Tomatoes, tribes, bananas, and businessmen: an analysis of the shadow state and of the politics of water in Jordan.

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ABSTRACT

This article shed light on the shadow state, investigating who belongs to it, their interests, and their relation to the water sector. This is important because Jordan is known to be among the most water scarce countries in the world and some water professionals see in the shadow state an obstacle to implementing successful water policies, resulting to be one of the main reasons behind inefficiencies in the water sector in the country. Furthermore, an in-depth investigation of the relation between the shadow state and the water sector is needed. This article makes a contribution by analysing the current challenges posed by the shadow state to efficient operations of the water institutions as well as wider government, and the difficulties they encounter in responding with reforms in Jordan. This analysis will serve policy makers and water professionals to better understand how to navigate the complex Jordanian water sector. This is particularly important nowadays in order to ensure socio-economic and political stability of Jordan in the aftermath of the so-called "Arab Spring".

Keywords: shadow state; water politics; hydropolitics; Jordan; tribes; water scarcity.

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1. Introduction

Jordan is among the most water scarce countries in the world. However, the literature on water resources conducted by Jordanian academics has taken mainly an engineering and geological approach rather than political and social sciences ones. This article investigates the challenges in implementation of water policies in Jordan, focusing on the role of the shadow state in the politics of water in the country, and more specifically in the cases of illegal wells and illegal uses, and in the unsustainable agricultural water uses, which helps at better understanding the politics of water in the country. In fact, amongst government ministers, officials, political scientists, non-governmental organizations (NGOs), donors, academics, and journalists there is virtual unanimity dating back to the 1990s in seeing in the shadow state an obstacle to implementing successful water policies (Yorke, 2013; 2016), resulting to be one of the main reasons behind inefficiencies in the water sector in the country. Nevertheless, there has only been some initial research by Yorke (2013; 2016), Greenwood (2014), and Hussein (2016) on the topic. While this article focuses on Jordan, its findings can be helpful also to water professionals, scholars, and policy makers in other countries that are facing similar challenges; for instance, Lebanon is also considered a water scarce country, and illegal wells

and unsustainable agricultural water uses are linked to power dynamics and to the Lebanese shadow state, reflecting to some extent the Jordanian situation discusses in this article.

This analysis will serve policy makers and water professionals to better understand how to navigate the complex Jordanian water sector. The data deployed in this article comes primarily from reports, semi-structured interviews, and documentation collected during fieldwork in Jordan between July 2011 and December 2014, as well as secondary literature and material published online. This article first unpacks the Jordanian shadow state; second, it investigates the role of the shadow states in two case studies: illegal wells and uses, and in the unsustainable agricultural water use.

A central concept of this article is the shadow state; within a shadow state, authority belongs to an individual or group of individuals; it is a neo-patrimonial regime that can also have a façade of laws, procedures, and governmental institutions. The official ruler maintains the support of key actors, who are linked to him through tribal or regional affiliation, and through privileged access to economic assets.

Concerning the water resources of Jordan, according to the 2014 water budget of the Ministry of Water and Irrigation (MWI), the total water resources in Jordan in 2013 were 864 Million Cubic Meters (MCM) per year (MWI, 2014: 20). Also the total safe yield of the groundwater basins in Jordan is estimated at about 300 MCM per year, while the total surface water resources from the Yarmouk, Jordan, and Zarqa Rivers in Jordan is 563 MCM per year, including treated wastewater. However, in 2010 groundwater represented the main source of water supply, with a total of approximately 54% of the total water supply, meaning over 500 MCM; surface water supply represented only 33%, meaning 286 MCM; while treated wastewater accounts for about 13% of the total water supply, meaning 117 MCM. While surface water represents a higher proportion of water resources, at around two thirds of the total water resources in Jordan, in practice two of the three major rivers, the Jordan and Yarmouk, are transboundary, and therefore Jordan is bound in their usage by bilateral agreements. Therefore, groundwater resources are the most important sources of water supply, and these are currently over-exploited (ibid.). Concerning water uses per sector, in 2015 agriculture used 51%, domestic uses represented 45%, and the industrial sector 4%. Finally, non-revenue water, which includes both illegal connections and uses, such as wells, as well as leakages and loss due to network system, is estimated by 52% for 2015 (MWI, 2015).[1]

[1] Moreover, increasing droughts are negatively impacting the water sector in Jordan, as confirmed by recent studies (Mohammad et al., 2018). Recent research showed that the Jordanian government has been exploring several solutions to increase the water supply in the country in the past decades. This has included building new dams, the Disi Canal project completed in 2013, supporting the construction of the Red Sea – Dead Sea Canal, and increasing transboundary cooperation efforts (Hussein, 2017abc; 2018, Hussein and Grandi, 2015; 2017).

