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FROM SOCIALIST KIBBUTZ TO FREE MARKET ECONOMY: WHAT COUNTS FOR ISRAEL'S WATER MIRACLE?

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Abstract

This paper aims to adequately summarize the integral components to understand the state of water allocation in Israel. To do so, it first discusses the biblical roots of water and what it meant for the early Zionist settlements in the region. Once establishing the basis for the culture surrounding water for Israelites; it emphasizes on the importance of water in national security and state-building in Israel. It later discusses how these national security and state-building concerns led to the current state of geographical borders. Presenting the current layout of the Occupied Palestinian Territories (OPTs) and their administrative mechanisms; this section concludes by listing the main water issues faced in Israel and disputes with the OPT's and the Kingdom of Jordan over shared water resources. Listing allocation, politicization and privatization of water as the main issues; the following sections elaborate on these topics. In doing so, it first lays out the government initiatives, policies and partnerships constructed to tackle these issues. The paper subsequently examines how all the aforesaid tools led to the advancement of the Israeli WaterTech industry with a specific focus on its prevailing sub-sectors. Namely, desalination, wastewater management, water network management, irrigation and finally water safety and security.

Keywords: water allocation, Israel, private sector development, water governance

"You can tell a lot about a country by the way it manages its water."

—Shimon Tal, former head of the Israel Water Commission

1.INTRODUCTION

Due to irregular, unequal and severe yearly downpour regimes of rain, the Middle East region has always been exposed to shortages in the water. With this in mind alongside the growing processes of salinization, pollution and growing population the scarcity of water is expected to grow. According to the policy report highlighted by the OECD (2011), water allocation arrangements are not equipped to serve the 21st century hence emphasizes the reformation of water allocation that can benefit both individuals and society in general Moreover, the policy builds on the following two key messages calling for the necessity of a

reform. Firstly, the policy report highlights the competition over access to water resources is intensifying due to population growth, particularly in vulnerable (semi) arid regions such as the Middle East, leading to degraded water quality and climate change. Consequently, water allocation is generally tackled as a high priority in political agendas. Secondly, the policy report highlights that decisions by the authority or those in the power of water allocation are bound to historical preferences and usage patterns, often tracing their roots to previous decades or even centuries (OECD, 2019). In other words, competition, hence, power is dominated by particular entities or individuals and manifested in political agendas in water location. Water is therefore disproportionately allocated to certain users and is highly context-dependent. Thereupon, the location of water resources and choices made over its policies can be deemed as important indicators on determining laws and borders whilst demonstrating political power or being used to benefit national interests by authorities (Rosenthal & Sabel, 2009). As the findings show despite half of the country is a desert, Israel currently has a water surplus, thus, becoming a net exporter through their technological prowess in water distribution and deemed as the only water independent country in the Middle East region.

2.CULTURE OF WATER: THE ISRAELI KIBBUTZ AS A CASE STUDY

Allocation of water resources, in particular, played an important role in the creation of the Israeli state. Established through the early Zionist settlements; the Zionist movement put great importance on agricultural activity and water. According to Dare and Evans (2017), a kibbutz was regarded as a way of community life and traditionally based on agriculture developed by Jewish newcomers to Palestine long before the State of Israel was established. Moreover, Munnin summarizes that the kibbutzim established during this period under the British mandate, enjoyed by many members. Adding that most of these newcomers being enthusiastic, many were ideologically motivated youngsters. Inevitably, kibbutzim movements later developed different ideological and political orientations leading to a military role in actively partaking in the protection of the Yihuv.

According to their national narrative "Jews had been landless urban-dwellers alienated from their promised land" (Selby, 2003, p.66). Hence, Zionism not only advocated for return to Palestine but "redemption of the Jewish people through agrarian physical labor and the transformation and rebirth of the wasteland of Palestine into a land of milk and honey" (Selby, 2003, p.66). Prioritizing their claim over water resources, Zionists ought to establish control over them. Following a labor Zionist ideology, settlers thus identified water as a weapon in territorial struggle (Selby, 2003).

After the official establishment of the Israeli state in 1948, water policy naturally became a vital tool for securing the physical presence of the country in the region. Moreover, because of the colonial roots of the Israeli state, water policies were largely discriminatory favoring the state's needs against the Palestinian minority (Selby, 2003). Additionally, a combination of a labor Zionist elite and a state-led public discourse further served the objectives of Israel in extending their control over regional water resources. To exemplify, Israel's water policies mainly aimed at securing and extending the availability of water for Israeli settlements located in OPT's restricting Palestinian's access to the water supply which later led to be one of the reasons for the intifada.

