WATER AS A TOOL OF OPPRESSION:

THE CASE OF THE ISRAELI-PALESTINIAN CONFLICT

İlknur EKENCİ

Yüksek Lisans Tezi
Küreselleşme ve Uluslararası İlişkiler Anabilim Dalı
Danışman: Prof. Dr. Ensar Nişancı

2019

T.C.
TEKİRDAĞ NAMIK KEMAL ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
KÜRESELLEŞME VE ULUSLARARASI İLİŞKİLER ANABİLİM DALI
YÜKSEK LİSANS TEZİ

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BİLİMSEL ETİK BİLDİRİMİ

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İlknur Ekenci tarafından hazırlanan "Water as a Tool of Oppression: The Case of The Israeli-Palestinian Conflict" konulu YÜKSEK LİSANS Tezinin Sınavı, Tekirdağ Namık Kemal Üniversitesi Lisansüstü Eğitim Öğretim Yönetmeliği uyarınca …… günü saat ……..'da yapılmış olup, tezin ……. OYBİRLİĞİ / OYÇOKLUĞU ile karar verilmiştir.

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Dr. Öğr. Üyesi ALİ FARUK AÇIKGÖZ

Enstitü Müdürü

ABSTRACT

Institution	**:**	**Tekirdağ Namık Kemal University**
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Israeli state in the occupied Palestinian territories, does not only physically restricts the living space of millions of Palestinians with its seizure of land and water policy, but also pursues interventionist and destructive policies that will confront the people of the region with thirst. The policy of dominance over water resources, one of the publicly announced political priorities of the Israeli state, remains the cause, catalysator and ultimate goal of the occupation in Palestine, and the main cause of years of suffering for the Palestinians. The aim of this study is to reveal the importance of the struggle over shared water resources in the Israeli-Palestinian conflict that has been going on for decades, and to embody the use of natural resources as a means of oppression in the inter-state conflicts in the example of the Israeli-Palestinian conflict. In this sense, this study aims to make an academic contribution by emphasizing that there is a purpose of dominating the water resources, contrary to the studies focused on territorial rivalry in the promised land.

Keywords: Water crisis, Israel, Palestine, Jordan river, Oslo Accords, Hydropolitics

ÖZET

Kurum	**:**	**Tekirdağ Namık Kemal Üniversitesi**
Enstitü	**:**	**Sosyal Bilimler Enstitüsü**
ABD	**:**	**Küreselleşme ve Uluslararası İlişkiler Anabilim Dalı**
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İşgal altındaki Filistin topraklarında İsrail 'toprak ve su ele geçirme" politikasıyla sadece milyonlarca Filistinlinin yaşam alanını fiziki olarak kısıtlamakla kalmamakta, bölge halkını susuzlukla karşı karşıya bırakacak müdahaleci ve yıkıcı politikalar izlemektedir. İsrail devletinin açıkça ilan ettiği siyasi önceliklerinden biri olan su kaynakları üzerindeki hakimiyet politikası, Filistin'deki işgalin sebebi, katalizörü ve nihai hedefi ve de Filistinliler için daha yıllarca devam edecek sıkıntıların baş sebebi olmaya devam etmektedir. Bu çalışmanın amacı onlarca yıl süregelen İsrail-Filistin mücadelesinde su kaynakları üzerindeki paylaşım mücadelesinin önemini ortaya koymak ve doğal kaynakların devletlerarası süregelen çatışmalarda bir baskı aracı olarak kullanılmasını İsrail-Filistin mücadelesi örneğinde somutlaştırmaktır. Bu anlamda bu çalışma vaadedilmiş topraklardaki toprak mücadelesine yoğunlaşan çalışmaların aksine, bu mücadelenin arkasında bir su kaynaklarına hakimiyet amacı olduğunu vurgulayarak akademik bir katkıda bulunma amacı gütmektedir.

Anahtar kelimeler: Su sorunu, İsrail, Filistin, Ürdün nehri, Oslo Anlaşmaları, su jeopolitiği

ACKNOWLEDGMENTS

This thesis aims to shed light on one of the most crucial aspects of the conflict between Israel and Palestine, under the theorical perspective of Hobbesian realism. As it is mostly overlooked, the water rivalry between these two actors plays a crucial role in their decades-long conflict. Water, which is an essential resource for human life and communities which depend on continuous and efficient industrial, economical and agricultural activities. Any disturbance in watersheds, contamination with pollutants or overexploitation create a negative chain effect which will end up interrupting the daily societal activities.

In the conflict zones natural resources, such as rivers, dams, oil wells and oil refineries appear as strategic points. The example of Palestinian-Israeli conflict in such point constitutes a marginal case due to its decades-long history, its unique characteristics related to its two-headed structure along with the case itself where the water resources could become a major tool to disrupt social and economic life. This thesis has written with the goal of contributing to existing literature of war/ conflict on water, in the example of one of the best-known conflicts of the international relations.

This thesis constitutes a recent research on the matter conducted in English language; thus, during the research and writing process I've benefited from mostly English sources, along with some articles and working papers written in French. Turkish academical sources, however, appear with remarkable lack of detailed/ specific information, far from presenting a whole image from an objective academic perspective. In this thesis I've focused on presenting details with specific data in order to complete my goal of taking a photo of the water stress in Palestinian territories and its main reasons in both theoretical and practical scale. While doing so, I have preferred to use an objective perspective, without giving any shade of my thoughts on the matter. However, as it is openly mentioned, I have preferred to use 'Palestine' and 'Palestinian state' terms instead of the 'Palestinian authorities' and

‘Israeli-Palestinian conflict’ instead of ‘Israel-Palestinian conflict’, in order to highlight the presence of a political actor, the Palestinian State, despite the world powers still resist to recognize it officially. This recognition problem of Palestinian state deeply contributes the Israeli-Palestinian conflict, along with the water dispute as it discussed in this study, in a very distinct way since it interrupts the application of international law which all about regulate interstate relations.

I am happy to be able to conduct this study to conclude my master’s degree under the supervision of Prof. Dr. Ensar Nişancı. I am sincerely thankful to Assoc. Prof. Muharrem Eksi and Assoc. Prof. Emine Ümit İzmen Yardımcı for their guidance.
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İlknur EKENCİ
ISTANBUL, 2019

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ABBREVIATIONS

Abbreviation	Explanation
JWC	: Israeli–Palestinian Joint Water Committee
NAFTA	: North American Free Trade Agreement
LSLA	: Large Scale Land Acquisition
OECD	: Organization for Economic Co-operation and Development
PLO	: Palestine Liberation Organization
UN	: United Nations
WASH	: Water, Sanitation and Hygiene
WHO	: World Health Organization

MAP LIST

INTRODUCTION

In arid and drought-prone climate of the Middle East, water is apprehended as a sacred source of human life, the main supply of the nations and prosperity. The region's agriculture-driven economy obliges states to follow water-prioritizing politics, while sovereignty dispute over shared water resources leads to conflicts and international law abuses. Palestinian territories appear as a remarkable example to the regions witnessing a water-related conflict. The rivalry on dominance over water resources in the region is among the most prominent contributors of the decades-long Israeli-Palestinian conflict, and the major factor curbing the continuation of bilateral talks that would pave the way for establishment of peace in the future.

The Middle East is one of the World's two poorest regions in terms of water resources along with the North America where over 60% of the population live in water-stressed areas. However, the lack of water resources and difficulties in access to clean potable water in Palestine is basically caused by both environmental-societal and political factors. The environmental-societal reasons can be named as the effects of the global warming leading high evaporation levels and less-recharge rates in local resources, increasing population in the region, pollution and lack of developed infrastructure and the water waste. Political reasons, on the other hand, appear as following: ongoing violence in the region, increasing Jewish settlements and their overuse of water resources, land and water grabbing policy of the state of Israel, the consequences of not fully recognized statue of Palestine state in the international arena.

Israel controls the entire water system of the occupied territories of Palestine. It organizes an unequal and deliberate sharing of water resources: it diverts 75 percent of the water resources of the occupied territories, leaving only 25 percent to the Palestinians. The average water consumption per capita of an Israeli is nearly six

times greater than that of a Palestinian. In addition to water rationing, Palestinians are victims of the destruction of wells, water pipelines by the Israeli army.

Research question and Objectives

The aim of this study is to bring forward a relatively less studied aspect of the Israeli-Palestinian conflict -water rivalry- and the show what kind of crucial role it plays in terms of catalyzing the ongoing tensions and the way that it is used as a tool to limit livelihood needs, economic and agricultural activities of Palestinians.

This study takes the inequalities in the right to reach water in Palestinian territories as the independent variable and aims to reveal how it is shaped within a state-driven policy (dependent variable) in order to ensure and maintain the occupation in Palestinian territories. Thus, the research question is asked as following: What is the impact of water dispute on the ongoing violence and occupation in Palestinian territories? By forming the research over this question, the study has several objectives:

O_1: to highlight the relation between rivalry over water resources and the conflict in general terms and show its reflection on Israeli-Palestinian conflict

$O_{2:}$ to clarify the motivations of state of Israel in its occupation and settlement policy in Gaza Strip, West Bank and beyond

$O_{3:}$ to reveal the international law and human rights violations conducted by Israel

Methodology

This study focuses on Israeli-Palestinian conflict and is conducted in method of a case study in which it is aimed to shed a light on the fact that the Israeli occupation in Palestine goes further than a land gain. To fulfill the objectives mentioned at above, first of all, this study draws a theoretical framework around realist theory of international relations, presenting oppressive nature and the greedy behavior of states. After giving a general knowledge on the matter, it will be argued

how much water disputes contribute to the conflictual relations of states. Along with the realist approach, the research discusses land and water grabbing activities in the region in question.

Decades-long occupation, terror and oppression in the Palestinian territories are subjected to water smuggling. In order to create new areas to expanding Jewish settlements, control over water resources plays a significant role. Israeli state does not only grab Palestinian territories by force but also divert its resources towards occupied regions to contribute its agricultural, industrial and domestic consumption. In an article named *"Israel seizes large tracts of land in West Bank*" published in 2016, Israeli newspaper Haaretz reported that Israel confiscated 234 hectares of land, the largest among in the West Bank in recent years in order to build new Jewish settlements and revive economic activities in the area (Haaretz, 2016)

In order to present a general perspective over the water supply and water need of the globe, the next part of this thesis focuses on the importance of water in human life, giving a general information on the world's water reserves and possible threats that they might face in near future, such as climate change, population growth and pollution. These threats are leaving millions of people's life at danger even today, especially already water-stressed regions as the Middle East, or 'the Promised land' as it is taken as a study subject in this thesis.

Following parts of the study are aimed to highlight the international principles on water disputes and the theories that built today's understanding of a solution to water crisis, mostly resulted in cooperative ways when the conditions are met. Finally, last chapter reveals a firm connection between water security concerns of Israel and its oppressive policies and actions against Palestine, by violating the international law and not fulfilling the requirements of international agreements.

Assumptions

This study is conducted on three assumptions:

A_1: Some states tend to choose conflict over cooperation in disputes related to water resources

A_2: Water conflict is one of the major catalyzers of the ongoing violence between Israel and Palestine

A_3: Israel is following a state policy favorizing the occupation and control of water resources to ensure the integrity of the country

These assumptions take their bases from several different sources. The first assumption is formulated on the popular assumption of that the states are more eager and willing to form a cooperation between them on legal basis to avoid violent outcomes. A research group based at Oregon state University found that between 1950 and 2000, 1,831 disputes were occurred over international water resources, 1228 of them were concluded in peaceful ways as the countries choses cooperation over conflict and sign 157 treaties, while 507 resulted in non-cooperative ways (Wolf, Stahl, & Macomber, 2003:2) Petersen-Perlman and Wolf (2015) argue that the main reason behind this state behavior is rational: the cost of combatting for water is higher than making a peace deal. They further claim that water has never been *"the sole cause of an all-out war",* since its costly, it causes economic damage, high military expenses, plus it leads loss of life. Gleick (1993), Homer-Dixon (1996) and Remans (1995) oppose the pre-assumption of logical behavior of states that could allow them to consider the possible consequences of a deal or a war, as they consider states as fast-acting and irrational actors. Thus, they allege disputes over natural resources tend to trigger an armed conflict, rather than establishing peace via international agreements in long terms. This perspective will be further mentioned and detailed in the next sections of this study in order to make correlation between the assumptions and methods of this thesis, and also with the theoretical perspective.

The second assumption is derived from the facts of the Israeli-Palestinian conflict. Tony Allan (1999) mentions water dispute among the big five issues contributing the conflict*: "statue of Jerusalem, border dispute, Israeli settlements, migrants, and disputes over water resources"* (T. Allan, 1999). The issue of water in Israel-Palestine has a great complexity for two main reasons: desert-like climate of the region with lack of water supply for its increasing population and extremely unequal and asymmetric distribution of water between Israel and Palestine.

The inequalities in water distribution in Palestine also draw some international attention. In a 320-page parliamentary report "The geopolitics of Water" or "La Géopolitique de l'eau" released in December 2012, a socialist member of the France's general assembly called the Israel's water policies in Palestine an 'apartheid' where the Jewish state uses water as a weapon against Palestinians. The report caused an uproar in Israel.

In a box titled *"Water, revealing a new apartheid in the Middle East",* the report says the Israel conducts a haughty and contemptuous racial, religious and spatial segregation in the region. The figures cited in the report are significant: 2.3 million Palestinians are entitled to only 70 million cubic meters per year, compared to 222 million cubic meters for Israeli settlers, who are less than half a million in the West Bank. In other words, water from the water tables of the West Bank is literally stolen for the benefit of settlers, but also other Israeli citizens whose daily consumption is between 270 and 400 liters per day, against 50 to 70 liters for Palestinians, well below the World Health Organization's estimations around 100 liters per day as subsistence minimum. As the numbers signify a remarkable inequality in terms of access to water between Palestinians and Israelis, the importance of conducting a study on the matter appears significant.

Lastly, the third assumption is based on Zionist thinking and its central position on the main motivation behind the foundation and the continuation of Zionist state. The control of water resources constitutes one of the essential bases of Zionist ideology on which state of Israel was founded. The founders of the Zionist

movement gave imminent importance to having sufficient water resources to supply the need of a future Jewish state in the region, which later became one of the top priorities of the Israeli state in terms of domestic and interstate relations.