2. What is a shadow state? Unpacking the Jordanian shadow actors

Since the establishment of the kingdom in 1946, Jordanian politics has evolved and thus also the shape of informal structures, now in some publications called shadow state. The literature on informal structures has matured to reflect changes in their form as they occurred. These structures in one form or another date back to Jordan's creation. For more than four decades, academics that have traced their workings and have analysed their evolving heterogeneity. As the nature of patronage changed to reflect the evolving political compact between Throne and people, so Jordanian subjects from different walks have enjoyed access to benefits and privileges, which they subsequently wished to protect. Heterogeneity expanded and altered over time. Hence, the shadow state is directly related to the historical evolution of the organisation of power on which the Hashemite rule is based. Key dates in the changing shape of the shadow state and its participants benefitting from state largesse and or aggrandisement in influence are – 1950s, 1970s, late 1980s, and 2011. The political-economic context at these times helps understanding initiatives by the monarchy and how the benefits and privileges were extended and to whom, and with what results. In a nutshell, today's shadow state in Jordan has individual actors, ever coalescing in a range of different temporary groups around a variety of issues depending on specific vested interests (Tripp, 2002: 4-5, Springborg, 2007: 3-4; Yorke, 2013, 2016; Keulertz, 2013; Hussein, 2016).

Within a shadow state, authority belongs to an individual or group of individuals; it is a neo-patrimonial regime that can also have a façade of laws, procedures, and governmental institutions. The official ruler maintains the support of key actors, who are linked to him through tribal or regional affiliation, and through privileged access to economic assets. For Glass, "the great majority of the Levant's people still look to traditional community and sectarian leaders for protection, favours, money and jobs. Loyalty to family, village, tribe and sect has always been stronger than ideology. Ideology comes and goes out of fashion. Loyalty does not" (Glass, 1990: 3-4). Being linked to the ruler, these actors become very influential in the shaping of national water policies, often more than the official institutions (Keulertz, 2013: 265-267, Yorke, 2013: 58-60, Tomaira, 2008: 213, Greenwood, 2014: 153, Zeitoun et al., 2012: 59).

In Jordan there are official divisions of power between three branches, and a rational institutional legal system. However, Yorke (2013) noted that in practice the power resides in the king, who enjoys broad powers over the Parliament and the government - and in the shadow state (Yorke, 2013: 58-59, Oudat and Alshboul, 2010: 65). The individuals of the shadow state, in practice, have privileged access to resources and are influential in shaping policies and in resisting change. They support the official ruler and they participate in maintaining the status quo and their privileged position. Nevertheless, today Jordan is having difficulty in following through on integrated planning and water policy in the national interest on account of the entrenched position of

anti-reformists with vested interests in the status quo. This emerged in relation to the fate of the 2005 National Agenda. Preferred policies of the monarchy and those of some shadow state members are not the same (Muasher, 2011; Yorke, 1988, 1990, 2013; Greenwood, 2003).

As mentioned above, the shadow actors are not fixed over time, they are not static, but subject to change over time. This emerges in the history of Jordan looking at some social groups, which passed from being initially completely marginalised to becoming fully part of Jordanian society. For instance, the case of Jordanian Bedouins, whose more influential members are influential shadow actors since the 1980s, while Jordanian Bedouins became legally full citizens and not discriminated by law only in 1976 (Massad, 2001: 52).

The shadow actors used to be identified with the East Banker tribes – tribes with origins from today's Jordan -, seeing them in a dualistic way opposed to Jordanians of Palestinian origins. For Hübschen (2011), Jordanian tribes are those who really rule the kingdom, comprising the shadow actors and political elite of the country, versus the Jordanian of Palestinian origins, seen as discriminated and marginalised within the social and political society (Hübschen, 2011: 118-123). For Gao (in Sindic et al., 2014: 50-65), power relies in the tribes for historical reasons, and this emerges in the electoral system, in the *wasta* (personal networks) system, and in civil rights privileges granted to East Bankers. According to Gao (ibid.), civil rights privileges include the process for obtaining the Jordanian citizenship for children of parents with one Jordanian parent and one non-Jordanian parent. For Oudat and Alshboul, informal tribal networks substitute in practice the formal institutions and authority (Oudat and Alshboul, 2010: 90). Other scholars used to describe the tribes as the backbone of the monarchy and loyal to the kingdom since its establishment (Alon, 2005: 213), and benefiting from and comprising the *wasta* system and the shadow actors (Loewe et al., 2008: 29-30, Al-Ramahi, 2008: 38-40, Wilson, 1990: 57). As noted by Alon (2007), since Black September[2], media and scholars seem to have preferred an oversimplification of Jordanian society, where Bedouins and tribes are described as the backbone of the Hashemite monarchy, and Palestinians as the marginalised and disloyal category (Alon, 2007: 1). However, this article builds on Yorke (1988, 1990, 2013, 2016), Greenwood (2003), Muasher (2011) in arguing that not all tribes supported the Hashemites at the establishment of the Emirate in early 1920s, not all tribes have equal weight and influence, and not all members of the tribes are shadow actors. Therefore, this article shows how Jordan's classical tribes are not a monolith and differ in influence.

