûr mu'tad üzere damgalu mahsus lüle ile keyl ve vezn olındıkda*); TAH.32:106–107. In other entries, from the years 1671–1672, the head officer of the city's Janissary corps is mentioned among the officials and 'experts' called upon to supervise the process of measurement (Karantzikou and Photeinou 2003, pp. 102–103, 223, 310–311; Stavrinidis 1986b, pp. 1–2, 23–24, 31; TAH.3:83–84, 169, 233–234).

the drinking needs of approximately 10,500–13,000 people,[12] were used for the city's mosques, baths, fountains, and private residences.

Although we cannot estimate the exact number of the city's inhabitants, which according to various testimonies amounted in that period to 4–15,000 people (Andriotis 2006, pp. 155–156), it seems that the above-mentioned capacity could not provide enough running water for the local population, mainly for two reasons: First, the Ottoman sources testify to great losses in transmission lines due to infrastructure failures (Stavrinidis 1986a, pp. 268–269, 1986b, pp. 23–24, 222, 320–323, 345–346, 350–351, 1978, pp. 350–351; 1984, pp. 14–47; Aivali et al. 2014, pp. 324–325, 2010, pp. 469–470; Varoucha et al. 2008b, pp. 480–481; TAH.2:126; 3:233–234, 241; 4:294; 5:267; 11:146; 15:94, 360), and, most importantly, because more than half of the above-mentioned quantity was used for the exclusive needs of the city's elite, for its gardens, and establishments.[13] In other words, private access to running water was a privilege reserved for those in power and the well-to-do. The rest of the urban population was dependent for its daily water supply either on the accumulation of rainwater or on public fountains. Such fountains, on the other hand, were usually sponsored and controlled by the very same notables and officials who had exclusive access to running water with an eye towards projecting the image of a benefactor and increasing their local legitimacy.

The shortage and unequal distribution of the valuable running water in the island's urban centers created a constant need for the discovery of new springs (Stavrinidis 1984, pp. 377–378; TAH.26:233). Ever since the early years of the Ottoman conquest, the sources testify to the authorities' effort to divert water from unclaimed springs outside of Kandiye to its water-supply network (Aivali et al. 2014, pp. 259, 302; Stavrinidis 1986a, pp. 205–206, 243, 321; 1986b, pp. 1–2, 31, 1984, pp. 119–121; Karantzikou and Photeinou 2003:102–103, 223, 320–321; TAH.2:89–90, 111–114; 3:83–84, 169, 241; 16:45). The discovery of new water resources combined with various works of maintenance of the city's network resulted in a considerable increase in the quantity of running water channeled to the city. In only three years, from 1719 to 1722, Kandiye's running water capacity doubled (Stavrinidis 1984, pp. 119–121; TAH.16:45), reaching a total of 286.75 *masura*s in 1764 (Stavrinidis 1985, pp. 239–241; TAH.28:71–72). Yet, this increase in the flow of running water did not result in its more equitable distribution among the population, but rather in the expansion of the gap between those in power and the lower classes. When, for instance, in 1722 the governor of Kandiye, İbrahim Paşa, discovered three new springs with a capacity of 29 *masura*s at the village of Archanes, he immediately claimed their ownership, and ensured his exclusive use of one-third of their flow, before channeling them to the city's network (Stavrinidis 1984, pp. 119–121; TAH.16:45).

In the eighteenth century, similar processes were taking place in the cities of Hanya and Resmo as well.[14] It was during the same period that the sources testify to a series of incidents of illegal water diversion from the cities' transmission pipes. In view of the

[12] The calculation is based on the estimates given in Şeker et al. (2013).

[13] The exacerbating condition of Kandiye's water supply due to its appropriation by the city's elite is clearly stated by the governor of Kandiye in a document of 1719, according to which "The majority of water which used to run in the irrigation ditches and the mosques of Kandiye has been channeled to the newly introduced fountains and water tanks in the houses of notables and [as a result] the population experiences absolute scarcity, hardship, and distress" (*Derun-ı Kandiye'de vaki sevaki ve cevami-i şerifelerden kadimden cereyan olan suların ekserini büyut-ı ayana ihdas olunan çeşme ve havuzlara icra ve ibadullah su kıllet üzere bulunub kâmil müzayaka ve usret üzere olduklarını…*) (Stavrinidis 1984, p. 47; TAH.15:360).