Limitations

During the period of gathering current quantitative data for this research, the main problem appeared as the lack of information on the local water reserves, especially those are located in West Bank and Gaza Strip. This lack is mostly caused by the inefficacy and liability of local and foreign organizations working in the region. When it comes to the Israel side of the territory, it is relatively easier to reach studies and statistics reported by the government and non-governmental organizations, mostly of whom are online and free content. However, in those researches the Israel strongly deny any wrongdoing in terms of the distribution and exploitation of water resources and blame Palestinian side to purposely damage resources, infrastructures and of demanding astronomical amount of water that reaches the half of what Israel has at total. Moreover, Israel claims that Palestine denies discussing and reaching an agreement on shared water-resources, thus the question remains unsolved[1].

Theoretical framework

The theoretical framework of the research was built over the realist theory in international relations, and mainly from a perspective of one of the best-known scholars of the field, Thomas Hobbes. According to classic realist theory, every action of states can be understood in a clear way based on their needs/interests and their goals/passions. The theory does not accept the presence of any other actors then states in the international arena, where an anarchy is present. The main goal of the states characterizing their actions in the international relations is their continuation and survival as the other states try to attack/plunge or invade them for their benefit.

[1] For further information on Israel's allegations see: Gvirtzman, Haim. (2012). The Israeli-Palestinian Water Conflict: An Israeli Perspective. Mideast Security and Policy Studies. 94. 1-40.

When considered the anarchic structure of the international relations, the main question arises as following: who has the power? The answer of this question determines who is right and who is wrong in terms of their actions towards another actors, which are also states; while other structures are destined to be exploited and destroyed by the more powerful in the arena.

Secondly this study presents a water grabbing approach to the Israeli-Palestinian conflict. Decades-long occupation, terror and oppression in the Palestinian territories are also subjected to water smuggling. In order to create new areas to expanding Jewish settlements, control over water resources plays a significant role. Israeli state does not only grab Palestinian territories by force but also divert its resources towards occupied regions to contribute its agricultural, industrial and domestic consumption. In an article named *"Israel seizes large tracts of land in West Bank"* published in 2016, Israeli newspaper Haaretz reported that Israel confiscated 234 hectares of land, the largest among in the West Bank in recent years in order to build new Jewish settlements and revive economic activities in the area.

CHAPTER I

THEORETICAL FRAMEWORK

1.1. Realism and Hobbesian approach

Many scholars argue that the Greek philosopher Thucydides (471-400 BC) is the first precursor of the realist approach and the analysis of international relations. In fact, his famous work Peloponnese War History is not only a chronicle of the twenty-28-year-long war between Athens and Sparta, but also an analysis of the foundations of the military and political power of these two states and the causes of their aggressive behavior to one another. His investigation mainly concludes that war is the result of fear and a change in power balance. He argues that the reason behind Sparta's attack on Athens was fear of losing its supremacy over the Peloponnesus. At first, Athens battled back to protect itself, but the degeneration of its democratic institutions made it increasingly fanatical and aggressive, prompting it to continue battling against Sparta with the objective of protecting its hegemonic position. The realists retained two fundamental lessons out of Thucydides' approach: firstly, each state necessarily seeks to protect or maximize its military and political power, which generates favorable circumstances for war ; secondly, war between authoritarian states is more probable than war between democratic states, since they are less imperialist than the authoritarian ones (Oldemeinen, 2010).

The two philosophers most often cited as founders of realism nevertheless remain Nicolas Machiavel (1469-1527) and Thomas Hobbes (1588-1679). Machiavelli is a contemporary of the Renaissance, marked by the breakdown of Christianity's legal and moral order and the growth of the first monarchical nation-states that do not acknowledge any superior power to theirs and do not accept to comply with any rule. It is the law of the jungle that governs inter-state relations, the strongest imposing its will on the weakest. Under the aegis of dictator Oliver Cromwell (1648-1658), Hobbes witnessed the bloody repression of the Irish and

Scottish rebellions and the establishment of the first English republic, events that would terrorize him and lead him into exile in France. It is impossible to separate these historical contexts from the pessimistic perspective of human nature and Machiavelli and Hobbes ' inter-state relations (Douglass, 2016). Based on their private and necessarily partial assessment of the truth of their time, the latter think that people are driven by an inherent instinct of strength and dominance that causes them to compete with each other for acquiring wealth, power, prestige, etc. This struggle inevitably results in the victory of those who possess resources superior to others, thanks to the attributes from their birth or the chances that they are given at the early age.

States ' nature and behavior do not vary from those of the people who rule them. States are motivated by a desire for power or conquest that constantly makes them compete with one another. To the extent that states are unequal, some of them are favored by the unequal natural distribution of geographical, economic, demographic and other resources or are more capable of effectively using force-military-and diplomatic resources; this rivalry leads to the dominance of the weakest by the strongest.

Hobbes argues that the distinction between global culture and domestic cultures is noteworthy. He suggests, in the lack of an organized force, people are living in a scenario of anarchy where each one is a rival eager for power and sees its most fundamental right, the right to life, constantly threatened. However, men can emerge from this natural state of conflict and enter society by jointly concluding an "agreement" or "social contract" with a Prince or Assembly by renouncing their rights and liberties in return for protecting their lives or their safety (Douglass, 2016).

For the vast majority of classic realists, international relations compose of diplomatic and strategic relations between sovereign states. These relations are necessarily characterized by rivalry and conflict, because of uneven distribution of power (power as force, geography, natural resources, population etc.), greedy actions of states in order to get richer in financial resources, territory or natural resources

(those eventually make them more powerful, and more aggressive) and the lack of a high authority that would observe states' actions and would oblige them to cooperate with one another. The last reason makes the international society anarchic and lacks order but full of violence and war. The only factor that might gather rivalry states around a table in order to establish a middle way that pleases all parties, is the will of making international agreements by which they choose voluntary to give up some of their interests.

Paul Viotti and Mark Kauppi (2012) assert a quintessence of realistic thought as follows:

- States are the only or the main actors in international relations
- States are unitary by nature
- States are rational bodies and are constantly seeking to maximize their national interest, which means recourse to force on a regular basis
- Security and political problems are foreign policy's primary objectives (Kauppi & Viotti, 2012: 55-56)

1.2. Land and Water Grabbing Activities

As by definition, 'grabbing' signifies an action to obtain without consideration of what is right or wrong. Hence the grabbing act takes place mostly in benefit of the powerful actor, the actor that is rich in financial status, has a popularity in the field and power to grasp and maintain the territory in question. Here by definition, grabbing action is seen as 'illegal appropriation' which follows illegitimate dynamics (Franco, Feodoroff, Kay, Kishimoto, & Pracucci, 2014).

Fastly growing world population puts pressure on world's limited food and water supplies. To meet a larger population's food demands, countries and companies have begun to obtain and invest relatively productive lands in foreign countries. These investments that mostly crystallize in bilateral agreements saw a sharp increase during 2008 economic crisis when food prices increased drastically. A Romania based organization Eco Ruralis defines land grabbing as follows:

> Land grabbing can be defined as being the control (whether through ownership, lease, concession, contracts, quotas, or general power) of larger than locally-typical amounts of land by any person or entity (public or private, foreign or domestic) via any means ('legal' or 'illegal') for purposes of speculation, extraction, resource control or commodification at the expense of peasant farmers, agroecology, land stewardship, food sovereignty and human rights (Atilla & Baker-Smith, 2016).

In its 2010 report titled *"Rising Global Interest in Farmland: Can it Yield Sustainable and Equitable Benefits?"* the World Bank states that the demand for land is on continuous sharp increase since 2008, where agricultural land enlargements stood above 4 million hectares per year. Report shows that this amount jumped to nearly 56 million hectares of agricultural land in less than a year, mostly in underdeveloped or developing countries of Africa such as Ethiopia and Sudan and ended up raising concerns over well-being of local residents' rights and stability of local economies (Deininger et al., 2011: XIV).

The large-scale land acquisitions (LSLA) have remarkably emerged globally in the context of the global food price spike in 2007-2008. After 2008 crisis, agriculture has regained interest on the international agenda with the recent explosion of national land investments in large-scale industrial projects. Land has become an object of global greed of variety of actors, ranging from large multinational organizations to governments. This global land rush has become a new aggressive wave of land grabbing that is threatening the future of peasant agriculture (Dell'Angelo, Rulli, & D'Odorico, 2018).

It took several years that the phenomenon of LSLA has attracted the attention of international public opinion. Land acquisitions by multinationals or sovereign wealth funds, often from countries with insufficient natural resources for their food needs (such as Middle Eastern countries or Asian countries), is increasing remarkable since the 1990s. In some cases, the land is acquired for purely speculative purposes, with the aim of selling it later with a comfortable added value, and left fallow in the meantime (Franco et al., 2014; S Gasteyer, Isaac, Hillal, & Walsh, 2012).

Behind large-scale land purchases by foreign investors whether public or private, there is also a takeover of water resources, that is named as ‘water grabbing’. Water grabbing can be vaguely explained as an action started with the capture of a land with the aim of exploitation, in detriment of rural populations. As conceptualized by Timothy Feodoroff, it is basically understood as a grabbing of the physical control of a territory and associated resources such as water, the subsurface resources, oil, and so on, with the benefits of using them. (Feodoroff, 2013; Franco et al., 2014).

Franco and Kay (2012) defines water grabbing as an action mostly carried out by powerful actors who seek to divert water resources according to their benefits, without regarding any other parties’ interests in expense of endangering economic and livelihood activities in their regions. Franco and Kay add that this act “*involves the capturing of the decision-making power around water, including the power to decide how and for what purposes water resources are used now and in the future”* (Franco et al., 2014)

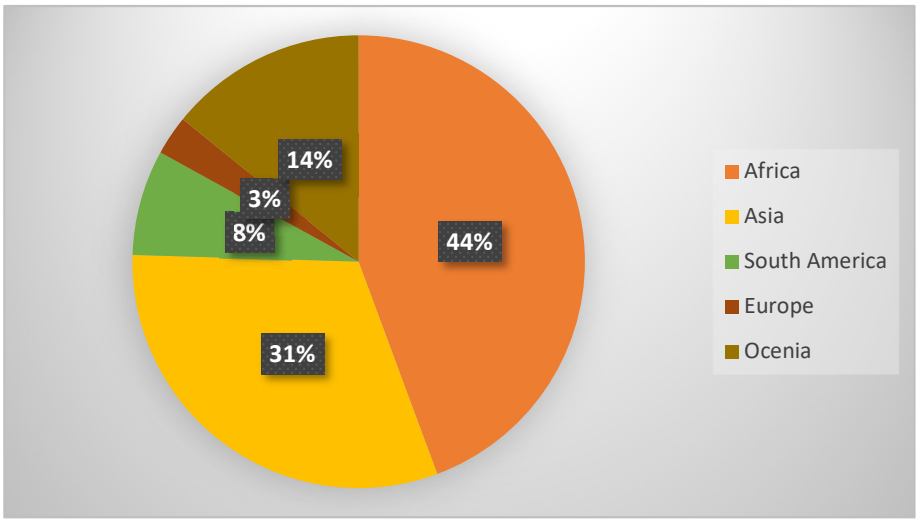
Water grabbing phenomenon has been taking part in environmental and economic studies for a relatively long time than it does in international relations discipline. Plus, the term by itself has not any theorical correspondence in the international relations, nor a theory. However, it can be counted as an offensive action caused and triggered by selfish and greedy natures of states, thus it can be taken into consideration as an action that realist scholars might put forward among the consequences of an oppressive actions of state actors.

A study titled "Global land and water grabbing” (2013) asserts that governments and private companies control land in different countries, mainly for agricultural purposes. The process is usually done without any negotiation or cooperation with the inhabitants, including those working on the areas, and without taking into consideration the environmental, societal and economic effects (Rulli, Saviori, & D’Odorico, 2013). The International Land Coalition’s Tirana Declaration

in 2011 defined LSLA's as local or international activities that violate human rights, and which are "*not based on free, prior and informed consent of the affected land-users"*(International Land Coalition, 2011). In this terms, land and water grabbing are often associated with colonial behavior of states, moreover some experts refer to these activities as 'new-colonialism' (Stephen Gasteyer, Isaac, Hillal, & Walsh, 2012:451; Oakland Institute, 2011).

'Global land and water grabbing' report reveals that the land area seized by foreign countries amounts to more than 1,618,743 km². In addition, a significant portion of these lands has been seized over the past four years. It notes that 90 percent of these lands are in 24 countries, mostly in Africa and Asia. In some cases, a substantial proportion of land in the same country is confiscated, as in the Philippines where the proportion is 17.2 percent of the total area of agricultural land; similarly, in Sierra Leone where the proportion reaches 6.9 percent (Rulli et al., 2013).

Figure 1: Distribution of grabbed lands by continent



Source: Rulli, Maria Cristina & Saviori, Antonio & D'Odorico, Paolo. (2013). Global land and water grabbing

The report names 41 land grabber and 62 land grabbed countries that appear in all continents besides Antarctica. According to data, Israel is among for 5

countries topping at the most land grabbing by scale that acquired 34.52% of all grabbed lands in the world.

Figure 2: Five most land grabbing countries in the world by area

Grabbing country	Grabbed Area (10^5 ha)
United Kingdom	44,092
United States	37,002
China	34,116
United Arab Emirates	26,772
Israel	20,000
Total land grabbed by top five	161,982
World Total:	**469,139**

Source: Rulli, Maria Cristina & Saviori, Antonio & D'Odorico, Paolo. (2013). Global land and water grabbing

1.3. Water and War: Water as a Conflict Trigger Tool

As it comes to natural resource regulation and political dispute, water appears mostly the main subject to discussion till very early age of the human civilization. Despite it is relatively newly introduced topic to the International Relations, academicians have been discussing for a long time how much water contribute to international tensions. Its vital importance for all parties makes water both a crucial resources to dispute over and also a catalyst in the peace-making and/or cooperation process since it may present a win-win result for all parts of the discussion under right terms (T. Allan, 1999)

War in realist theory is a natural act of states by enrich themselves in territory, resources, population and trade relations. By doing so, they nourish their military, economic and human resources that help them to take more similar actions in future. The main supplier of the renewing cycle of political and military aggressivity and greediness lays in the natural characteristic of the state, shaping by

the characteristics of its leader or an aristocratic organization ruling it. In political scale new territorial gains bring new neighbors, new trade opportunities, access to natural resources (those are mostly defined as strategic locations) such as rivers, seas, dams, oilfields etc. Control over these resources gives the ruling state a relative superiority, by contributing to its economy and domestic needs. They may also become a strategic tool by which states have control over other actors in the region. In terms of water resources this control is seen in the relationship between upper and lower riparian states. Upper states might have a full control of rivers, while lower riparian stay fully dependent on water which flows form the upper side. Any intervention to water flow by the upper states leaves lower ones in need, endangering continuity of economic, industrial and social activities, risking human life and possibly leading a political crisis that may end up with a military engagement, conflict or war.