In fact, in Jordan there are several examples of Qabilas, or confederation of tribes: Bani Hamida and Howeitat in the South, Bani Sakher and Al Odwan in the middle, and Bani Hasan and

[2] Black September refers to the Jordanian Civil War, which started in September 1970 and ended in the summer 1971. The war was fought between Jordanians and the Palestine Liberation Organisation of Arafat, which aimed at taking the power in Jordan

Bani Khalid in the north. Within each *Qabila*, there are the *Ashaer*, which are usually known as tribes. Interviews showed that within a tribe, only those economically or politically important are influential and can resist change and shape policies, and are to be seen as shadow actors. Instead, those who even if members of an important family are marginalised and poor, will be treated as normal citizens with no *wasta* and subject to the laws of the state (interview 2 and 41).

Moreover, the Bedouins, who are thought to be the most truly representative group of Jordanian history and culture, have been discriminated by law by the state and were subject to the Law of Supervising the Bedouins – also known as Bedouin Control Law - since 1929 until 1976 (Massad, 2001: 52) (interview 2 with academic). In addition, also within the most influential Jordanian tribes, there are marginalised people who are not influential and not part of the shadow states, for instance the youth activists of the *Hirak* movement[3], who are mainly from rural, marginalised, and poor tribal communities (Yom, 2014: 229) (interview 2 with academic). As discussed above, the shadow state is a heterogeneous rather than a monolithic group, which comprises different individuals. The shadow actors can be: managers and important figures from the public sector agencies, including the military, intelligence services, and ministries; elites from the commercial and private sector; and sheikhs, tribal leaders, and influential people within tribes. Therefore, the division between East Bankers and Jordanians of Palestinian origins is not relevant as managers and important figures from the public sector, who are part of the shadow states, are also of Palestinian origin. This is the case with the following individuals from Palestinian families, who reached influential positions: Muhammad Rasul Al Kilani, the former General Director of Intelligence, Mudar Badran, General Director of the Intelligence, Samir and Zaid Rifai, both former Prime Ministers of Jordan, Sulayman Nabulsi, former Prime Minister in the 1950s, Sabih Taher al-Masri, Chairman of the Arab Bank, Founder and Chairman of Arab Supply and Trading Company (ASTRA), Chairman of Palestine Telecommunication Company (PLC), and Chairman of ZARA Investment Holding Company Limited (he also owned the agribusiness in Disi area) (interview 2 with academics)(Keulertz, 2013: 268-269; Massad, 2011: 202).

[3] *Hirak*, which literally means movement, is a Jordanian Youth Movement started during the Arab Spring or upraising and most of its members are of East Banker origins from rural and marginalized areas, like Tafilah. They strongly oppose corruption in the public sector and in politics, and they called for regime change and accused the highest political authorities of corruption

When it comes to religion, it is not really clear what role if any it has among shadow actors. In an interview, a spoke person of the Muslim Brotherhood party explained in 2013 that it is problematic for the water sector to have Christian ministers of the MWI. For him, having a current and previous ministers of the MWI of Christian beliefs explains: the lack of an agreement (the interview took place in 2014 before the agreement over the Disi aquifer system) with the Islamic state of Saudi Arabia on the Disi; and the violations of the Islamic state of Syria of the agreement with Jordan signed in 1987 on the Yarmouk River (interview 29). However, while the ministry was established in the spring of 1988, ever since about twenty ministers of the MWI took office and only four of them were Christians. Samir Kawar was appointed because of his membership in a parliament block; Bassam Qaqish, to award him for his distinguished service in the military; and two, Haddadin and Hazim Nasser, twice because of their technical competence (interview 52 with a former minister of the MWI).

Also, in order to investigate the influence of tribes and Palestinians upon the water sector in Jordan, it is necessary not to see them as fixed categories. Jordanians of Palestinian origins represented in the government, parliament, and among shadow actors, are from influential families living in Amman, for instance Rifai and Al Masri, and they support the political-economic system and the status quo (interview 23 with an expert in political affairs from the parliament; interview 2 with an academic from the University of Jordan). Poor and not influential families with the same origins, marginalised individuals within the influential families, or those against the status quo like members of opposition parties like the Muslim Brotherhood, cannot influence or resist change, policies, and decisions in the water sector (the Muslim Brotherhood has a voice in the political arena, but it is not influential and cannot shape or resist policies) (ibid.).