[14] Spyropoulos (2015), pp. 171–172; BOA, KK.d.827:7–8; Archives Nationales de France (ANF), B1, La Canée, vol. 12 (13 Janvier 1770).

unequal distribution of water among the urban population and of the monopolies which were fostered by the island's elites, sabotaging water-supply networks and stealing running water seems like an expected reaction for those who felt underprivileged. The possibility that such problems were being caused by "the reaction and intervention of people dissatisfied with the portion of water allotted to them" (*eshab eden bazı hakkına kani olmayanların taaruz ve müdahalelerinden midir?*) was, after all, openly recognized in 1759 by the governor of Kandiye Köprülüzade El-hac Ahmed Paşa (Stavrinidis 1985, p. 117; TAH.27:9), while a similar statement can be found in an entry from the year 1735, signed by the governor's surrogate (*kethüda*), Yakub Ağa. The latter, in response to another case of illegal diversion of water, ordered an on-site investigation and the creation of a detailed inventory recording a large part of the city's transmission pipes, for the detection of any similar damage caused to the system (Stavrinidis 1984, pp. 206–208; TAH.16:307).

In 1817, to mention another case pertaining to Hanya, one of the leaders of the local military forces (*gönüllüyan-ı yesar*, volunteers of the left wing), Cemali Bey, complained to the local governor, Vahid Paşa, about the illegal diversion of a considerable amount of water that was normally used for the irrigation of his large estate (*çiftlik*), situated outside of the city. According to the documents that Cemali presented to Vahid's court, the water in question had been legally channeled to his family estate some 33 years ago, after the discovery of a new spring by the then governor Ali Paşa. Although Cemali and his ancestors before him had used the water ever since, some time ago its flow was diverted by some people away from his property. Subsequently, Vahid Paşa ordered the local substitute judge (*naib*), together with the waqf administrator responsible for the water flowing to the city (*mahruse-i Hanya derununa cari ab-i revanın vakfı mütevelisi*), to deal with the problem and not to let anyone interfere with the existing infrastructure, on the grounds that such actions might cause serious damage to the city's public water-supply system (Spyropoulos 2015, pp. 171–172; BOA, KK.d.827:7–8).

It is interesting, at this point, to note that, according to Islamic Law, full private property in water exists only if it is contained, whereas everyone has the right to drink from a channel of running water, even when the latter is privately owned (Schacht 1983, p. 143). In this respect, one may wonder to what extent using water from a pipe which led to someone's estate, without trespassing on the latter, was really an unjustified act in an area where running water was perceived to be the property of a limited number of people. Unfortunately, the sources give us almost no information on the identities and the incentives of the saboteurs. Thus, we cannot be sure of the extent to which such phenomena were the expression of class-related or intra-elite conflicts. In any case, despite the fact that the authorities did not leave many clues concerning the logic and legal justification behind their decision, it is sure that they deemed such acts to be illegal.

As a conclusion I would like to underline the importance of running water in early modern Ottoman Crete as a symbol of financial and administrative power. In Islamic Law, water was considered to be a public good reserved for everyone, regardless of class and officialdom. Yet, in an insular space with limited water resources, such as Crete, Islamic canonical treatment of water was often overruled in favor of those with access to wealth and power. In this context, the ownership of running water became a status indicator for the island's elites and a field of competition and negotiation between various officials. In early Ottoman Crete, it was mainly the *sancakbeyi*s and other non-Cretan officials who undertook the task of finding and channeling running water to the island's three cities, yet, through time, as local elites started rising to power, mainly through their connection with the military, the management of water resources gradually passed into the hands of both imperial and local actors. Their origins notwithstanding, the tactic used by all these elites

was similar: They claimed the water of all the springs discovered in the vicinities of their cities by creating infrastructure connecting the former to the latter. After ensuring the appropriation of a large amount of water resources for their own establishments, they provided the rest of the water for public use –mainly through private endowments—thus presenting themselves as benefactors in the eyes of the local populace. The latter's restricted access to running water, on the other hand, not only made them turn to rainwater in order to quench their thirst, but it also seems to have been one of the most probable causes of the frequent sabotage of the water-supply networks of Crete, a reasonable reaction if seen in the light of the following Koranic verse: "And We send the fecundating winds, then cause the rain to descend from the sky, therewith provide you with water (in abundance), *though ye are not the guardians of its stores*" (Yusuf Ali 1937, p. 641).[15]

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