CHAPTER II

WATER: TOOL OF POLITICAL DOMINANCE AND SOVEREIGNTY

Water is a crucial source of world life and it can be considered as the second most important substance, after oxygen, that living creatures need to continuously consume in order to survive. Without any substitute material, water itself has a vital importance for the permeance of the world life and the progression in economies. It provides the continuity of industrial activities, contributes the generation of energy, maintenance of human health, food security and the other functions of the ecosystem which human life depends on (Chenoweth, 2008). According to UNESCO, *"shortages and problems of access to water are likely to limit economic growth."* Statistics from the United Nations show that nearly 700 million people still do not have access to clean and safe water and 2 billion people need access to improved sanitation.

Water, whose characteristic is to move rapidly on the surface or underground, is a material resource which is decoupled from political geography. Kevin Watkins and Arunabha Ghosh recall *"water crosses political boundaries without a passport, in the form of rivers, lakes and aquifers"* (Watkins, 2006:203). It is therefore above all a shared resource that requires common cross-border management. Water can appear as a factor of tension and conflict not only due to its unequal distribution across the world, but also the necessity of meeting the needs of an economically and democratically growing state and ensure a continuous supply over a long period. There is also the fact that the tensions originate in a flagrant disparity of consumption between two communities sharing the same sources of supply. For example, in the occupied West Bank, an Israeli settler employs 260 liters a day, while his Palestinian counterpart is forced to use only 70 liters. Similarly, in some conflicts, water has been a strategic target of choice. During the Six Day War between Israel and Arab countries, Israel had several strategic objectives. One of them was to ensure its water

supply through the Syrian constructions on the Golan Heights intended to divert water from the tributaries of the Jordan. More recently, in 1996, in air raids in Lebanon, in retaliation against Hezbollah, the press has shown that some attacks explicitly targeted pipelines and water supplies.

Pressman (2005) describes the conflict as a natural outcome of the Zionist project which eventually aims to return of all Jewish people to the 'promised land'. Beinin and Hajjar (2014) present a more extended perspective over the issue highlighting different factors feeding the conflict but acknowledge the essential struggle as a conflict over land.

Homer-Dixon (1999) asserts that scarcity of natural resources contributes tensions not only between state actors, but it also plays a fundamental role in internal stability as the world population is highly dependent on water, cultivable lands and local forests for their daily livelihoods (Cooper & Homer-Dixon, 2010:179). However, according to Homer-Dixon, although renewable resources are linked to civil violence within countries, they contribute little to conflicts between nations, which the author calls 'resource wars', while non-renewable resources such as oil provoked several international wars in the 20th century. Lowi (1999) shares Homer-Dixon's view that the issue of water does not contribute to international conflicts. For Lowi, however, water is a factor that can aggravate a conflict and one of its components. It should be noted that, unlike oil, fresh water has no substitutes, with the exception of gray water, recycled and treated water or partially salted water (Lowi, 1999:79)

2.1. Water in the World

Nearly 72 percent of world is covered by water resources such as rivers, aquifers, glaciers on the surface and as water vapor in the air. 96.5 percent of all amount is holding on the earth's surface by oceans as saltwater. Fresh water in glaciers and ice caps contribute to roughly two percent of total amount of world water. 90 percent of all fresh water resources are held in the Antarctica, and nearly 9

percent is found in Greenland Ice sheets (Perlman, 2016; Uluatam, 2004). The rest - which is even less than a percent- is therefore available for human activities (Pegram, 2010:5).

The inland waters cover nearly 35 million km^3 area, while the oceans blanket over 1,350 million km^3 of earth's surface. For the fresh water resources, this amount stands at only 9 million km^3 (Moreau, 2014).

The world's freshwater resources are distributed in great inequalities. Only nine countries are accounting for 60 percent of freshwater resources that the world offer. A report released by the Food and Agriculture Organization of the United Nations (FOA) shows that at least thirty-three countries are dependent on their neighbors in terms of water, with a need of over 50 percent of their fresh water resources (FAO, 2003:21). Among all continents, America has the largest water resources with 45 percent of the all freshwater resources; Asia is the second with 28 percent of share, followed by Europe and Africa with 15.5 percent and 9 percent, respectively (FAO, 2003:19). In the country base, Brazil has the richest freshwater resources with 8,233 km^3, followed by Russia with 4,508 $kilometer^3$ and the United states with 3,069 km^3 (FAO, 2003b: 81-82).

Despite the fact that the water cycle cleans the water and makes it reusable for consummation, agriculture and for other needs, it does not trait equally generous to every part of the world. In other words, every region does not receive equal or relatively close amount of annual rain, or ever have similar amount of surface waters and artificers. All the societies depend upon fresh waters which consists only 1 percent of all water resources of the globe (Perlman, 2016). Considering along with increase in population and the factors linked to differences in climates and geographical features, some countries appear as water-rich countries while others are dubbed as 'water-stressed' or 'water scarce' regions.

The United Nations and the World Health Organization define water-stressed areas as countries where a person can reach less than 1,700 m^3 water each year

(Bernstein & United Nations Population Fund., 2001). In these countries and regions, the water stress appears when the need to water surpasses the available amount of water for a specific period of time, or a considerable part of a population cannot benefit from the water resources present at the time due to insanitary conditions, pollution or human-related problems such as over-exploitation or wrong irrigation methods and agriculture policies (European Environment Agency).

In the water scarce areas, however, the amount of water a person can reach decreases less than 1000 m^3 per year. These regions suffer from lack of water resources, less rain and even a getting warmer climate which dries up the already limited rivers, lakes and aquifers (L. Brown, 2009: 83). Currently 700 million people live in water-scarce areas, suffering from sanity problems and limited food sources. By 2025, 48 nations, a total of 1.8 billion individuals will experience water stress or situations of scarcity (UN, 2007).

Mostly the problem related to water is not caused by the physical lack of water, but poor quality of the water, contamination of the resources or scarcity that leaves people unsatisfied in terms of water need. The problems of quality of water, thus does not only concern one type of regions usually defined or dubbed as underdeveloped or drought countries. There is indeed no single region in the world that is not affected by at least one type of problem related to water resources. A World Health Organization (WHO) report shows that nearly 2.2 million people died due to water-related diseases most of whom were children (WHO & Unicef, 2000)

In the 20th century, the world saw a record increase in population. Developing technology, and the improvements in health sector led less and less child deaths and contribute the increase in the average human life. In the end of the 20th century, the world's population hit over 6 billion with an increase of 4.4 billion people in 1900 (Bavel, 2013: 284–285). As a result of this tremendous increase in the number of global population, some new problems started to emerge, including water-sharing problems between neighboring states.

2.2. Water Disputes in the World

Rivalries and disputes over shared water resources date back the early ages to human history. Etymologically the word 'rival' derives from a Latin word of *rivalis* which means 'person sharing a stream with another' and *rivus*, 'stream' (Csefalayova, 2014). The problem of sharing water resources is nowadays receiving more attention than ever before not only because of population growth, economic development and rising standards of living, but also because of climate change that leaves water increasingly rare on world surface. Several statesmen or representatives of international organizations, such as John Fitzgerald Kennedy in the early 1960s or Boutros Boutros-Ghali in 1991, emphasized the high-conflict nature of the water issue, stating that the twenty-first century would be the century of the water wars. In 1995 former World Bank President Ismail Serageldin said that "*the wars of the next century will be about water"*. To date, while no major armed conflict has been caused by water sharing, but there are many river basins where cross-border sharing of water resources is one of the reasons for the outbreak of armed conflict, a cause of tension that could lead to armed conflict. This is the case in the basins of the Euphrates and the Tigris, or the Amu Darya and Syr Darya (Csefalayova, 2014).

Since the beginning of the 21th century, water resources have become increasingly threatened, particularly in Africa, the Balkans and the Middle East. Between countries, tensions often crystallize around rivers that cross borders of several states. In the majority of cases, the upstream countries multiply the uses of the river water in their territory by time or decide to build a dam, which significantly reduces the water supply of downstream countries.

In the Middle East, there are significant interstate tensions, especially around the Tigris, the Euphrates and the Jordan Rivers. The Nile is a key river in the hydraulic issues between Ethiopia, Sudan and Egypt. The Hebrew state has few water resources, except the Palestinian water tables in the West Bank, which it illegally exploits for its own benefit. It depends mainly on the Jordan and sources in Lebanon and Syria. In 2001, the Israelis threatened Lebanon with bombing a brand-

new water diversion channel on the same Hasbani River, and a later promised the same fate at the Yarmouk River Construction Unit Dam, if it were commissioned (Grover, 2006:430).

2.3. Water in the Middle East

The Middle East is considered as a water-scarce region, dessert-covered, arid and poorly cultivated. In the Sumerian and Akkadian myths, the symbolism of water appears as a resource nourishing the belief systems of both the Hebrews and the Arabs residents the region (Amiot, 2013). The character of water as a source of life and as the founder of great civilizations had already been noted in the 5th century BC by the Greek historian Herodotus, who described Egypt as *"gift of the Nile"* (Uluatam, 2004).

The Middle East is a lengthy, arid belt, rarely interrupted by regions of heavy rainfall (around 500-700 mm / year), such as the Lebanon, Palestine, and Yemen hills. On the other hand, much of the Middle East is situated south of the isohyet (imaginary line linking points of equal rainfall) which receives 300 mm of rain per year. However, precipitation is limited and only regular during the winter season, between October and February. Considering climate change effects and other natural causes, irregularities in rains affect the flow rate of the regional rivers, may cause dry out lakes, and endangers water conservation along with less recharge of groundwater resources (Medany, 2015).

Middle East's water resources are 355 billion cubic meters per year, followed with 5.379 billion in North America, 4.184 billion in sub-Saharan Africa and 9.985 billion in Asia. Currently, the 284 million people living in this region -which corresponds nearly 5 percent of the world population- can reach only 1 percent of the world's fresh water (Sorenson, 2018). The three major river basins of the Middle East are the center of the civilization in the area: more than 80 million people live near to Nile river, from South Sudan to the Mediterranean; 40 million people live near to the Tigris and the Euphrates, and 15 million live close to the Jordan river. In

total, these rivers provide 160 to 200 billion cubic meters per year (Black, Brayshaw, & Rambeau, 2010: 5178-5179).

When compared by state, these water resources are very unevenly distributed in the Middle East. Ayeb notes that Turkey and Iraq have more than 4000 cubic meters water per person per year, and Lebanon, about 300 m³/person/year, which is above the average for the region (1800 m³ / person / year). Syria and Egypt have about 1200 m³/ year inhab, slightly above. On the other hand, countries are below the critical level of 500 m³ /year/inhab: Israel and Jordan have 350 m³/year/inhab and 300 m³/year/inhab respectively, and the Palestinian Territories (West Bank-Gaza) of less than 90 m³/ year/ inhab (Ayeb, 1998). Thus, the countries in the region are among those are called 'water stressed countries' according to the World Health Organization's (WHO) definition.

Figure 3: Water supply and demand of the Middle Eastern countries

Country	Total resources	Demand in 1990	Demand in 2000	Demand in 2025
Syria	20.000	9.000	16.500	29.000
Jordan	1.250	920	1.500	1.900
Iraq	46.500	40.000	51.000	70.000
Lebanon	3.900	1.000	1.400	2.700
Israel	1.500	1.900	2.500	3.500
Palestine	600	-	-	500
Saudi Arabia	4.200	16.000	13.000	22.000
Qatar	50	190	300	500
UAE	800	1.900	2.200	3.200
Kuwait	200	330	670	970

Source: Özhan, Uluatam, Damlaya damlaya: Ortadoğu'nun su sorunu, p:116

A research conducted by World Resources Institute (WRI) alleges that water stress at level of individuals, is intensifying in the Middle East, and will continue to intensify with population growth and climatic changes. The numbers show that of the twenty countries with the highest levels of global water stress, fourteen are located in

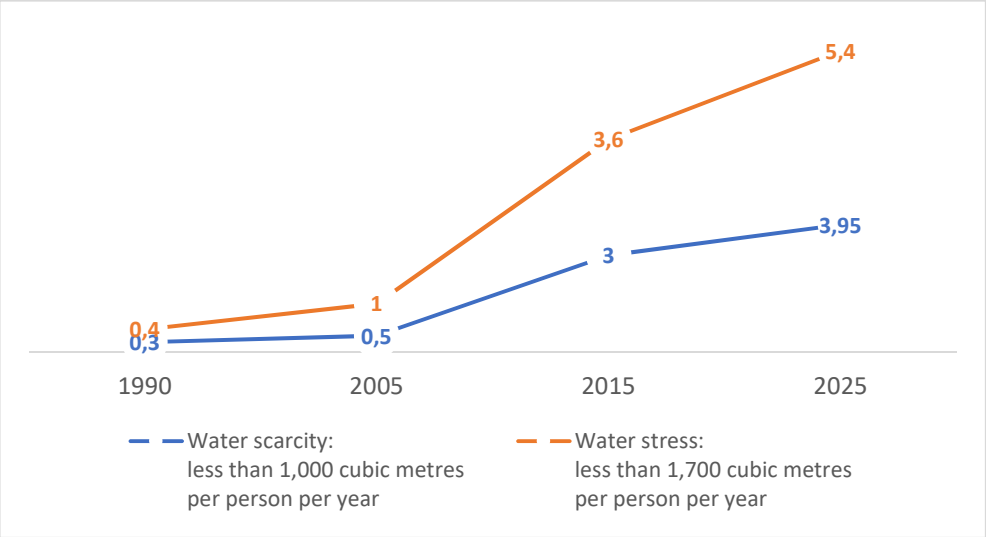
the Middle East (Maddocks, Young, & Reig, 2015). Bahrain, Kuwait, Qatar, the United Arab Emirates, Palestine and Israel top the list, with maximum stress, followed by Saudi Arabia, Oman and Lebanon. The research attributes a score of 5.0 out of 5.0 for Bahrain, Qatar, Kuwait, San Marino, Singapore, United Arab Emirates, Palestine, and Israel, while giving a score of 4.99 to Saudi Arabia and 4.97 to Oman (Maddocks et al., 2015).

There are several main reasons leading an increase in water scarcity directly – high evaporation levels, less recharge levels, population growth etc.- and indirectly – decreasing water quality linked to pollution, agriculture policies-.

Firstly, the increasing human population appears as threat over water presence in the world and the Middle East specifically. The world's inland waters cover about 35 million km^3 of its surface, while the oceans cover about 1,350 million km^3. However, only about 9 million km^3 of this total amount is on the service of humans (Moreau, 2014). The world supplies water to over seven billion people, who consume about 42,000 billion cubic meters a year, or on average 6,000 m^3 per capita (Population Insitute, 2010). By 2050, this amount is to be expected to increase by 400 percent in manufacturing use, and by 130 percent in household use (OECD, 2012).