3. How the shadow state works

3.1 The shadow actors and illegal wells and illegal uses

The first case study to analyse the role of the shadow actors in the Jordanian water sector is by looking at illegal wells and illegal uses, both at how it is talked about and at how it is acted upon in order to reduce its amount. In August 2013, the new minister of the MWI Hazim Al Nasser started a campaign against illegal wells. Before 2013, media focused on water leakages and physical losses rather than on illegal wells and uses; and it did so in relation to projects of the Japanese International cooperation Agency (JICA), US Agency for International Development (USAID), and the German Development Agency (GIZ) relating to improving the pipeline system, or through improvements on

the metering system (Namrouqa, 2013a, Luck, 2008, Ghazal, 2010b, Ghazal, 2010a). Before 2013, illegal water uses and thefts were mentioned in articles reporting declarations of Miyahuna, the Amman Water Company, and their difficulties in collecting revenues and their losses due to illegal connections (Namrouqa, 2008, Namrouqa, 2010). Before 2013, the MWI discussed illegal water uses in the MWI water strategies in 1997, which led to the groundwater by law 85 in 2002, in the 2009 national water strategy "Water for Life", in the MWI Highland Water Forum from 2010, and the Royal Water Committee; nevertheless, all these initiatives had limited success. USAID pushed for the MWI to tackle the issue of illegal wells as a priority, as emerges in the following USAID/Audit report:

> Mission officials noted that during negotiations over the draft list of conditions precedent, Government of Jordan officials requested that mission staff remove one condition. It required the Government of Jordan to shut down 50 illegal wells. Although closing the illegal wells would increase Jordan's water sustainability by decreasing nonrevenue water, Government of Jordan officials could not achieve the condition precedent because of political pressure from influential agribusiness owners (USAID, 2011: 5-6).

Interviews with personnel from the international organisations and donors' agencies showed that illegal wells and illegal uses are seen as a major obstacle for an efficient water sector, and they also identified in certain shadow actors, like big farmers and tribal leaders, the reasons why the government did not act against the violations (interviews 58 and 59). This shows that before 2013 donors, USAID in particular, were pushing the government of Jordan to close the illegal wells. However, this was not possible due to political pressure from within the shadow states, as emphasised by the USAID reports, which call it "influential agribusiness owners," and by interviews with donors and United Nations (UN) agencies in Jordan (USAID, 2011: 5-6) (interviews 45, 58, and 59). In particular, it emerged that while the MWI saw the illegal connections and uses as an issue to be tackled, the MWI did not successfully push for this until 2013. The year 2013 can be seen as a milestone for more effective water demand management due to the appointment of the experience Minister Hazem Al Nasser, as well as for the historical context in which is situated: as a reaction to the so-called "Arab Spring", in Jordan King Abdullah's 2012/2013 political initiative was launched as a promise of political transition, resulting also in greater appreciation from the top of the strategic importance of water to the kingdom's stability.

Since August 2013 the so-called "illegal wells campaign" was launched by Hazem Al Nasser, minister of the MWI. However, this campaign is not a new one, but rather a new focus on the issue of so-called illegal wells, in conformity to the 2002 groundwater by-law. When launching it, the

minister stated that "this is a high-level decision, which calls for respecting the law and achieving justice… nobody has the right to claim that they are above the law, whatever their… political, tribal or social background may be," adding that the objective is to close all illegal wells in the country (Namrouqa, 2013d). This willingness to implement the legislation, according to high officials of the MWI and to academics, started in 2013 because of the new emphasis and energy of this new minister, and also as a result of the impact of the so-called "Arab Spring", which led to the production of the king's initiative in 2012/2013 (interviews 7 and 42). Penalties for illegal wells became much higher, and now ministries of interior and police are supporting the campaign, cooperating with the MWI (interview 18 and 42). This is important because in the past the MWI personnel was often not able to implement the legislation because they were threatened by farmers, even with guns (Wardam, 2004: 79) (interviews 7, 11, 42):

> Water Authority of Jordan (WAJ) employees in the northern Governorate of Ajloun were recently attacked after installing devices to prevent water theft, according to authorities. [They] threw stones at the WAJ workers and damaged newly installed water devices, an official at the Ministry of Water and Irrigation, who asked to remain unnamed, said yesterday (Namrouqa, 2009).

The government also approved regulations to make working permits, electricity connection, loans, etc. always conditional on a clearance from the MWI (by the Water Authority of Jordan – WAJ); therefore if a person has an illegal well, all his economic and professional activities will be suspended (Namrouqa, 2014a). For this campaign the MWI also involved the religious authorities, who issued a religious edict, known as fatwa, against water theft and violations to the water networks (Namrouqa, 2013c).