Nevertheless, the Israeli national security discourse continues to view water as a part of national security and an integral component to state-building that can be traced back to the kibbutz movement as a milestone in nation-building through agriculture.

To conclude, from the earliest days, Israel pursued water strategies and policies to advance state-building playing an important role in the Israeli national security agenda (Ecopeace, 2018). Consequently, Israeli water issues still remain highly controversial and continue to aggravate existing tensions among trans-boundary water resources shared by it's neighbours, with OPT's in particular.

2.1.Current boundaries of Israel: Water & State Building

As established above, water issues are central to Israel's geopolitical considerations. Moreover, as Morag (2001) discusses, the objective of maximizing control over water resources ultimately resulted in what would, in 1948, become Israel's northern and northeastern borders. Followed by revised borders in the northeastern part of Israel in 1967, the current geopolitical calculus of Israel is illustrated in Figure 1 along with the three distinct Israeli-occupied West Bank areas with different administrative measures. According to the current negotiations, Area A is exclusively administrated by the Palestinian Authority; Area B is administrated by both Palestinian Authority and Israel; and Area C including Israeli settlements and administered by Israel. Israel, however, still faces chronic water problems that are both man-made and natural.

Figure 1. Curren Geopolitics of Israel(ABC 2017).

2.2.Government Initiatives, Policies and Partnerships on Tackling Water Crisis

After 1967, the Israeli governments' tasks largely revolved around maintaining the West Bank's water network, controlling the volume and flow of water supplied to the Palestinian communities and billing (Siegel, 2015). The water department then traditionally functioned as an intermediary agent between military authorities and the Palestinian population. Post-1967 actions of the Israeli water authority claimed widespread control overseeing the allocation in the West Bank, hence restricting the amount of power given to Palestinian users themselves. In other words, Israel emphasized a widespread power "to control and restrict the activities of individual water users" (Siegel, 2015).

A report published by the United Nations in 1992 starting with the quotation: Like desert camels of thirst dying, While on their backs water-bearing. (Arab verse after Emile Habiby) summarizes the main limitations about the power play and lack of Palestinian control over water resources which explains the focus on the effects of water on individual users. Firstly, it focuses on diversion, depletion and control of Palestinian water resources adding that the effects of annexation in the Palestinian land and illegal settlement policies along with legal and institutional constraints on the Palestinian water economy systematically creates dependency over Israel. The report proceeds by stating that restrictions on development activities requiring water and water-related measures are repressive and discriminatory for the Palestinians. It concludes by adding that the overall impact of Israeli policies on Palestinian water consumption creates insufficient availability and quality of water. As a result, leading to a lack of protection of Palestinian water resources, water security and technical cooperation plans both on a national and international scale.

2.3.Allocation of Water Resources

As mentioned above, post-1967 activities of the Israeli government to tackle the (semi) arid nature of climate was accompanied by restrictive measurements taken on allocation of water resources without recognizing Palestinian rights (Dweik & Shuval, 2007). According to Sustainable Management of the West Bank and Gaza Aquifers or SUSMAQ, this unfair allocation of resources led to drying up Palestinian springs and wells by drilling nearby deep wells for their own use, intercepting groundwater from reaching Gaza coastal aquifer, polluting the groundwater aquifers by the wastes of Israeli settlements and mining the West Bank aquifers by dense networks of wells. By constructing separating walls, Israeli government further solidified control over the water distribution.

Due to Israeli restrictions on drilling, deepening and rehabilitation, Palestinian water projects require an approval where Israel holds a de facto veto power (Corradin, 2016). Consequently, only a limited number of Palestinian projects on water and sanitation are granted permits to be executed (Corradin, 2016) with against a near 100 percent approval rate for the Israeli ones. Additionally, the repercussions of control over water distribution affect areas A, B and C distinctively. To illustrate, as stated by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) refusal rate of water and sanitation projects between 2010 and 2014 is standing at 98.5 percent with over 50 projects being demolished (Corandin, 2016) in Area C. Whereas for Area A and B lack of sufficient water resources still remains a major problem with 18.5 percent of the water being bought from the

national water company of Israel. This practice is largely criticized by leading international agencies since it is claimed that Israel essentially sells the water back to Palestinian's. One of the leading advocates on this phenomenon is the United Nations in which accuses Israel for the violations and the human right to clean water and sanitation (Klawitter, 2007).

2.4.Politicization of Water: Arab-Israeli conflict

As described above, the Israeli government adopted discriminatory water policies and mechanisms when allocating water, especially to OPTs. The failure to maintain cooperation in preserving the shared groundwater resources with the Palestinians hence made water a top contributor to the conflict. According to Lipchin (2007), the problem between Palestinians and Israelis on water is not about water availability, use, and supply or any remaining technical problems. Instead, it is a political competition over the Palestinian land. More specifically, who controls and owns what is in historical Palestinian land. In the longer term, the occupation of water also forces Palestinian to leave their land deprived from their right and ability to cultivate it.