The United Nations predicts that the world population will see an increase of two billion people by 2050, reaching 9.7 billion habitants (UN, 2013). Considering the fact that already one of third of world population lives in water-stressed regions, the expected growth in world population is expected to endanger water supply. In order to meet the food demand of the newly joining 2 billion people, the world will have to double agricultural production and supply 4 500 km^3 of fresh water per year (UN-ESCWA BGR, 2013)

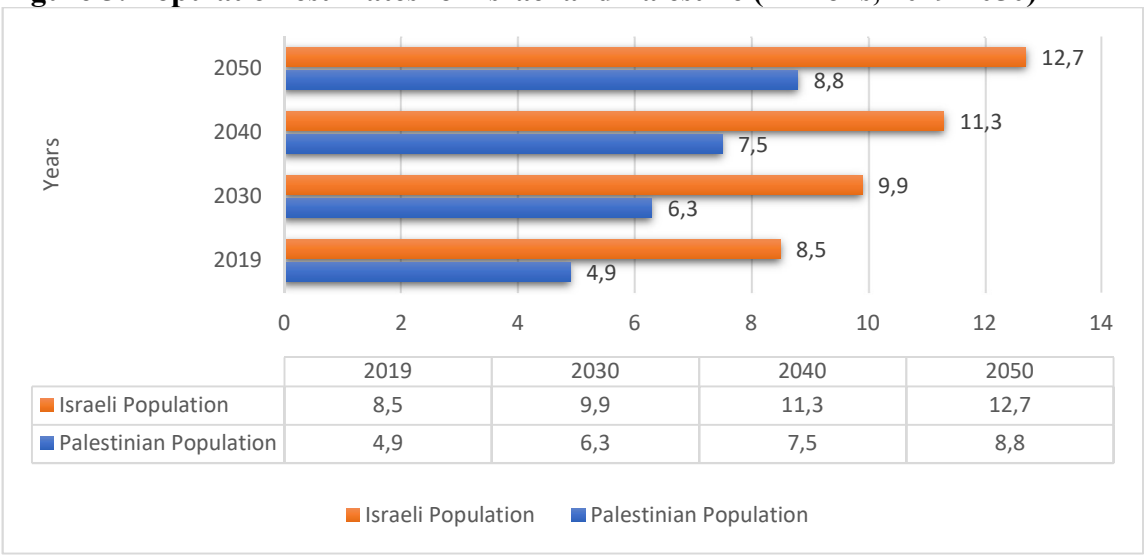
Figure 4: People in water scarcity of stress (billions)



Source: Calculated on the basis of FAO 2006.

The United Nations Development Project estimates that the Middle East's population will reach 598 million inhabitants by 2050 if fertility rate remains in current levels (Mirkin, 2010:9). According to worldpopulationreview.com data Palestine's population will be 7,599,231 by 2040 and 8,815,774 by 2050 while Israeli population will reach 11,332,901 by 2040 and 12,720,416 by 2050. This estimates put the total population in the region as high as 16,2 million people in 2030 and 18,8 million in 2040.

Figure 5: Population estimates for Israel and Palestine (millions, 2019-2050)



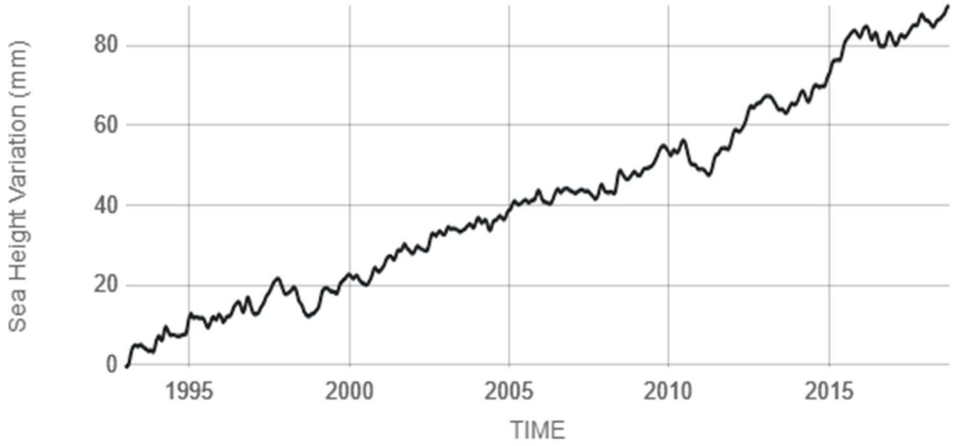
	2019	2030	2040	2050
Israeli Population	8,5	9,9	11,3	12,7
Palestinian Population	4,9	6,3	7,5	8,8

Source: http://worldpopulationreview.com/

The second biggest element affecting the region's water resources is climate change. The phenomenon corresponds a package of mostly negative changes in several factors determining the climate in the first place, including temperature, precipitation, and wind. Scientific researches show that the increase in the release of greenhouse gases into atmosphere is the fundamental reason behind the global temperature change, adding that the human activity and lifestyle changes are the contributors.

Global warming is affecting the hydrological cycle and threatening all the water bodies worldwide. The droughts are increasing in many parts of the world and it is expected to expose in the short term more than a third of the world population to periods of water stress. But drought is not the only effect of warming. High rainfall causes groundwater soil erosion and dispersion of pollutants in groundwater. In addition, melting glaciers lead variations in stream flows.

Figure 6: Satellite sea level observations from 1995 to 2015



Source: https://climate.nasa.gov/vital-signs/sea-level/

A Stockholm based report "Climate Change and Water" claims that if the global warming could not be stopped, two billion people will be deprived of water in 2050, and three billion people will lose their usable water resources in 2080 (Gustafsson & Lundqvist, 2012).

Decreasing water levels, significant rise in average temperatures and and less rainfall are expected to affect both Israel and Palestine significantly. The high fertility rates in the region leads to fastening population growth that leaves the countries in a vulnerable situation towards climate change effects that may eventually cause a serious water crisis in the region.

The third biggest reason contributing the scarcity in the region is pollution. Water has an ability to clean itself naturally by destroying materials or diluting pollutants to the point they lose their harm to the nature. The process, however, takes place in a considerably long period of time and may face difficulties based on the harmfulness of the materials (chemical components, plastics etc.) and the quantity of them especially when pollutants are significantly overcome the water's ability to digest them (Basement Guides, 2011; Safewater.org, 2012).

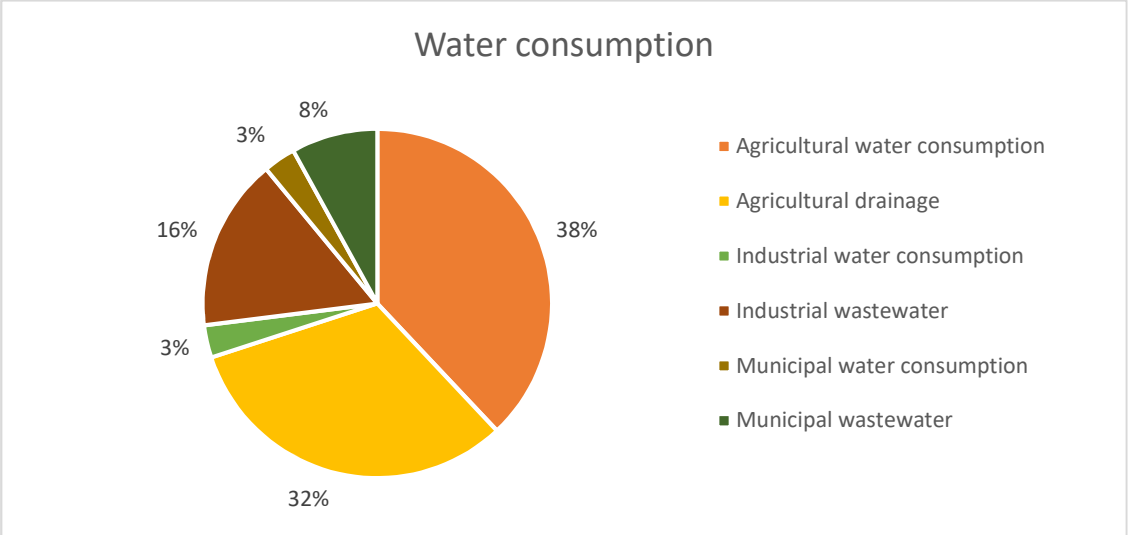
Water pollution threatens human life as well as animal life, fishing practices, economic activities and agricultural sector. Even when the water steams are heavily polluted, pollution may obstruct river/lac transportation. Considering the fact that over one in third of world population lives in developing and under-developed countries, billions of people lacks sanitary conditions, sewage systems, and drinkable water. To be precise, approximately 2.4 billion people do not have access to drinkable water. Every day, 14 to 30 thousand people, mostly children lost their lives due to preventable water-related diseases (Kartal, 2009: 65).

A Joint report by The United Nation's Children Agency (UNICEF) and World Health Organization (WHO) says that more than 70 percent of people in Asia lack sanitation, while approximately 61 percent of residents of Sub-Saharan Africa have no access to improved sanitation (Pacific Institute, 2010; UNICEF, 2008). In the Palestinian territories, however, the situation necessities immediate action. A study conducted by RAND cooperation, an American non-governmental organization, shows that contaminated water accounts for more than 25% of all reported diseases in Gaza and is one of the leading causes of child mortality, with more than 12% of child deaths. The study claims that over 97% of drinking water

resources in the city do not supply safe and healthy potable water according to international water quality standards (Middle East Monitor, 2019) .

The fourth and the last main contributor to water scarcity is the agricultural policies. Agriculture is the principal source of food supply in the world, as well as the main source of income of billions of people in rural areas and under-developed countries (FAO, 2003a). It is also the dominant freshwater user globally, surpassing industrial use (with 18 percent) and domestic consummation (with 8 percent), with the amount of over 70 percent of water resources. Considering the increase in the global population and in the average human lifetime, demand in food and other agricultural necessities prompt a considerable jump in the agricultural production, which may end up nearing using 80 percent of all fresh water resources (UNEP, 2008; WWF, 2009). The shortage of freshwater can limit food production and supplies, putting pressure on food prices and increasing dependence of countries on imported food products.

Figure 7: Global water consumption



Source: Based on data from Mateo-Sagasta et al. (2015); and Shiklomanov (1999)

The agricultural industry utilizes the largest quantity of water on both the Israeli and Palestinian sides, which amounts to at least 75% of total water usage. The

Palestinian economy, however, is proportionately more dependent on agriculture and water for irrigation. The proportion of Palestinian GNP agriculture is higher than that of the Israelis. Palestinian agriculture is mainly made up of small family businesses. 90% of the activity is in the West Bank and 10% is in the Gaza Strip. Agriculture accounts for about 6.4% of GNP, 25% of exports and 29% of employment. Nearly 60% of the West Bank residents live in villages and mostly dependent on water wells. Olives and olive oil, fruit, vegetables and flowers are the most essential export products. Olive farming is also traditionally meaningful for Palestinians, since they believe the olive tree represents their roots in the region.

Israel pursues a policy of destruction of Palestinian farmlands, by declaring their lands ‘state land’ and giving them Israeli farmers. In 2014, Israelis agricultural laws on the agricultural sector caused the loss of $ 250 to $ 450 million to Palestinian agriculture. Israeli restrictions on imports into Palestine led to a loss of agricultural productivity of between 20% and 33%. Only 6.8 percent of the West Bank's cultivated land is irrigated due to the restricted amounts of water accessible to Palestinian farmers. More than 445 hectares of agricultural land have been affected by the destruction and 64 agricultural wells were demolished. Reports show that at least 22,510 trees were uprooted in the West Bank in 2014, putting the number of olive trees have been uprooted since 1967 over 800,000 (Deconinck, Derde, & Rug, 2010: 6–7).

2.4. Water Disputes in the Middle East

The water resources of the Middle East come from two great rivers the Tigris and the Euphrates. These two river systems originate in the highly watered mountains of eastern Turkey and provide the essential water to the arid Syrian and Iraqi regions which consist downstream countries. As an upstream country, Turkey benefits from higher per capita water availability, a more favorable climate and geographical position compared to others (Uluatam, 2004). The Jordan, The Nile and the Euphrates are the three streams that deserve special attention in order to comprehend

the region's dynamics Thus, the following parts will highlight these rivers/watersheds of the region.

2.4.1. Disputes Over Nile River

Nile is the longest river, not only in the region, but also in the world, followed by the Amazon and the Mississippi-Missouri basin. Its length is about 6,700 km, with a flow of 84 billion m^3 of water / year. Its water supply comes largely from rains received in the Ethiopian highlands providing about 85 percent of its flow; the remaining 15 percent comes from rains falling in the Great Lakes region of Central Africa (J. A. Allan, 2011: 53). In total, the river waters nine African states (the Democratic Republic of Congo, Burundi, Rwanda, Tanzania, Kenya, Uganda, Ethiopia, Sudan, and Egypt). It crosses the arid Egyptian areas for more than a thousand kilometers before finally flowing into Mediterranean Sea. The region also includes many watersheds and other ephemeral streams, most of which have a low flow.

The Nile is at the heart of a serious conflict over the sharing of its waters. Dominant power of the river basin, Egypt has signed agreements with its southern neighbors to guarantee the bulk of the flow of water. Mined by war and corruption, Ethiopia has scarcely exploited its water resources, which account for 86% of the flow of the Nile in Egypt.

There is no doubt that the Nile is the nodal point of Egypt's security policy, since it's a downstream state of the river and 97% of Nile flow comes from upstream states, including Ethiopia. Constantly increasing demographic pressure, and drastic jump in water demand puts pressure on the Egyptian government. To promote economic development, Ethiopia is seeking to utilize the Nile's water resources through the construction of approximately 36 dams. The fact that 80% of the flow of the Nile come from the Ethiopian Blue Nile explains Egypt's concerns regarding this issue.

The main dispute over Nile river is between Egypt and neighboring Sudan. The end of British colonization in the country arouse a question about the future regulations on Nile waters. Nile was back then the main contributor of cotton cultivation in Sudan. In 1929, Egypt and Sudan agreed on a plan of water diversion that granted 18.5 billion m3/year water to Sudan and 55.5 billion m3/year to Egypt. In 1959, Egypt and Sudan started to build the Jonglei Canal to divert the Nile from the southern marshes where water evaporation was very high. The construction of the canal began in 1979, however, during the Sudanese civil war, it was targeted by airstrikes hindered the further construction work. Conflicting parts, along with other nine African country bordering the Nile, set up an initiative in 1999 to strengthen cooperation and decrease the tensions eventually. However, the initiative could not be fruitful since talks failed between Ethiopia and Egypt.