Since the campaign, the issue became 'talkable', and this emerges from extensive media coverage. For instance, Namrouqa – a journalist of the Jordan Times that covers water issues -, who never particularly focused on this issue before the campaign, in 2014 uncritically reports the new voice of the MWI, with an article titled "70% of water loss in Jordan blamed on theft, illegal usage - ministry" (Namrouqa, 2014a). Also the newspapers in Arabic have been following, reporting on, and reproducing this issue since 2013. In Al Rai, for instance, several articles appeared emphasising the successes of this campaign, while Wardam in Ad-Dustour has underlined the necessity of continuing with this campaign (Zakarneh, 2015, Wardam, 2013).

However, while in theory the campaign aims at closing the illegal wells, which are mainly owned by influential actors such as large farmers in Azraq or powerful individual around Amman, in

practice the government is implementing the campaign mainly towards non-influential and non-powerful actors. In fact, interviews revealed that, after a closer look at how the campaign is being implemented in relation to the shadow actors, it emerges that the targets of the campaign, in practice, are not the influential actors, but rather, once again, the poor and marginalised individuals (interview 11). This emerges, for instance, from the operations in Lubban, a village south of Amman, mainly populated by the influential Fayez tribe (interview 26). The WAJ employees tried to close a number of illegal wells there, but they were denied access and had to negotiate and agree with the influential people within the tribe on which wells to close (Namrouqa, 2014c). According to a Jordanian academic, the MWI accepted to close only eight illegal wells, which already were non-operational (interview 11). In this way, the shadow actors were not impacted, while the MWI saved its face in front of the media, which reported the governmental version. And so did Namrouqa of the Jordan Times (Namrouqa, 2014c). Also, illegal wells in the Disi area of influential people and illegal wells of the economic-political elite in the Azraq area have not been closed, yet (interviews 11 and 55). Nevertheless, according to data provided by the MWI, 562 illegal wells have been closed in 2014 (MWI, 2015).

Interestingly, the blame tends to be on the domestic individual users rather than on the agricultural users (interview 45). In interviews with senior officials of the MWI, it emerged that the main problem related to the illegal wells is water stolen for selling and for domestic uses, de-emphasising the agricultural aspect (interview 18 and 42). Given that the highest number of illegal wells for agricultural uses is in the Azraq area, it is indeed surprising that it was overlooked (interview 15).[4] Overlooking the unlicensed wells in the agricultural sector seems to be an attempt to protect the shadow actors, meaning the farmers' lobby, the influential agribusiness men, and the big interests that the sector hides. Elements of the shadow states, influential people from Amman that have invested in the 1980s and 1990s in big farms in Azraq area, have high interests in maintaining the status quo and current uses in the agricultural sector in Azraq governorate.

According to donors, the influence of the shadow actors also emerges in the clause added by the MWI to save some illegal wells (interview 45). The clause is an exemption for illegal wells that provide socio-economic benefits. This exemption may be a legal way to protect and save shadow actors as it is a legal way to legalise some non-licensed wells. A study has been recently concluded by ISSP and the MWI to verify which wells are bringing economic and socio benefits to households, or if the owner are simply business-men from Amman or elsewhere (ISSP, 2014). The first findings of this same study also confirm that most of the illegal wells are in the Highlands: in north-western

[4] A current study of a donor organisation found that Mafraq is the leading basin in the total estimated abstracted groundwater for agricultural use followed by Azraq, and results also show that 73% of the total abstracted groundwater was used by large farmers. By large farmers this article refers to 382 farms with greater than 20 ha. A study is being published by USAID-ISSP this year on this issue (interview45).

Badia, in the areas of Mafraq and of Azraq (ibid.). The owners are mainly Jordanian businessmen part of the political-economic elite (interview 45). Large farms are mainly in Mafraq, but they can be also found in Azraq. This is due to the low depth of the groundwater in Azraq (interview 42) (ISSP, 2014). The MWI has attempted to improve water demand management in these areas through the Highland Water Forum, but with limited success.

As further discussed below, policies not favouring shadow actors tend not to be implemented. This appears, for instance, from: the removal of the clause in the USAID report discussed above; interviews with donors and UN agencies; the MWI blaming the domestic illegal uses rather than the illegal wells in the agricultural sector; the clause to save certain illegal wells from this campaign; and the lack of enforcement of the 2002 groundwater by law 85 until 2013. The government was promoting the interests of the shadow actors by framing this issue of non-revenue water as a technical issue of leakages and losses. This was to maintain the status quo of both legal and illegal uses, which benefited the shadow actors. In a statement of the previous minister of the MWI Jamani, he underlines how the focus for solving the water scarcity problem in Jordan should not be on reducing water loss: "highlighting Jordan's critical water situation, Jamani noted that even with improving water efficiency, reducing water loss and wisely managing every drop of water, the country will still suffer from a water deficit" (Namrouqa, 2012).