2.5.Shift to Free Market Economy

Above-mentioned, control over water was lavishly and traditionally controlled by the Israeli government's water department in OPT. In other words, according to Siegel (2015), the ideological basis of Israel's control was heavily led by restrictive laws and policies followed by the government. After the peak and widespread globalization in which businesses can operate and trade on an international scale, water inevitably became treated as an economic commodity. With the introduction and adaptation of the free-market economy by the Israeli government, the state currently adopts a capitalist economy paving the way for privatization and treating water as an economic source whilst maintaining a state-controlled and centrally planned approach to its water (Siegel, 2015).

Advocating for private ownership, pro-business and pro-innovation was first suggested and properly executed by Ariel Sharon when he came to power in 2003 as the prime minister. His vision, however, was properly implemented by his successor Benjamin Netanyahu starting from 2009 serving as the new prime minister. The gradual transformation of the pro-business approach of the government currently endorses and progressively extends the funding of it's businesses working in the high-tech industry and making technology work for their favor dominating the water technology business (Siegel, 2015).

The Israeli government planned such a shift to the market economy by first hiring an outside consultant to identify the state of the water market. Once analyzing the potential size of the growing efforts in technology and funded industry, the Israeli government concluded that water held a major export potential bringing millions in revenue (Siegel, 2015). Being convinced that the water industry was fragmented; entry wouldn't be blocked by industry giants. In other words, government-funded Israeli companies held the potential to become the most significant export businesses. This led to the formation of a special kind of holding company, the incubator which serves to find innovations across the country that is worth getting funded by the government. Accordingly, allowing the government-owned institutions to provide funding for start-ups.

3.INVESTING IN WATER: WATER INCUBATORS

Holding the title of one of the leading investors worldwide, The Clean Fund of Israel, constructs a strategic partnership with Israel's national water company (or Mekorot). In doing so, they fund Israel's top academies, water institutions and private entrepreneurs aiming to create a platform for developing and commercializing water innovations.

3.1.Outward Looking Entrepreneurs & Technological Prowess

Growing focus and investment in research, higher education and infrastructure reserved for the water industry combined with the large body of technically skilled natives and immigrants quickly paved the way for a technology revolution in the country. Today, Israel is often deemed as the start-up nation becoming an industry leader in entrepreneurial culture (Siegel, 2015). Ditching the old paradigm in water -or the traditional centralized model executed by Israel before the technology revolution/boom, the new one thereupon focuses on increasing water's efficiency whilst making every drop count.

Ranking third after Iceland and Hong Kong, Israel is also ahead of global powers like the US in entrepreneurship. (Getz and Segal, 2008). Consequently, the country is characterized by a high level of entrepreneurship and innovation. In 2007, in the Global Entrepreneurship Monitor (GEM) Israel was ranked the first ("Entrepreneurial Behaviour and Attitudes", n.d.). According to Gidron et.al. (2015), Israel's success in the areas of both high-tech and entrepreneurship can be interpreted in several ways. Besides governmental support, Weisfeld (2015) adds that mandatory military service forces the Israeli to make life-altering decisions and expands their social network. On the other hand, there is also a great sense of solidarity among Israelis that makes them to favor staying in the country and become angel investors themselves for upcoming startups

3.2.Israeli WaterTech Industry

According to Schafer (2013), new water systems can be designed to reduce the use and treatment costs of water by introducing systems such as desalination, wastewater management, water network management and irrigation whilst ensuring water safety and security. Hence, while the new paradigm prioritizes the efficient way of allocating water it also aims to ensure its sustainability. According to Ben-Zoor and Priampolsky (2016) Israel currently ranks as a superpower in water technology while also considered a world leader in the areas of water desalination, water recycling, water security and more. In addition, due to the success of Israel overcoming it's water shortage; in June 2015 the World Bank signed a cooperation agreement allowing for the penetration of Israeli water technology into developing countries. Enabling its patented technology to be introduced in developing countries. Israeli companies today count as the ones with the highest exports (Ben-Zoor & Priampolsky, 2016).
According to Start-up Nation Central, Israeli WaterTech companies function in the field of (1) desalination, (2) wastewater management, (3) water systems and network management, (4) drip irrigation and (5) water quality accounting for more than 180 water companies in total. Figure 2 taken from the highlights of the Start-Up Nation Central's 2017 water technology highlights the spread of the industry as follows:

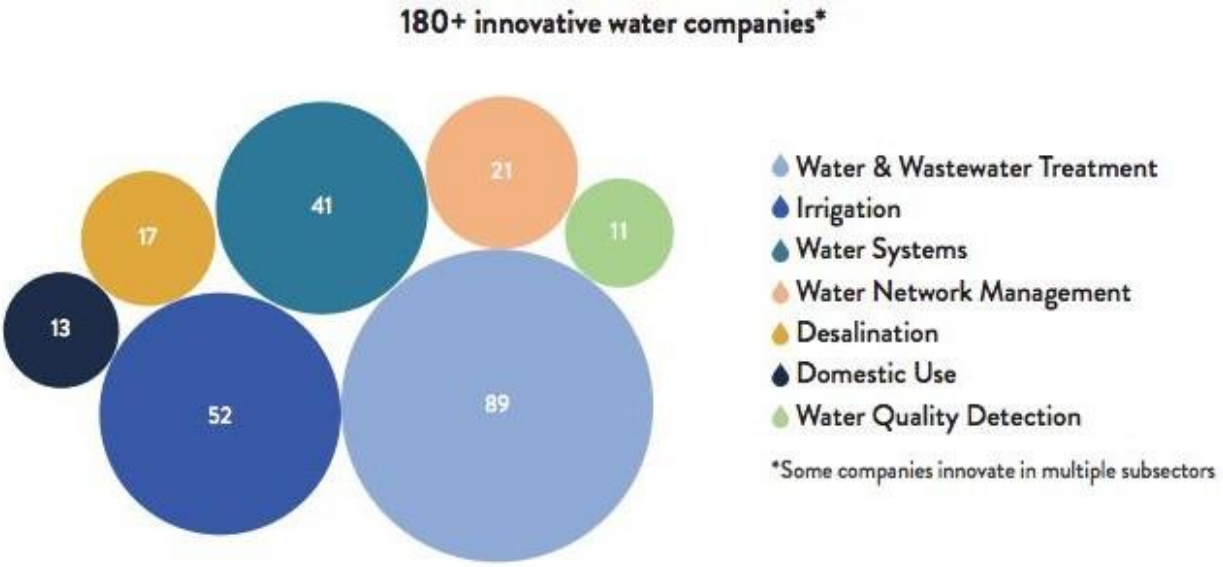

Figure 2. Innovative water companies (Watertech Highlights)

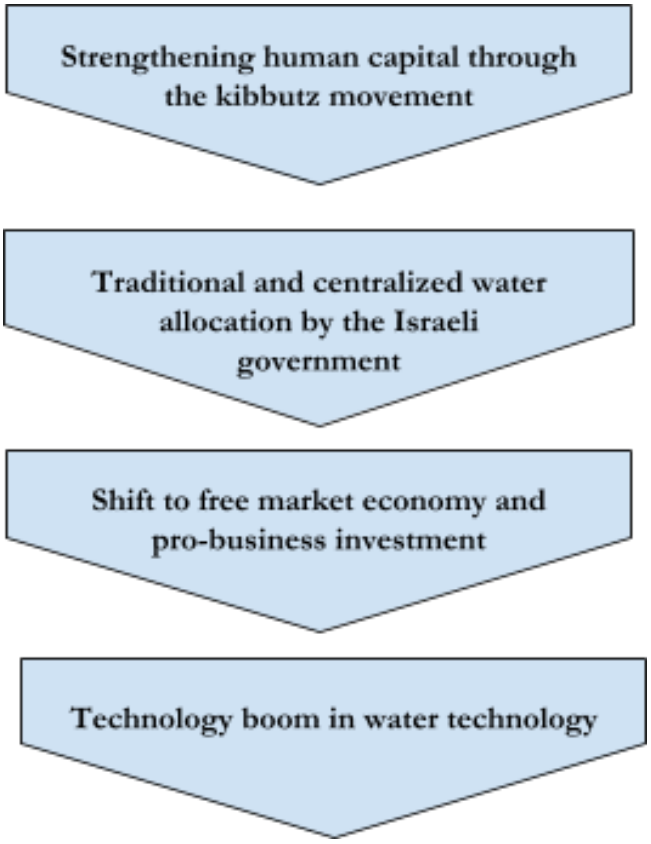

Figure 3. The technology boom in water technology

4.CONCLUSION

To conclude, the key innovations in the Israeli water sector can be regarded as an accumulation of pro-business decisions made by Israel's vision to dominate the water export industry through; a unified water infrastructure, large-scale treatment of wastewater for agriculture, large-scale desalination facilities for assuring water-independency, employing efficient irrigation technologies and finally providing a secure and supporting ecosystem/environment for water industry to thrive and innovate. In other words, the development of the grounds in which water become a treatable commodity as summarized below:

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