In 2011, Ethiopia announced plans to build a dam, the Renaissance dam, over Blue River which is expected to generate 6000MW electricity and reserve nearly 75 billion cubic meters of water when it is completed. The move angered Egypt, the country that has historic, religious and cultural relations with the river and that claims itself as the guardian of the Nile (Dessu, 2019).

In 2019, the tensions over Renaissance Dam has risen again as Egypt, Ethiopia and neighboring Sudan failed to find a common base on the dispute (Dessu, 2019). For Egypt, the construction means a drastic cut in its share of the water flow and bring concerns over supplying water to a population that will reach over 101 million in 2020. Meanwhile, one of the Africa's fastest growing populations, Ethiopia feels pressure under meeting the demands of increasing population and aims to step up in economic development process.

As in 2019, the Renaissance Dam is halfway through in the construction process where nearly 63% of it was built. However, the tensions are not appearing to be ended soon, as they lead to deeper polarization in relations of neighbors and North Africa's policy, since other countries have begun to take Ethiopia's or Egypt's side on the matter (Associated Press, 2018).

2.4.2. Disputes Over the Tigris and the Euphrates

The Tigris and the Euphrates originate in the Turkish mountains, cross the territories of Turkey, Syria and Iraq. These two great rivers of the Middle East are born in Turkey and mix their waters from the Iraqi city of Qourna. Turkey's position as an upstream country gives it the possibility of controlling the waters of these rivers. Turkey controls more than 80 percent of the Euphrates flow and about 50 percent of the Tigris. Turkey contributes 88 percent to the Euphrates flow and 40 percent to the Tigris flow, whereas it accounts for only 35 percent of the Euphrates basin and 12 percent of the Tigris basin (McCaffrey, 2019)

The basin of the Euphrates is distributed among five countries with an estimated total population of 23 million. Iraq has the largest share with 47 percent, Turkey with 28 percent, Syria with 22 percent; the rest – 3 percent – is shared by Saudi Arabi and Jordan. With a total length of 2,786 km, The Euphrates is also the longest river in the region (UN-ESCWA BGR, 2013)

The main disagreement over the Tigris-Euphrates is among the upstream country Turkey and downstream countries Iraq and Syria. The tensions have started to rise in 1975 after Turkish government announced plans to build an extensive dam and a hydropower plant that concerned Iraq and Syria about the possible cut that can be reach to 80 percent of the downstream flow. Similarly, the main reason behind the tension is the concerns over water supply for a rapidly increasing regional population. In terms of taking initiative, Syria took the first step and build Taqba Dam in 1976. The 12km^3 wide reservoir supplies water to additional 640,000 hectares land. Shortly after Turkey announced the Southeast Anatolia Project, known as Güneydoğu Anadolu Projesi, or GAP. The project comprises of 22 dams, 19 hydropower plants and irrigation system that covers a total of 1.8 million hectare of agricultural lands. Iraqi government which was then facing drought and more risks threatening its access to Tigris-Euphrates, tried to pressure Turkey by threatening its northwestern neighbor by destroying the dam. This action arouse only more tensions

between three riparian states, as Turkey threatened both Iraq and Syria to cut off all water flow reaching their territories.

Turkey, Syria, and Iraq, in a time span of over 30 years, signed several bilateral agreements, however the countries fell short on fulfilling the requirements of the agreements and political tensions and instabilities hindered any further cooperative actions.

In 2019, tensions remain relatively low as Turkey nears to finish the gigantic project. When it is completed, the project will allow Turkey to divert 70 percent of the rivers' water and likely to trigger some hostile actions between the three actors. The United Nations expects that the waters of the Tigris and Euphrates will experience a drastic drop of 30% and 60% respectively in late 21st century, which is likely to heat up the rivalry over the both rivers.

2.4.3. Disputes Over the Jordan River

Jordan is a multi-national river draining a total area of about 18,000 km^2 with a flow of 1.2 billion m^3 of water / year. Finding its origin on the slopes of Mount Hermon, three major tributaries drain the Upper Jordan Basin and flow to the Sea of Galilee. It flows to the borders of the four riparian states: Syria, Lebanon, Jordan and Israel, and is fed by many tributaries, such as Yarmouk, and Banias. Before flowing into the Dead Sea, the river supplies the lake of Tiberias, entirely located in Israel, some of which is claimed by Syria (Courcier & Jean-Philippe, 2004).

10 km south of the Sea of Galilee, the Lower Jordan receives the waters of its main tributary, the Yarmouk. Before any use of the water resources, this one coming from Syria, in the Northeast, contributed almost as much as the Upper Jordan in the food of the river. Without the exception of the Zarqa River flowing from Amman, several temporary watercourses come from both mountainous shores and also feed the Lower Jordan (Alwan, 2013).

At the end of the First World War in 1918, the leader of the international Zionist movement, Chaim Weizman, pointed out in a letter to then British Prime Minister Lloyd George, that the central element of the development of a future state in Palestine would depend on of its water supply. After him, other Israeli figures have highlighted the importance of water, especially the Jordan basin. It was with the 1967 war that the water configuration of the region was reversed in favor of Israel. Jewish victory allowed the state to increase its access to the Jordan and Yarmouk, its main tributary, in addition to having control over a large part of the other tributaries of the Jordan and finally, to control the tablecloths of the West Bank. Currently about 40% of the water used by Israel comes from these territories conquered during this conflict. In this perspective, it is quite certain that the issue of water is a stumbling block for peace negotiations. For the Hebrew State, the talks forced it to delimit the part of the West Bank that would no longer be under its control, including water tables, rivers and tributaries of the Jordan. It is not only the Palestinians for whom the Jordan is capital: Syria and Jordan are also tributaries, not to mention its tributary Yarmouk. In the Jordanian case, the 1994 peace treaty with Israel explicitly refers to closer cooperation between the two states. So far, the distribution in favor of Israel remains. Jordan has a deficit of about 500 million m3 per year because its population is growing at an annual rate of about 3.6%. Since 1997 she has been looking for redevelopments in the 1994 agreements, mainly to increase her share of Yarmouk. It should be noted that since 1963, Yarmouk flow on the border with Syria has been reduced from 410 m3 / year to 148 m3 / year in 1991.

2.5. International Law on Water Disputes

Water is a resource whose distribution has not been made in an equal way as it put forward in the previous chapters. The prevailing inequality in natural supply and variability of needs between industrialized and developing countries, or between urban and rural sectors, coupled with environmental issues (climate change, pollution etc.), give way to disputes concerning the distribution and use of water resources. In this context, access to water becomes an economic, social and political issue, both at national and international level.

Despite being a relatively newly introduced topic in the International Relations, academicians have been discussing for a long time how much water contribute to interstate and even international tensions. Its vital importance for all parties makes water both a crucial resource to dispute over and also a catalyst in the peace-making and/or cooperation process since it may present a win-win result for all parts of the discussion under right terms. (T. Allan, 1999; iii Isaac, Al-juneidi, Sabbah, & Amriyeh, 1999) A research group based at Oregon state University found that between 1950 and 2000, 1,831 disputes were occurred over international water resources, 1228 of them were concluded in peaceful ways as the countries choses cooperation over conflict and sign 157 treaties, while 507 resulted in non-cooperative ways (Wolf, Stahl, & Macomber, 2003:2)

As a subject to law, water resources first properly appeared in Roman law early as 27 B.C. First regulations over water suggested that water should be free and open to public. During the early time, concerns over water were focusing on its transfer from a place to another. An article in the Twelve Tables dating 450 B.C. brings protection in case of landowners damage river flows. However, there was any unified law on water regulating its flow, the aqueducts were subjecting different categories of water and property owning (Bannon, 2017:61). In most of the cases, water was accepted as a natural part of the territory, hence accepted as it belongs to landowner. Along with the definition of private and public water resources, Roman water law mentions several rights inherited to modern times such as right to divert water, right to draw water, benefit from water without damaging neighbor (Caponera, 1992:41 by Hildering, 2004:45)

The need for an international law was first occurred in disputes related to navigation in shared water resources, mostly transborder watersheds. When considered the fact that there are 263 international watercourses, about 100 lakes and a large number of groundwater resources shared by two or more states, the possible role played by the international law become crucial (Wolf et al., 2003). Other issues related to water access and management emerge and pave the way for new

principles, strategies, institutions and legal mechanisms, providing a new shape to international water law.

Water has always been a source of economic benefits. Rivers and lakes are always the most preferred channels of transportation, trade and communication between societies. Since the beginning of the 19th century, navigation on international rivers has been the subject of international treaties and is still a vital strategic interest for many countries, especially for landlocked states (Hildering, 2004:45). Thus, through the Final Act of the Congress of Vienna of 1815 and the General Act of the Berlin Conference of 1885, the freedom of navigation was recognized for ships, those have the flag of member states, riparian and non-riparian, over the entire navigable extent of a watercourse (Tignino, Bréthaut, & Mbengue, 2018: 68–69). This liberal vision culminated with the Treaty of Versailles concluded in June 1919, and the Barcelona Statute on the Regime of Navigable Waterways of International Interest of April 20, 1921 (Hildering, 2004:46).

The water treaties signed in pre-1900 years, focused on aspects of pollution and management of river and lake waters. Two treaties, however, qualify as pioneers in international water law for purposes other than navigation. These are the Karlstad Convention on Lakes and Common Watercourses of 1905 between Sweden and Norway, and the 1909 Washington Treaty on Frontier Waters between the United states of America and Canada. Both treaties include the fundamental principles of the future law of watercourses for purposes other than navigation: the establishment of joint international bodies and mandatory dispute settlement procedures, the prohibition of causing damage to waters of another state and the equitable sharing of waters (Sohnle, 2001)

Starting with the first years of the twentieth century, international law started to cover economic activities in discussed waters along with the navigation. The 1923 Convention Concerning the Development of Hydraulic Forces of Interest to Several states and the 1997 United Nations Convention included economic activities such as

hydroelectric power generation and industrial and agricultural uses[2]. In the North American Free Trade Agreement (NAFTA), Canada, the United states and Mexico addressed the issue of water in relation to the free trade agreement. In 1993, the three governments adopted a declaration:

> The NAFTA creates no rights to the natural water resources of any Party to the Agreement. […] And nothing in the NAFTA would oblige any NAFTA party to either exploit its water for commercial use, or to begin exporting water in any form. Water in its natural state in lakes, rivers, reservoirs, aquifers, water basins and the like is not a good or product, is not traded, and therefore is not and never has been subject to the terms of any trade agreement.[3]

Water as a human right

Human rights were first introduced to international law by the resolution 217A (III) of 'Universal Declaration of Human Rights' adopted and proclaimed by the United Nations General Assembly in 1948. The first two articles of the resolution define human rights as basic rights entitled and inherited to all human beings without any discrimination based on gender, race, color, religion, language and so on (article 2)[4]. Among these rights, those mostly known are social and politic rights such as right to life, liberty, security (article 3), freedom of expression (article 19), equality before law (article 7) all which regulate in one point the relation between an individual and a state. These laws put some obligations forward for states and urges them to act in a scale of human rights when they trait their population (United Nations, 2019b).

The article 25 of the 1948 resolution affirms that *"Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family"*. The commitment to improve access to safe drinking water goes hand in hand with the adoption of several instruments calling for recognition of the right to

[2] Convention on the Law of the Non-navigational Uses of International Watercourses, 1997: http://legal.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf
[3] Governments of Canada, Mexico and the United states, Joint statement (1 December 1993), cited by Little, S.P., Canada's Capacity to Control the Flow: Water Export and the North American Free Trade Agreement, p.140
[4] https://www.jus.uio.no/lm/un.universal.declaration.of.human.rights.1948/portrait.a4.pdf

water for all. It can be referred to General Comment No. 15 on the right to water adopted by the United Nations Committee on Economic, Social and Cultural Rights in 2002[5], the Draft Guidelines for the realization of the right to water and services, adopted by the Sub-Commission on the Promotion and Protection of Human Rights in 2005 and the decision of the Human Rights Council of 2006, requesting the Office of the High Commissioner for Human Rights to prepare a detailed study on the content and frame of a right to water. Conventions relating to the law of international watercourses, such as the 1999 Protocol on Water and Health to the 1992 Helsinki Convention and the 2000 Senegal River Water Charter refer to this right. In 1992, in the International Conference on Water and Sustainable Development in Dublin, participants adopted the following article: "*[…] Within this principle, it is vital to recognize first the basic right of all human beings to have access to clean water and sanitation at an affordable price"* (International Conference on Water and the Environment, 1992) . Finally, in 2010, the United Nations General Assembly approved a resolution officially recognizing 'the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights' (Sultana & Loftus, 2010:1).

Recognizing access to drinking water as an international human right establishes a legal base that offers a better future to millions of people who lives in drought or drought prone counties, facing the risk of contract a waterborne diseases or other health problems due to lack of sanitary conditions. The World Health Organization asserts five benefits of the recognition of the right to water as follows (World Health Organization, 2003: 9):

- Governments must accept that ensuring all residents' right to access freshwater as a duty, not a charity
- All residents must have access to dissident amount of water in the shortest time period possible
- The minorities and least favored groups in society should be 'better' targeted in order to eliminate inequalities
- The minorities and least favored groups should be included in the decision-making process

[5] https://www2.ohchr.org/english/issues/water/docs/CESCR_GC_15.pdf

- Governments should follow steps defined by the United Nations, under the control of the United Nations and to be held accountable in times when they violate the right to water

The following section explains the aspect of the international law, in order to present a legal framework that can be later applied to Israeli-Palestinian water dispute. At total there are seven doctrines of international water law, which are formulated to regulate problems related to transborder water resources.

2.5.1. The Doctrine of Riparian Right

The doctrine of riparian right was developed by accumulation of court decisions over years. The main characteristic of the doctrine appears as the preliminary acceptance of a water resource as an inherit part of land, and so the right of the use of the water as a natural right belong to landowner (Hodgson, 2006:11). It gives the right of use and benefit from the water of a shared water resources to all landowners in equal terms (Smolen, Mittelstet, & Harjo, 2012:2).

The doctrine allows landowners to divert and use water in the scale of reasonable manner- irrigation, food and other domestic uses- as long as they do not harm rights of other shareholders. This theory is often criticized by experts in modern time, and contributed little to international water laws and state practices (Boyle & Birnie, 2002:301; Rahaman, 2009:209)

2.5.2. The Prior Appropriation Doctrine

The prior appropriation doctrine dates back to 1800's. Contrary to the riparian doctrine, it detaches land and water rights and situates in favor of the beneficing parts in a discussion, rather than landowner. In other words, the doctrine does not allow water to be privatized and accepts it as a public property. This rule brings a chaotic aspect to every water dispute including over 2 countries, since more parties could involve as much as they grant a significant amount of water to put 'beneficial use' for a reasonable time period (Hodgson, 2006:11).