The last aspect that needs to be examined within this campaign is the concept of illegality. This concept is an issue because it is subjective, as the more powerful actors can decide whom to include or exclude from the legality sphere. This campaign is supposedly against people who have illegal wells. As emerged from an interview with a UN official, it seems that the concept of legality of wells is rather controversial: if you have good connections and personal networks (*wasta*), then you will easily manage to get your application for a permit approved, and therefore legalise your well. If you are a marginalised individual with no influence or no connections then your well will be an illegal one, even if it is acknowledged by the MWI-WAJ and if you have been paying for its usage (interview 55, 58, and 67).

The blame is on those that do not have a license, most of the time those are the marginalised people with no connections and influence to manage to have a license, and who use water mainly for domestic use. In addition, the blame is on those, who use the illegal wells for domestic use rather than for agricultural purposes. The members of the shadow states belong mainly to the latter group. In this way, the legality concept hides the issues of sustainable use of water in agriculture, discussed in the next section. Ad hoc clauses to save some illegal wells have also been included to transform illegal wells into legal wells, attempting to save some shadow actors that did not obtain a license. Overall, the discourse is protecting once again the shadow actors, their interests, and the current water uses.

3.2 The shadow actors and the unsustainable agricultural water use

The second case study to analyse the role of the shadow actors in the Jordanian water sector is by looking at the inefficient water management, especially in the agricultural sector, which consumes almost 60% of the water resources in Jordan (MWI, 2009). In the interviews with donors and international organisations, the unsustainable agricultural water use emerged strongly and overwhelmingly as an important cause of water scarcity in the country, especially concerning the irreversible damage to groundwater aquifers in the Highlands. This section examines the following two aspects: inefficiency in irrigation, and the export of agricultural products – unfolding the role that the shadow actors have in both aspects. It argues that the unsustainable water use in agriculture, which is emphasised by donors and international organisations and by a minority of academics, in practice is overlooked by the MWI and most governmental officials.

According to agricultural water use as a reason for water scarcity, the agricultural sector is economically not efficient, from an economic water use perspective, meaning dollars per drop or jobs per drop. This is because it uses around 60% of the water resources in Jordan, but it contributes with only 3% to the national gross domestic product (GDP) and it employs less than 4% of the national labour force – which is mainly non-Jodanian (IFC, 2012: 5, Castejon, 2011: 227). This reason for water scarcity emerges in reports of and interviews with donors and international organisations. In the interviews with donors and UN agencies, the interviewees underlined and emphasised the economic inefficiency of the irrigation techniques, technologies, and type of crops used by farmers, the latter often water intense (interviews 45 and 58) (IFC, 2012: 5, ISSP, 2012b: iii). This inefficiency in water use is also motivated by the low economic incentives set by the high subsidies for water for the agricultural sector. In Jordan, as emerges from Table 1, farmers in the Highlands are those paying the least for water, followed by farmers in the Jordan Valley, industries, and those using it for domestic use paying the highest amount. If the latter run out of water and decide to buy water from private tankers, the price in Amman is 25 Jordanian Dinars (JD) for six cubic meters, which is about four JD per CM. This is striking as agriculture in the Highlands over-exploits groundwater resources (Hussein, 2016: Chapter 5), and is far less efficient than agriculture in the Jordan Valley, where water in agriculture is used more efficiently (Mustafa, 2016). Despite agriculture in the Highlands uses two thirds of the total water used in Jordan by the agricultural sector, it accounts for only 29% of the national agricultural production (FAO, 2009: 240-242, ISSP, 2012b: 14). Overall, donors and international organisations argue that while it is not economically efficient, this sector makes an important contribution to the rural development of the country, and therefore agriculture comprises "vital socioeconomic activities in the country" (Barham, 2012: 4). For this reason, for them agriculture should be reformed and made more efficient.

Table 1 Table 1: Water tariffs in Jordan

Who	Where	Sector	% of the total amount used in Jordan	Type of water	Water tariff (JD per CM)
WAJ	Jordan (mainly Highlands), excluded the Jordan Valley	Agricultural	40%	Groundwater	zero for 150,000 CM/ year; 0.005 from 150,001 CM/ year until 200,000 CM/ year; 0.60 for more than 200,000 CM/ year.
JVA	Jordan Valley	Agricultural	20%	Surface water	0.012
WAJ	Jordan	Industrial	5%	Groundwater	0.250 if pumped from private wells; 1,800 within Qualifying Industrial Zones and for the Potash Industry
WAJ	Jordan	Domestic	35%	Mainly groundwater	Based on rate block system, in average 0,480

Source: author's presentation of data from FoEME (Saif and Omet, 2005: 26)

Reports, articles, and interviews, showed that the unsustainable water use in agriculture, which is emphasised by donors and international organisations and by a minority of academics, in practice has seen the MWI doing efforts but with limited capacity and resources, resulting to be unsuccessful also due to lack of cross sector collaboration and of political reforms. It is reproduced by critical academics not aligned with the governmental positions, whose thoughts coincide with the donors and international organisations positions. For instance, Barham, from the University of Jordan highlights how irrigation in the Highlands is "problematic," and that "despite the permanent discussions of allocate water inter and intra sectoral, [in practice the amount of] water for agriculture […] remained unchanged" (Barham, 2012: 4). For Barham, this is due to the fact that "the state is not in the position to activate laws against tribe leaders [and] investors in this area [which] consist of rentier-elite, high ranking state employees, military officers and tribal figures" (ibid.). Instead, the governmental officials tend to overlook the unsustainable agricultural practices. For instance, despite the Royal Water Committee calling through the National Water Strategy for a more sustainable agriculture (MWI, 2009: 5-2), the strategy is not implemented in this regard. In the interviews with senior governmental officials, unsustainable agricultural practices were always overlooked.

Moreover, the data on economic efficiency of the agricultural sector does not consider the whole agricultural chain, but only those directly working and the revenues of those directly employed in agriculture, and not of other industries tightly connected to agriculture. Nevertheless, for a UN official (interview 58) and for the leader of a local environmental NGO (interview 48), even considering the whole agricultural chain, which includes preparation of the land including seed supplies and fertilisers, land preparation including irrigation, production and processing, trading including transportation, this sector would reveal inefficiency, which is being ignored by state actors due to the influence of shadow actors (ISSP, 2012b: 12, Al-Jaloudy, 2006: 6). Also in the textbooks, the argument for the unsustainable agriculture water use is supported. In the geography textbook for grade ten, the inefficiency in agriculture is emphasised providing the data of its impact on GDP, 2,1% in 2003, and the contribution of the labour force, 6,1% (Ministry of Education, 2013: 47; Hussein, 2017b). A former minister of the MWI during an interview mentioned that farming is part of the Jordanian culture and society: "if a person loves its land, this person will irrigate it and love it; it is not about numbers" (interview 63). According to him, it is not about 60% of the water resources for agriculture, as "even if Jordanians drunk it instead of using it for irrigation, they would still not have a balance, so there is a need for new water supply." In addition, for the former minister, this sector does not employ only 3-4% of population, as "almost everyone in Jordan is a farmer, or has at least a farmers' mentality" (interview 63). Therefore, for him they do not need to be employed to be farmers, but simply have a "farmers' mentality."

The second aspect identifies the unsustainable and unfair water use as due to the Jordanian export of agricultural products. Donors and international organisations argue that Jordan should be careful in producing agricultural goods for export because of its limited water resources, and it should focus on low water intensive products and with a high economic return (ISSP, 2012b: 28). Even if unsustainable, they argue that both the crops and the destination of export need to be considered when calculating the economic impact of virtual water export. For instance, Eastern Europe provides the highest economic value for Jordanian vegetables (ISSP, 2012b: 28). However, most of the export stays into the region, with 53% to neighbouring countries, 40% to the Gulf Cooperation Council (GCC) members' states, and only 7% to the rest of the world (ISSP, 2012a: 4). "The main reason behind this result is that tomatoes [, for instance,] are mostly exported when there is excess supply for the local market in peak season when prices are at their lowest" (ibid.: 5). In this way, the neighbouring countries absorb what the Jordanian market cannot consume, even if it has a lower value compared to the European one (ibid.). Donors, international organisations, and some academics call the relevant ministries and farmers to take into consideration water and economic value when deciding where and what to grow, and what to export (interviews 28, 45, 58, and 59). As Al Karablieh and Jabarin from the University of Jordan found in a recent study, "Jordan utilizes large amounts of water in its exports, and in turn, it does not export goods with low water requirements

[…]. Therefore, they have to be replaced with either imports or crops that optimize the water resources" (Al-Karablieh et al., 2011: 964). For Talozi, Al Sakaji, and Altz-Stamm, "it is additionally necessary to view the virtual water usage numbers in light of how much is being put towards produce that is exported from Jordan. […] This raises the policy question of whether Jordan should be producing this quantity of fruits and vegetables, either for export or for its own use, with precious blue water resources that are needed in other sectors" (Talozi et al., 2015: 477). It is important to highlight the "blue" water – freshwater: surface or groundwater - as opposed to "grey water" – polluted water or wastewater that can be treated and reused – and "green water" – soil moisture from precipitation. Blue water is the important aspect, as some agriculture in Jordan is using "grey" water and that use is not as problematic for exportation, while exporting "blue" water is problematic and unsustainable for Jordan. More specifically, treated wastewater in agriculture is mainly used in the Jordan Valley, making food export from there less problematic than from the Highlands, where farmers only use "blue" water for irrigation.