The doctrine, as it reveals itself in its name, gives the priority of use watershed to first coming parties, the first appropriators in an amount to meet, as long as they satisfy their need. This allows countries with a significant military or economic power to exploit water source -as it is considered that those are the parties who discover the resources earlier in the first place- and get hold of other countries by capturing the source and making it a political subject to bargain in interstate relations.

Briefly, the doctrine claims that a water resource belongs a person or a political entity who discovers and uses it first, without brining any restriction on its use. So, the appropriators may seize all the resources in order to meet their needs, without considering other possible parties who may need it (Hodgson, 2006:13–14; Smolen et al., 2012:2).

2.5.3. The Theory of Absolute Territorial Sovereignty

The theory of Absolute Territorial Sovereignty, also known as Harmon Doctrine, consists of recognizing the state entity, full sovereignty over the water resources present in the territory for which it administers. This doctrine affirms the absolute sovereignty of a state over the portion of the international river crossing its territory. Absolute territorial sovereignty proclaims that a state may use waters on its territory in the manner it deems most consistent with national interests, independently of external consequences (Mccaffrey, 1996:550).

The Harmon doctrine was explicitly formulated during the dispute over Rio Grande between the United states and Mexico in 1895, upon an advice of then-United states Attorney General Judson Harmon (Mccaffrey, 1996:551). The doctrine was in fact abandoned in the 1950s and is only invoked in situations of diplomatic disturbance. As soon as the state abandons part of this absolute territorial sovereignty, it enters a logic of restriction accepted to its sovereignty, making water a shared resource: then emerges the principle of a "reasonable and fair use", which

amounts to considering that states can only make a "non-harmful use of their territory"

The Harmon doctrine adds many uncertainty, even anarchy to international water laws, triggering the conflict of interest between neighbor counties. To prevent the possible negative effects of this doctrine, the doctrine of absolute territorial integrity brings new rules favorable to downstream states (Majzoub, 1994).

2.5.4. The Doctrine of Absolute Territorial Integrity

Contrary to the Harmon Doctrine that gives 'full freedom to upstream countries to benefit from the interstate watercourses, the doctrine of absolute territorial integrity favors downstream countries, limiting upstream countries' action that may cause some detrimental effects to others.[6] The United Nations defines the doctrine as follows:

> This doctrine stipulates that all watercourse states enjoy an equal right to the utilization of a shared resource, and each watercourse state must respect the sovereignty and reciprocal rights of other watercourse states.

The doctrine of territorial integrity asserts that all states are sovereign and equal and so they must respect territories of others. Since the territory is the main substance of sovereignty over which state exercises, each and all states have immunity in their territories, and they should respect others' right in this matter (Kohen, 1997: 368–369).

States may face to actions violating their territorial integrity. These actions may occur as occupation or annexation of a foreign territory by armed forces, , armed attacks against targets in the territories of another state, dismemberment of the territory of a state, colonization of another state, support or encouragement of secessionist forces to a foreign territory (Kohen, 1997: 370)

[6] https://www.unwatercoursesconvention.org/documents/UNWC-Fact-Sheet-10-Theories-of-Resource-Allocation.pdf

Although it did not have as much echo as that of the absolute territorial sovereignty, this theory was invoked by certain states, as an example by Spain against France in the dispute which opposed these countries colonies in the 1950's. The first state reproached the second for diverting, for the purpose of energy production, the waters of Ariège, a river supplying Spanish territory downstream from Lake Lanoux. The Arbitral Tribunal called to rule on this case had to answer the question of whether France was obliged to obtain the prior consent of Spain (downstream state) before carrying out its work.

2.5.5. The Theory of Limited Territorial Sovereignty

In modern texts, sovereignty is defined as *supreme legitimate authority within a territory.* In its territorial aspect, sovereignty means that the state exercises exclusivity of powers within its borders, to exclude any other state entity. An extensive definition of the concept of sovereignty could be interpreted as power of the state to do what it wants in its territory (Philpott, 1995:357). When combined with the theory accepting watercourses as an extensive part of territorial integrity, this theory assumes that souverain states can benefit from watercourses within their territory.

In contrast to Harmon Doctrine, the theory of limited territorial sovereignty gives the right of use watercourse to all watercourse states in scale of respecting the sovereignty along with complementary rights belong to other riparian states (United Nations, 2019a). Therefore, the theory allows unfavored downstream states to demand access to a unharmed and continuous resources from upstream state (Utton, 1996)

Since it brings more equitable perspective to water share, this doctrine is accepted as a departure point of international water law by most states, international organizations and experts (United Nations, 2019a).

Multiple arbitral awards judicial decisions back this theory. Among them is the Corfu Channel case dating 9 April 1949[7]. The case is known as the first public international law case heard before the International Court of Justice discussed whether Albania had violated international law by failing to report the existence of mines in its territorial waters, which had caused damage to two British warships at the Strait of Corfu. Albania claimed that the strait had not consisted a preliminary crossing point for international ships, and only served as a crossing point to meet transportation needs. The Court rejected Albania's claims and recognized the existence of *"every state's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other states"* (United Nations International Court of Justice, 1949:22). In a similar case, The Supreme Court of the United states of America rejected any claim of absolute territorial sovereignty and any claim to the absolute integrity of the river during watercourse disputes between states (Mubiala, 2016:26).

2.5.6. The Theory of Equitable and Reasonable Utilization

The Helsinki Rules adopted in 1966 is the first international document that brought light to the principle of Equitable and Reasonable utilization of watercourses. Article V of the Helsinki Rules define the principle as follows: "*each basin state is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin"*[8]. In the article following the definition, the text draws the scale of the utilization of the principle with eleven points:

1. The geography of the basin, including in particular the extent of the drainage area in the territory of each basin state
2. The hydrology of the basin, including in particular the contribution of water by each basin state
3. The climate affecting the basin

[7] https://www.icj-cij.org/files/case-related/1/001-19490409-JUD-01-00-EN.pdf
[8] https://www.internationalwaterlaw.org/documents/intldocs/ILA/Helsinki_Rules-original_with_comments.pdf

4. The past utilization of the waters of the basin, including in particular existing utilization
5. The economic and social needs of each basin state
6. The population dependent on the waters of the basin in each basin state;
7. The comparative costs of alternative means of satisfying the economic and social needs of each basin state;
8. The availability of other resources
9. The avoidance of unnecessary waste in the utilization of waters of the basin;
10. The practicability of compensation to one or more of the co-basin states as a means of adjusting conflicts among uses
11. The degree to which the needs of a basin state may be satisfied, without causing substantial injury to a co-basin state.

The convention over the Non-Navigational Uses of International Watercourses in 1996 by the United Nations, supports the principle of equitable and reasonable utilization of watercourses in several articles, those are today seen as the cornerstone of the Convention (Mccaffrey, 2008). The Article 5 of the convention is as follows:

> Watercourse states shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilize the watercourse and the duty to cooperate in the protection and development thereof, as provided in the present Convention. [9]

In the scale of sovereignty concept, all riparian states have the right of benefit from international watercourses within their territory. This right is given to every riparian states in equal terms based on reasonable interest of them. However, there are multiple ways to define equity based on the circumstances surrounding a discussed matter. Here in this matter, as a part of the international law, equity is seen as fairness to shareholders (Bilder, Lauterpacht, & Franck, 1997:9). The principle draws the line of equitable and reasonable use of water in accordance with several factors and circumstances. Article 6 of the Convention mentions some factors to be used in determining the scale of this equitable and reasonable term: natural factors of a country including geographic and hydrographic characteristic, the average need of riparian states in terms of water, population dependent on the watercourse, the possible ways of watercourses countries benefit or to benefit from the watercourse,

[9] http://www.unwatercoursesconvention.org/the-convention/part-ii-general-principles/article-5-equitable-and-reasonable-utilisation-and-participation/

conservation and protection of watercourses and the cost of doing so and the availability of other resources in terms of partially of fully meeting the needs of riparian states.

In brief, this principle has brought a new perspective to laws related to water, suggesting that benefiting from a watercourse and satisficing the water need of a population could be possible at the same time without harming other riparian states or the watercourse itself by obtaining a respectful attitude to environment and other states.

CHAPTER III
WATER POLITICS IN THE PROMISED LAND

Researchers focusing on the Hydropolitics of the Middle East in second quarter of the 20th century note remarkably worsening situation in the region's water resources. Signed treaties over water resources, specifically Jordan river and Nile river, in 1990's helped to ease tension between riparian states (Allan, 2011:i). While the population growth of the region plays a significant role in the increase in water demand, the change in rainfall distribution or amount has triggered an indisputable water issue that now could be seen in southern Syria, Jordan, Palestine and Israel. In what concerned Israel, the Jordan river brings 138 million m^3 water from Lebanon to the country, 125 million m^3 from Syria and 20 million m^3 from West Bank, Palestine. The Jordan River basin countries are however among those who has the lowest per capita water globally, even the average of 500m^3 per capita scale (FAO, 2008:3).

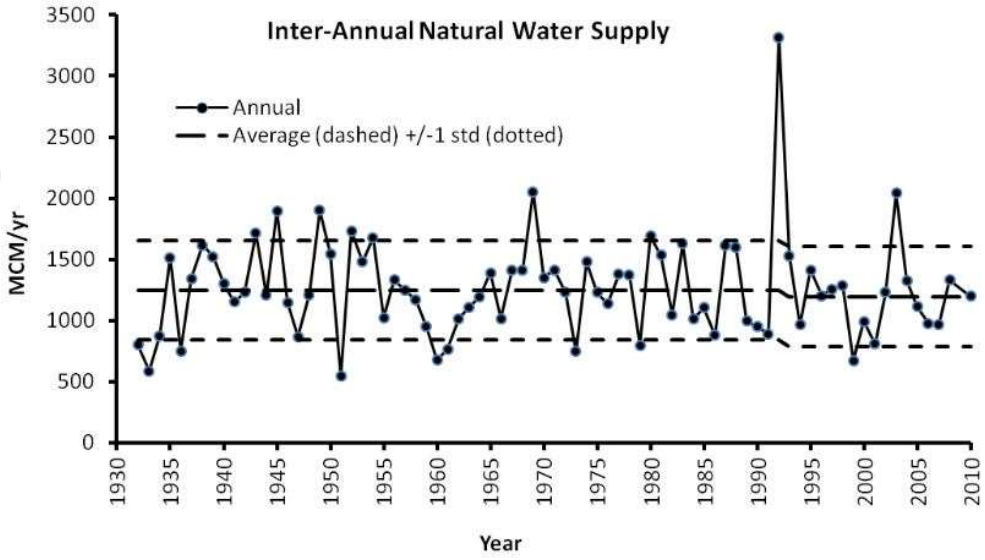
In the region the amount of good quality drinking water avaible per person per year is 250m^3, only 85m^3 in Palestine and 200m^3 in Jordan. However the distribution of water is remarkably contrasted within countries: in the north of Israel the amount reaches 500m^3 per year while Lebanon and Syria have repectively 1200m^3 and 3000m^3 (Fathallah, 1996:24) Such a difference is likely to increase interstate tensions between neighboring countries.

3.1. Israel's water policies: supply and demand

The promised land is above all a dry land: Israel has very few water resources to meet the need of its population. The climate in its territories is characterized by high aridity as a natural consequence of its geographical positioning and proximity to deserted areas (Mancebo, 2005:27). The main water resources in the country are the Sea of Galilee crossed by the Jordan, the aquifers of Judea and Samaria under the West Bank and the aquifers located under the Gaza Strip. All these sources are overexploited, and the aquifers of Gaza are threatened by salinization, due to the intrusion of seawater into the aquifer. Yarkon and Kishon rivers also play important

role to nourish the environment; Yarkon river is the largest coastal river in the country with length of 27.5km, while Kishon river takes its sources from Gilboa mountains and flows into the Mediterranean Sean (Keren Kayemeth LeIsrael & Jewish National Fund, 2019). The region's rains, nearly non-existent from April to September, only fall on the mountainous northern regions, Galilee, and Golan Heights. The rest of the country is experiencing a semi-arid or arid climate, with an average rainfall of 27 to 761 mm per year (Israel Meteorological Service, 2008). At total the country has annual water reserve of nearly 2000 million cubic meters, 150 million cubic meters less than the current demand (Cohen, 2008:16).

Figure 8: Annual natural water supply in Israel fed by precipitation, in millions of cubic meters (MCM/year)



Source: The state of Israel: National Water Efficiency Report (2011) p:5 http://www.water.gov.il/Hebrew/ProfessionalInfoAndData/2012/24-The-state-of-Israel-National-Water-Efficiency-Report.pdf

Israel has a border with the Jordan river of about 32km^2 (See the Holy Land.net, 2018). The river takes its source in Mount Hermon, is fed by aquifers and surface waters of Lebanon, Syria, Jordan and Israel and then flows into the Dead Sea with an average flow of 12km^3 per year. The country also has three main aquifers: Lake Kinneret, the Mountain Aquifer and the Coastal Aquifer. Two aquifers provide more than a half of the sources: the inner aquifer that has about 660 million m^3 per

year, and the coastal aquifer, stretched from Haifa to Ashkelon via the Gaza Strip, has a capacity of about 300 million m^3 per year (El-Fadel et al., 2001: 54).

Until the beginning of the twentieth century, agriculture in Israel was almost entirely dependent on rare rains. Only a few places in northern Galilee were equipped with irrigation systems. The water was conveyed by gravity from the source to the fields by means of simple open channels. As a result of the large losses caused by rapid infiltration into the soil during transportation process, water was unevenly distributed, with the farmers furthest away from the source receiving very little in terms of water. As the country's population began to rise with the migration of Jews to Israel, the need of regular water supply became inevitable for the continuation of food supply via agriculture. Farmers of the epoque then began setting up the first pumping equipment in aquifers to meet their water need (Mancebo, 2005:27–28).

After the official declaration of independence in 1948, the Jewish state experienced a considerable increase in population via migration flows. The growth in population put a considerable pressure on the countries' already limited water resources, those contribute a 2.4 percent of the Gross Domestic Product (GDP) of the country (Markou, 2005:6). It was essential to prevent the population from crowding the coastal plain and near Jerusalem. A voluntarist policy of encouraging the settlement of the Negev, arid desert region of the south of the country, was therefore conducted with the creation of new cities including Beersheva[10]. But, from the beginning, it turned out that the main difficulty for the success of this project was the scarcity of water, both for agriculture and for daily life and other economic activities. Some attempts were made to drill wells and extract groundwater, but the quantities were too small and the salinity of water often too high. It was therefore decided that the best way to ensure a reliable supply was to transport water from the north of the country through pipelines (Mancebo, 2005:29–30).

[10] Beersheva or Be'er Sheva means Well of the Oath. It takes its name from an ancient well dug by Prophet Abraham 3,700 years ago.

This led to the construction of the National Water Carrier, which also called Kinneret-Negev Conduit, which was originally intended to draw water from the tributaries of Lake Tiberias[11]. Construction began in 1953, but as a result of Syrian opposition, the water collectors had to be moved south-west at the lake exit (Cohen, 2008:18). The Israeli Syrian dispute in 1953, was the first conflict for which water has played a leading role in the recent history of Israel. It gave rise to the first plan establishing a sharing of water resources by the countries of the region, the Johnston Plan. Rejected at the time, the plan comes back regularly as a basis for discussion in the negotiations for water.

The National Water Carrier project was not completed until 1964 and when it was finished it was covering multiple network of underground pipes, open channels, intermediate tanks and tunnels, taking not only the water Tiberias but also the two main aquifers (Cohen, 2008:19). This system made it possible to supply freshwater throughout the country. This project is nowadays not only the main source of water supply of Israel, but also a spillway for the surplus water of the North in winter as well as a mode of recharge of the overexploited aquifers of the coastal region. In 1994 Israel conducted a 42km-long pipeline project connecting the National Carrier to Jerusalem after 4 years of construction. The project supplies 15 percent of Jerusalem's water need today, following the mountain aquifer (70 percent) and local drillings (15 percent) (Cohen, 2008:24)

Despite the increase in the number of residents and the sharp rise in living standards, the complete quantity of water consumed in Israel has remained more or less steady for 50 years. But the gains are offset by excessive urbanization along the Israeli coast from Haifa to Ashkelon, leading to a rise in waste that exceeds regional farms ' requirements and a continuous rise in demographic figures (Mancebo, 2005:32). Industrial waste accumulation, effluent and pumping issues lead to contamination of groundwater and surface water. Many natural water resources are

[11] See Map 1.

either drained or turned into sewers due to pollution. Moreover, the disappearance of the salt water wedge due to overexploitation of aquifers leads to the penetration of polluted coastal seawater by direct discharge of sewage and oil spills into freshwater supplies (Katz & Tal, 2012:10).

The history of the Israel is particularly characterized by the conquest of water via control of water to ensure its distribution, conquest territories ensuring the security of water supply, and developing water treatment technology to enrich water supply. To have a better knowledge of the complexity and sensitivity of the water problem, it must go back to the start of the 20th century, when Jewish colonization was launched by Theodore Herzl, the theorist of Zionism.

Zionism and water

> And the Lord God planted a garden eastward in Eden; and there he put the man whom he had formed. […] And a river went out of Eden to water the garden; and from thence it was parted and became into four heads. The name of the first is Pison […] And the name of the second river is Gihon […] And the name of the third river is Hiddekel […] And the fourth river is Euphrates.
>
> Synopsis Genesis Chapter 2 Verses 8-15

The desire to bring the Jewish community together in Palestine dates back hundreds of years ago. Indeed, the Zionist movement relies on the Jewish people's attachment to the Holy Land and Jerusalem which is at the heart of Judaism. The word Zionism comes from Zion, a hill in Jerusalem. The dream of a retu rn to Zion, and therefore to Jerusalem, after the dispersal of the Jewish people driven out by Rome in 135 AD is constantly recalled in the Jewish religion (Romeo, 2010).

The reading of the Israeli-Palestinian conflict, in the light of the Old Testament helps to understand the elements that are reused by the Zionists in order to ‘bloom the desert’ and maintain the position of ‘chosen people’. The survival of this chosen people in the promised land could not and cannot be done without water which is seen as "the blood flowing through the arteries of the nation” (Rouyer, 1996: 26). A promised land, from which flow "milk and honey", is a fertile land able

to feed its people, where the population can enrich and grow continuously (Rouyer, 1996:31). Plus, ‘the chosen people’ must not lack any crucial resource to live in safe, sanitary and good conditions in the promised land. God has promised to make those people a great nation and it is through it that salvation will be made. Thus, the control of water resources in the region by Israel helps to consolidate its dominant position, viability, security, prosperity.

While political Zionism, apart from its territorial claims, exhibited only cultural ambitions, a religious party, the Mizrahi, was created in 1902 claiming the promised land concept. Chaim Weizman, a Jewish of Russian descent, who later became Israel’s president, endorsed political Zionism in 1904.

The policy of conquest of water of Zionists dates way back then 1948. Beginning in the second half of the 1910s, the signals of the region's future Jewish state seemed to come with some guarantees, especially with few concerning control over the region's hydraulic resources. First, the United Kingdom pledged in the Balfour Declaration of 1917 "the establishment of a Jewish country in Palestine" (Tahhan, 2018). The first Zionists then redeemed the land in Palestine to cultivate it in order to forge a new Jewish people, as was already the case previously in history. This return to the land instantly faced a significant barrier: water shortage. The British Mandate of Palestine is an arid land where Tiberias Lake, which borders Syria and Transjordan, and it is the only significant freshwater reserve in the region.

In 1919 The President of the World Zionist Organization, Chaim Weizmann sent a letter to the British Prime Minister Lloyd George, asking him to extend the northern border of Palestine so as to encompass all sources of water, thus considering beyond historical or religious considerations, but hydraulic concerns. He pointed out that *"the whole future of Palestine depends on its supply of water for irrigation and for the production of electricity; and the water supply must come mainly from the slopes of Mount Hermon, the springs of Jordan and the Litani River."* The proposed borders include Israel, but also Gaza, the West Bank, the Golan Heights, portions of Lebanon, Syria and Jordan (Rouyer, 1996).

In the 1920s, Zionists in Palestine invited an American hydrologist Elwood Mead to the region to observe the situation in the Jewish settlements and to draw up an inventory of the water situation and future hydraulic projects to be envisaged by Zionists. Mead proposed the option of irrigate the arid Negev region by taking water from the Jordan. Mead's work later inspired the Hayes Plan, who carries the name of an American engineer once advocated irrigation of the Jordan valley areas with the diversion of water taking from Jordan and Yarmouk and creation a hydropower. However, Hayes plan was later abandoned due to Syria's opposition (Mancebo, 2005:31–32).

On 15th May of 1948 the state of Israel was officially proclaimed as a Jewish country in the occupied territories of Palestine. Among the country's first objectives in terms of the developing the young state were some goals in order to maximize the benefit from regions water resources: control of the Galilean Sea; the Jordan; the coastal area and the Negev desert in order to make it flourish to absorb migratory flows and bring the Jewish diaspora together (Mancebo, 2005:23).

In 1953, Israel will put into practice the Hayes Plan guidelines and begin to divert the waters of the Jordan River. During the same period, it undertook the construction of the National Water Carrier, a spine from the north of Lake Tiberias that allows her to divert most of the watercourse to the country. Syria and Jordan protested Israel's actions, even back then the United Nations criticized this move. The United states President Eisenhower later decided to send a mediator or rather a conciliator, Eric Johnston to propose a plan for distribution of water resources upon the disagreement. After several negotiations, in 1955 Johnston made a favorable proposal to the Israelis, allowing them to continue the hydraulic projects. Israel has completed the project of connecting water canals from Lake Tiberias thorough the territory of Negev Desert in 1964, thus achieving the Zionist ideal of to "make the desert bloom". In 1956, the country's first Prime Minister David Ben Gurion wrote an essay Southbound where he highlighted the priority of water issue in Israeli politics:

> Water and power, these are the two main things lacking in our country, even in the north, and they seem to be completely absent in the south. (…) There are plentiful resources of water and power which we have not yet exploited because we did not know the secret of their use. But it does not follow that what we did not know yesterday, we shall not know tomorrow (Katz & Tal, 2012:2).

When the Six Day War ended in 1967 with the victory of Israel against Syria, Jordan and Egypt, the territories seized by Israel were those rich in water, mostly the Golan Heights, nicknamed the "water tower", where the Banias river takes its sources from. Banias river then flows into Jordan river of which founds one of the three main sources of the region by providing 120 million cubic meters water (Hof, 1997:129). This amount corresponds 20 percent of the natural water of Israel and the West Bank. In addition to Golan Heights and Banias river, Israel also took control of most of the course of Yarmouk river, as well as the three large aquifers of the West Bank, which allows it to control the entire course of the Jordan.

This war allowed the Jewish state to finish its hydraulic plans and territorial holding across the entire West Bank, Gaza, and Golan Heights. The Six Day War was followed by a policy of colonization by Israel. This colonization makes it possible to directly control on the ground the level of use of water by the local populations (prohibition for agriculture, for the drilling of wells etc.), but also to develop a fait accompli policy. On March 14, 1978, Israel occupied southern Lebanon to complete a hydraulic project aiming the use and diversion of part of the Litani River by a pumping system it then left the Lebanese territories due to fierce resistance from local religious groups (Jamee, 2019:8).

In 2000s, the pressure on water resources and the increase in its needs is pushing Israel to seek alternative resources foremost among which is the desalination and reuse of wastewater. Thus, the Hebrew state has built 31 operational seawater and brackish water desalination plants on its soil, in order to reach the goal of 400 million cubic meters of desalinated water per year. Israel is also engaged in the development of wastewater reuse programs such as Tel Aviv or Haifa. Currently, it

produces 270 million m^3 of water per year through its reuse system which corresponds a considerable part of the need in agricultural (Pitot, 2009).

3.2. Palestine's water policies: supply and demand

The resources of the Palestinian territories are relatively abundant in view of the aridity that reigns in the region. This is at least the case in the West Bank, where fairly high rainfall water the western slopes of the country (up to 700 millimeters in the region of Ramallah and Hebron), allowing the formation of renewable groundwater. The mountain serves as an obstacle to flows from the Mediterranean Sea. In addition, the nature of the subsoil and the existence of slope breaks favor the formation of distinct aquifers (Sawan, 2016:5) .

The region's surface waters come primarily from the Jordanian Basin, which is theoretically a shared resource between Palestine, Israel, Jordan, Syria, and Lebanon. But since 1967, following Israel's current occupation and exploitation of this source of water, Palestinians have been unable to use their rights to benefit from this source. Palestinians used 140 pumping units before 1967 to obtain water from the Jordan River Basin running along Palestine's eastern frontier, but the Israeli occupying forces later demolished or seized them (Palestinian Ministry of National Economy & Applied Research Institute- Jerusalem (ARIJ), 201:12).

One of Palestine's principal sources of water comes from groundwater aquifers, geological subsurface formations containing water that can be obtained from wells or springs. Mountain and Gaza (coastal) aquifers are the two primary aquifers in historic Palestine. The structure of the Mountain aquifer composed of three systems, West, East and Northeast, each named according to the direction of flow of their waters, have a total annual recharge of 679 mm^3. Of the three systems, the West aquifer is the most abundant, flowing towards the Mediterranean with a filling capacity of about 362 mm^3 per year, followed by the East aquifer with a capacity of 170 mm^3 per year finally, the North aquifer with 145 mm^3 per year (Jamee, 2019:5). For all purposes, the average water consumption of Palestinians in

the West Bank and Gaza is about 150 cubic meters per person per year, while settlers in the West Bank consume between 700 and 800 cubic meters. As a result, groundwater resources appear as overexploited (Palestinian Ministry of National Economy & the Applied Research Institute- Jerusalem (ARIJ), 2011:18).

Since the occupation of the West Bank and Gaza, 70 to 80 per cent of Palestinian towns and villages receive only a few hours of water a week, forcing the population to stock up in cans, under conditions of hazardous hygiene, while Israeli military posts and settlements are fed 24 hours a day. Moreover, Israeli agricultural development is in contradiction with the available water resources. Palestinians are not allowed to drill wells, while settlers are, and even at great depths from 300 to 800 meters. On the Palestinian side of the situation, there is not just a prohibition of drill new wells without Israeli permission but also a limit of depth limited with 140 meters (World Bank Group, 2018:5–6)

Water from the West Bank aquifers is claimed by the Palestinians, who claim that Israel exploits by its deep wells and 95 percent of the watersheds that should return to them due their location under the hills of the West Bank (United Nations, 1992). They further believe that the Israeli state has violated the Geneva Convention (stipulating the status quo of the lands of occupied territories) by digging wells for its own settlements while freezing the Palestinian water exploitation[12].

For Gaza, the problem comes from wells dug into the watersheds. According to the Palestinian Authority, the Israelis pumped into the groundwater in the immediate vicinity of the Gaza Strip, causing the current high salinization of the wells. Adding the fact that 31 percent of Palestinian communities are not connected: depending on the Mekorot, who acts according to Israeli policies, Palestinians suffer from lack of clean freshwater to consume and irrigate their fields.

[12] See Map 2.

3.3. Water Crisis as a Part of Israeli-Palestinian Conflict

The history shows several attempts by Israeli state aiming to establish a full control over region's water resources. Starting in its first years of independence, Israel tented to limit access of Palestinians to water resources by a parliamentary legislation. In 1959, the parliament passed a law that recognizes water as a public resource under the control of the Jewish State. This law thus prevents Palestinians from freely disposing of their water resources in occupied territories. Following the Six Day War, Israel went go even further in its water policies targeting the resources in Gaza and the West Bank. The law put a ban on the creation of any new hydraulic infrastructures and wells in the region. To enforce this law, the Israeli military authorities have become solely responsible for granting authorizations for drilling and for the use of water in the Palestinian territories (Calligé, Ghai, Meyer, Ossipow, & De Socio, 2008:192) These measures are justified by the fact that the Hebrew State considers water as a strategic matter. Reports show that 350 Palestinian wells are currently operating in the West Bank, 23 of them, representing 6.5 percent of all wells, have been drilled since the beginning of the occupation, for the exclusive benefit of the Jewish settlements.

Israel's ultimate goal was to create a state that would eventually attract millions of Jewish people around the world and make them settle in the lands that were promised to them once. However, when considered the arid climate of the region with high temperatures and lack of rainfall, Israeli State acknowledged a high necessity of increasing water supply in the region continuously and conformably with the population growth. In 2007, the average annual consumption of an Israeli citizen stood around 357 cubic meters and was four times higher than that of a Palestinian from the West Bank (with 84.6 cubic meters). Domestic consumption of an Israeli citizen was three times higher than that of a Palestinian. Agricultural consumption was also much higher, and Israel's subsidy policy encourages high consumption. The amount of water available to farmers in the West Bank has been frozen since 1967: the ceiling is set at 90-100 million cubic meters per year for 400

villages. Conversely, the amount of water allocated to Jewish settlements increased by 100 percent during the 1980s. (Roussseau, 2007).