While donors, international organisations, and critical academics emphasise this aspect, the senior governmental officials de-emphasise it. In an interview at the MoA, it was noted by a senior director that while there are policies and recommended crops to be planted in the agricultural sector in Jordan, for instance to disengage from tomatoes, bananas, and water intensive crops, in practice they are difficult to implement as there are no economic incentives to help the farmers to shift towards other products (interview 25). Indeed, the major factor for all farmers – shadow actors and others – is that the economic incentives simply are not there and the government has not provided any vision or framework within which farmers can create the needed secondary industries to help them export the more appropriate crops. In this interview, this director at the MoA explains that it is not easy for the MoA to intervene on the agricultural sector dictating what to cultivate and what not to grow, especially given that economic incentives are not provided to farmers to comply with the regulations. In addition, pressures from the shadow actors make it difficult for the MoA to take decisions against or constraining farmers' decisions and choices, to try to reduce water for agriculture or to convince farmers to shift to new crops. Moreover, most employees at the ministry are farmers, the minister himself is a farmer, and they are all supported by the farmers' community. As most Jordanians are originally farmers, for the director of MoA, a strength of agriculture is that it involves the vast majority of the population. For the director, consideration linked to the broader socio-political-economic context, from the historical background to the cultural importance of farming, are to be considered when taking decisions and passing policies. For him, this would be also be linked to domestic concerns, and to the social stability of the country.

Texts sources of this aspect are reports of donors and international organisations (interviews 28, 45, 58, and 59), and a few academic articles of critical academics (Al-Karablieh et al., 2011, ISSP, 2012b). However, governmental officials overlook this aspect. The argument of unsustainable

agricultural water use is strongly supported by the concept of virtual water – water used to produce any product or service - , which argues that water scarce countries like Jordan should save their water resources by relying on import of food and reducing their water allocation to the agricultural sector (Allan, 2002: 165-167). However, this idea is challenged by the discourse of food sovereignty, as some local NGOs like the Arab Group for the Protection of Nature (APN) as well as governmental officials, claim that this could lead Jordan to further decrease its food sovereignty, becoming further dependent on foreign countries outside the region even for food. Therefore, they are calling for strengthening the cooperation among the Arab countries to reach food self-sufficiency not at the country level but at the regional level (APN website, interview 72). The necessity for a regional food sovereignty was underlined by the Jordanian minister of the MoE Taher Shakhshir at the Arab Forum for Environment and Development's (AFED) conference in November 2014 and by the AFED report (Namrouqa, 2013b, Namrouqa, 2014b).

4. Concluding remarks

This article has revealed the influence of shadow actors in Jordan's water politics. It has shown that shadow actors have nothing to do with searching for solutions advantageous for them, but rather they just want to use their water without interference, and to maintain the privileges and benefit they are benefiting from. This article shows that monarchy depends for security on informal social structures, which tie military and civilian elites (individuals and their followers) into "network of support", and on "social contract" with the people. "Patronage", funded by the "rentier state", underpins the system, with privileges and benefits – including access to cheap water – exchanged for allegiance to the country. The evolving "political bargain", changing shape and expanding according to key political and economic developments (importantly, 1950s, 1980s, 1989, and 2005, 2011) based on a system of economic benefits, rewards and privileges, permitted powerful individuals, sometime working in groups, to influence policy choices, control the economy and allocation of resources, and resist reforms in the national interest. A general consensus emerges from the findings of previous researches that as a result of the evolving organisation of power on which Hashemite rule is based, governance in general and the water challenges in particular, cannot be remedied only through improved management and technical solutions political reforms are required to replace the influence of the "shadow state" networks with an inclusive political system ensuring transparent and accountable government (among others, see: Muasher, 2011; Richards, 1993; Greenwood, 2003, Peters and Moore, 2009, Yorke, 1988, 1990, 2013; 2016).

Consequently, concerning solutions for the water sector and for water scarcity, the MWI leadership are technically experienced, well informed, and politically savvy and aware – they have a short, medium, and long-term views. To solve the water crisis - for the MWI - Jordan will require

improved transboundary cooperation, new sources of bulk supply long term. Demand restraint can postpone the resort of these more expensive supplies. For the MWI, a mix of solutions will therefore be required, including regional cooperation, demand restraint, agricultural reforms, wastewater expansion, and diversification of the economy. By analysing the water crisis in these terms, it is understandable why the MWI and other governmental water experts in the kingdom tend to draw the attention on how to increase the supply – mainly through regional solutions, transboundary agreements; meanwhile the donors and international organisations draw attention to urgent need for demand restraint and cross sector prioritisation of water issues.

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