In the West Bank, three aquifers provide another third of Israel's water reserves, which consume nearly 86 percent of the region's water. Palestinians use 8 to 12 percent, and Israeli settlers 2 to 5 percent (Roussseau, 2007). After more than 30 years of occupation, some 180 villages in the West Bank are still not connected to a distribution system. The control of water sources is in the hands of the Israeli company Mekorot which distributes every year 110 million cubic meters to 1.5 million Palestinians (73 cubic meters per capita), 30 million cubic meters to 140,000 settlers (or 214 cubic meters per site), while 460 million cubic meters are left for Israel.

3.4. Palestine's Water Rights Under International Law

As a result of a series of secret talks held in Oslo, Palestinian and Israeli officials launched the first official bilateral negotiations in September 1993, that resulted in some agreements that called the Oslo Accords. The Accords break down into three phases: The Declaration of principles, agreed on 13 September 1993, specifies the general framework for the negotiations and lays the foundations for a Palestinian Self-Government (Authority) in the West Bank and Gaza. It led to the Jericho-Gaza Agreement - known as the "Cairo Agreement" or the "Oslo I Agreement" completed on 4 May 1994, which gives the new Palestinian National Authority limited powers. Then, the last phases occurred on 28 September 1995, by the Interim Agreement on the West Bank and the Gaza Strip or "Taba Agreement" (Oslo II Agreement), which involves a negotiated division of the Palestinian territories into three zones where Israeli and Palestinian controls apply in a different way.

In the Oslo Accord I, Israeli and Palestinian parties agreed on the need to jointly manage water resources and on the establishment of a standing committee for cooperation in water management. Annex III of the agreement reads:

> The two sides agree to establish an Israeli-Palestinian continuing Committee for Economic Cooperation, focusing, among other things, on the following:
> 1. Cooperation in the field of water, including a Water Development Program prepared by experts from both sides, which will also specify the mode of cooperation in the management of water resources in the West Bank and Gaza Strip, and will include proposals for studies and plans on water rights of each party, as well as on the equitable utilization of joint water resources for implementation in and beyond the interim period.

In Oslo II Agreement, Israel recognized water rights for Palestinians in the occupied territories. The rights of Palestinians to water remain rights recognized by Israelis and could serve as a basis for the future development of collaboration. Chapter 3 reads as follows:

> Territorial jurisdiction includes land, subsoil and territorial waters, in accordance with the provisions of this Agreement. b. The functional jurisdiction of the Council extends to all powers and responsibilities transferred to the Council, as specified in this Agreement or in any future agreements that may be reached between the Parties during the interim period.

The Oslo accords also led to the formation of a Joint Committee on water by Israeli and Palestinians as a sign of goodwill; but the committee appeared as a tool of legitimation of Israeli pressure on Palestinian resources, since the Jewish state has a veto total. In practice, Israeli control over the water sources attributed to Palestinians comes to our day and Palestinian dependency to Israel in terms of water supply is increasing drastically. Palestinians are even more dependent than before on the Mekorot, the Israeli water supply company.

The main water supplies of the promised land are known as Jordan River Basin, including an area covering the Dead Sea, Zerka Rivers and Lake Tiberias; and the West Bank aquifers which are positioned in currently occupied Palestinian territories.

With regard to the main water resources, Israel uses 80 percent of the renewable water resources of the aquifers of Judea and Samaria, leaving the remaining 20 percent to Palestine (Isaac, 2000:5). Israel is also taking advantage of its superiority to occupy access points to major water resources and prevent Palestinians from developing new sources of supply. These difficulties of access to water for Palestinians are reinforced by the presence of checkpoints and by the water tanks on the roofs of the houses regularly targeted by the Israeli army. (Isaac, 2000:9) Israel argues that Palestine cannot benefit from riparian rights and cannot enjoy its rights deriving from the international law including international human rights, since it does not constitute a sovereign state to be subjected to these regulations at the first place.

The issues of discord between the two camps are numerous. In 2003, Jacob Kaidar, then Israeli Minister of Water, denounced the increase of ‘illegal’ wells dug by the Palestinians, those were estimated by the Israeli authorities around 2000 in the Gaza Strip. Palestinians, on the other hand, consider settlements illegal and do not want Israeli development in the occupied territories, including the creation of new wells (Fathallah, 1996:132)

According to Meyer and Ossipow (2008), there are three factors that explain the degradation of water conditions. First, there is a decrease in precipitation leading to a decrease in the renewal of groundwater. This decline is partly due to climate change. Secondly the increase in pollution has a significant impact on the quantity and quality of available water. Finally, the waters of the aquifers and the Jordan basin are subject to increasing overexploitation. Between 1980 and 2000, water consumption almost quintupled in the region. The high population density in Israel and the Palestinian Territories are increasing the water stress in the region (Calligé et al., 2008:65).

In addition to these inequalities of access to water, there are also price inequalities. In principle, the price paid by a Palestinian user is the same as that paid by an Israeli, but Israel's GDP is 20 times greater than Palestinian GDP. Furthermore,

in Jewish settlements, water is strongly subsidized. A Palestinian has to pay four times more to access water while Mekorot charges $0.7 per cubic meter for domestic use and $0.16 for Israeli agriculture. There is no differentiated price for Palestinians who pay each cubic meter $1.20 (Roussseau, 2007)

3.5. Israel's International Law Violations

> Ignoring the needs of growing numbers of neighbor provides Israel with other security risks. A thirsty neighbor is not a good neighbor.
>
> Eckstein,1999

Under the Humanitarian Laws on Water, Sanitation and Hygiene (WASH), water resources are considered essential for the survival of communities and are therefore protected against destruction in all circumstances. However, with the collaboration of its domestic water company Mekorot and the Israeli agro-industrial business Mehadrin,, the Israeli government has implemented a systematic, malicious and discriminatory strategy to hamper the access of Palestinians to water in the West Bank and Gaza Strip, coupled with the huge exploitation of water resources.

According to a UN Human Rights Council study, two Israeli businesses, Mekorot and Mehadrin, are seriously threatening the access of Palestinians to water, especially in the occupied Jordan Valley, by diverting Palestinian wells and sources to illegal Israeli settlements in the West Bank. Palestinian water is stolen and channeled to Israel for free. A fraction of it then travels in the opposite direction to be sold to Palestinian cities (Human Rights Council, 2009).

Israel's policy has severely restricted the Palestinian Authority's capacity to develop its WASH industry to fulfill its domestic priorities. Palestinians cannot create the large-scale water infrastructure required to provide the population with water and sanitation facilities. Between 1995 and 2011, the Palestinian Authority submitted to the JWC 30 projects for wastewater treatment plants. Only 4 of them, concerning minor repairs, were accepted. Again in 2011 the Palestinian Authority

presented 38 projects to rehabilitate wells, but the JWC approved only 3 of them (Emergency Water Sanitation and Hygiene group, 2012, pp. 12–13).

According to the Declaration of Principles of September 13, 1993, the first bilateral Israeli-Palestinian agreement, water issues must be discussed by a standing committee, the Israeli-Palestinian Committee for Economic Cooperation, and be subject to common fair use plans. However, this agreement did not lead to the identification of explicit rights to water.

According to the Hague Convention as the occupying power, Israel holds the responsibility for the well-being of Palestinians[13]. However, Israeli policies and practices systematically deny the right to water and sanitation for Palestinians. The right to water and sanitation, as well as the right of a people to make use of its natural wealth are under international law among the human rights that Israel has ratified in the scale of some international agreements.

First of all, Article 43 of the 1907 Hague Convention prohibits the occupying power from changing the laws that were in place before the occupation. Nevertheless, Israel's military orders with respect to water resources and supply have significantly changed the legal and institutional structure of Palestinian water management.

> The authority of the legitimate power having in fact passed into the hands of the occupant, the latter shall take all the measures in his power to restore, and ensure, as far as possible, public order and safety, while respecting, unless absolutely prevented, the laws in force in the country.

Secondly, Article 55 of the Hague Convention limits the right of the occupying States to use the water sources of the occupied territory. This use must be

[13] Israel did not take part in the Fourth Hague Convention; thus, it claims that it can not be hold responsible for any violation of the Hague Regulations which were accepted by the Convention. However, in an advisory opinion dated 9 July 2004, the International Court of Justice acknowledged that the Regulations as part of international customary law.

limited to military needs. However, the use of the water table of the territories occupied by the colonies does not meet these criteria.

> The occupying State shall be regarded only as administrator and usufructuary of public buildings, real estate, forests, and agricultural States belonging to the hostile State, and situated in the occupied country. It must safeguard the capital of these properties and administer them in accordance with the rules of usufruct.not deport or transfer parts of its own civilian population into the territory it occupies.

However, the use of the water table of the territories occupied by the colonies does not meet these criteria.

Article 27 of the Fourth Geneva Convention in 1949, prohibits the occupying State from discriminating between residents of the occupied territory.

> Protected persons are entitled, in all circumstances, to respect for their persons, their honor, their family rights, their religious convictions and practices, and their manners and customs. (…)

However, the volume of water supplied to the settlements is much higher than that of the Palestinians. Despite the fact that there is a broad international consensus on the applicability of the Convention in the occupied territories, Israeli authorities refuse to implement it, claiming the Jewish state is not occupying state, but a legal, legitime state founded in the region, plus there is no officially recognized, independent country such as Palestine in the discussed territories.

During the Camp David II negotiations in 2000, the Hebrew State promised that it will provide the following additional quantities of water to the Palestinians: 50 million m^3 per year of the Western Aquifer, 10 of the North East Aquifer, 80% of the Oriental aquifer and 40 from Jordan. However, these negotiations failed and Palestinian water rights were never discussed (Aliewi & Assaf, 2007: 27).

The Taba negotiations in 2001 did not lead to any progress in water dispute. The roadmap for peace in 2003 also did not make water a key issue in the negotiations, evoking water resources in the Occupied Territories only once, vaguely and in a purely regional context (Aliewi & Assaf, 2007:27–28).

The most common and popular principle of the international law is the distribution of common waters between states based on the principle of fair and reasonable use as it mentioned in this work earlier. This principle is based on the doctrine of limited sovereignty which states that, since all watershed supply basins are hydrologically interdependent, states cannot use the water located on their surface, but are required to take into account the other states that share these resources. However, this principle does not precisely determine the rights of each state that shares international watercourses. Rather, it sets out the factors to be considered in inter-state negotiations around the distribution. In the Israeli-Palestinian dispute, Israel rejects the riparian right of Palestine, arguing it is not an independent, sovereign state, and so it cannot benefit from the riparian rights (Niehuss, 2005:15).

CONCLUSION

This study is aimed to question whether the water crisis plays a crucial role in ongoing Israeli-Palestinian conflict and Israel's increasing oppression over Palestinians in terms of territorial domination. The first part of the study is dedicated to present a general aspect over states' oppressive policies, in the scale of realist theory in international relations and in particular realist perspective developed by Thomas Hobbes. Secondarily, a relatively new concept in economic and environmental studies, 'land grabbing' and 'water grabbing' phenomenon have been explained to give a broader acknowledge on the issue. The second part is focused on the global water resources and the definitions of water-stress and water-scarcity that later in the text shed lights over the problems that Palestinians face in occupied territories. After mentioning the international law on waters and general principles over shared watercourses, the last part of the study has explained the role played by water policies of Israel in the violence against Palestinians and found out several illegal actions and violations against international principles.

The study has discussed the strategic priority of water in Israeli politics. This has resulted in Israel's realpolitik for many years. This policy allows Israel to legitimize the appropriation of natural resources in the name of the interest and security of the state. Water is seen as a source of conflict rather than an opportunity for cooperation. The policy of disengagement and the fact that Israel does not want to discuss with Palestinian authorities appear to be additional obstacles to cooperation.

Palestinians and Israelis share the water resources even though this sharing is unbalanced. Beyond the amount of water they have, they face the same problems, especially the difficult maintenance of water quality. The problem of the quality of the environment and in particular the quality of the water could be an opportunity for both parties to meet and solve the issue. However, the current situation in the region is characterized by total political and economic asymmetry. As long as Israeli occupation in Palestinian territories persists, it appears difficult to establish a favorable cooperation between the two actors. From the economic point of view,

Palestinian capacity to cooperate is almost non-existent. Palestinians, in order to have some sovereignty, need supreme and independent political authority, power and well-defined territories, those include water resources.

The international dimension of the problem imposes an organization on a planetary scale, in order to make every effort to acquire the means to understand the particular stakes, to create the instruments and the institutions of a more effective and concerted management. The solutions therefore need a global relay, networks of experts and actors. The latter have also proposed plans for sharing and managing aquifers in the West Bank, based on prospects for the concept of minimum water requirement and giving rise to the presentation of several basic principles expandable to the set of disputes.

In order to choose cooperation over conflict, actors could consider setting up a regional water agency, which would depend on the United Nations, to guarantee its financing and credibility. The main purpose of this body would be to centralize technical data relating to water in the region and to disseminate all relevant information to the different governments. It would also be a forum establishing exchanges on the hydraulic techniques of each state. It could coordinate multi-state programs to exploit transboundary water sources.

However, the implementation of these technical proposals, to ensure better management of water resources, will not be enough to resolve the Israeli-Palestinian conflict. The Jewish state has always dispossessed the problem of water from its political aspect. Thus, water was relegated to second place in the peace process. Plus, to convince Israel of a more equitable sharing of water resources, which likely lead it to reduce its level of development and its prestige as "God's chosen people" is seems unachievable, at least in days of the Israeli-Palestinian relation reached over 70 years of history of war and exploitation.

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MAPS

Map 1: Water resources of Israel and Palestine

Source: Stauffer, T. R. (1996). Water and War in the Middle East: The Hydraulic Parameters of Conflict

Map 2: Israel and Palestine's use of aquifers

Israeli vs. Palestinian Utilization of 'Shared' Aquifers (mcm/yr)*

Aquifer Basin	Annual Recharge	Israeli Water Use	Settlement Water Use	Palestinian Water Use	Total Water Use
Western	362	340	10	22	372
Northeastern	145	103	5	42	150
Eastern	172	40 from wells	50	54	144
Coastal Aquifer	250	260	0	0	260
- of which Gaza	55	0	5-10	110	120

Source: PASSIA. *Water - Soecial Bulletin*. p. 3.

Source: PASSIA.org, http://www.passia.org/media/filer_public/04/ab/04ab4abe-8ccd-4d1f-9a64-be081a9e0de1/pdfresizercom-pdf-crop_66-page-001.jpg