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**WATER SCARCITY AS A WINDOW OF
OPPORTUNITY FOR A PEACEFUL SETTLEMENT
IN THE MIDDLE EAST**

By

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WATER SCARCITY AS A WINDOW OF OPPORTUNITY FOR A PEACEFUL SETTLEMENT IN THE MIDDLE EAST

RAYAN AMINE HAMMOUD

Abstract

Water shortage and the deterioration of water quality in the Middle Eastern region are alarming. The question of water shortage is becoming a salient issue and a prominent potential source of conflict. This thesis examines the various researches from various fields of study that have simulated forthcoming Middle Eastern water war, amid dramatic increase in water demands beyond national capacities. It examines the existing state of war between Lebanon and Israel and illustrates that unless a water cooperation arrangement is soon reached alternatives may yield grave consequences. This necessitates technical as well as ideological reorientations in national ideological discourses that shift attitudes and policies from a national to a regional development-based paradigm. The thesis demonstrates various models and possibilities for cooperation over water managements between Israel and Lebanon that can divert possible conflict and renewed war. An action plan with a water management road map is proposed to be implemented as to place the use of water resources efficiently and productively. The model can serve for multilateral cooperation to resolve the problem of water shortage in the Middle East.

Keywords: Water scarcity /Peaceful settlement in the Middle East /Water management /Water models/ Virtual water / Zionist ideology/ Water realities/ Water in the Lebanese ideology.

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CHAPTER ONE

I - WATER CHALLENGES IN THE MIDDLE EAST

1.1. Introduction

For much of the last century, the Middle East has been the hotbed of an ongoing conflict between the Arab states and Israel. The historical, ideological and geopolitical causes and characteristics of this conflict have long been discussed, analyzed and contemplated by numerous researchers and scholars from different areas of political science, history, international relations, diplomacy and conflict resolution. One of the many issues involved in and related to this chronic conflict has been the question of water resources, particularly as the Middle East is depicted among the most water-impooverished regions of the world. The question of water as a salient issue and a prominent potential source of conflict in the Middle East, however, has often taken a backseat when compared to other issues such as resolving issues of territorial borders, displaced people and other anodyne negotiations. While the question of water in these conflicts is not always addressed directly, it seems to resurface in any round of negotiations between the conflicting parties. In recent years, moreover, politicians on different sides in the Middle East have been referring to water as the most likely cause of the next outbreak of violence in the region. For example, Sayyid Hassan Nasrallah, the Secretary General of the Lebanese militant group Hezbollah, continues to refer to Israel's interest in Lebanese waters and warns that water resources will eventually be one of the major causes of violent conflict with Israel.

Similarly, Israeli leaders and officials have repeatedly announced the fact that water resources constitute an integral element of Israel's national security. This has also been seen in the actions and positions of the Israeli government over the years. For example, one major obstacle in the negotiations over land with Syria lies in the fact that Israel is vehemently opposed to allowing Syrians any access to Lake Tiberius, which constitutes Israel's largest reservoir of fresh water. During the Six Day War, the Israeli military strategy focused on occupying the Golan Heights from Syria and the West Bank, thus consolidating its control over the major sources of the waters of the River Jordan Basin in the former and over the main sources of fresh water aquifers in the latter (Shapland, 1997). Moreover, in the 1970s and 1980s, further military actions up north in Lebanon resulted in Israeli control of several Lebanese rivers until 2000, when Israeli troops finally withdrew from South Lebanon.

Ultimately, the wars fought in the region in 1948, 1956, 1967, 1973, 1978, 1982 and 2006 were not driven and motivated by water needs alone, but it is evident from the ensuing diplomatic tracks, negotiation positions and statements of politicians on both sides that water has been a salient factor in the ongoing conflict between Israel and its neighbors. Additionally, with the growing populations and inherent water needs in the Middle East, and with the intensifying scarcity of the quantity of water and the continuous deterioration of the quality of water sources in the region, questions related to water as a primary issue of strategic importance will continue to plague the region.

1.2. A Question of Perspective

Irrespective of the field of research or the area of interest from which experts on water resources in the Middle East come from, the main discourse on this issue seems to

assume a common position, namely that water was, is, and will be a major source of conflict in the region, particularly between Israel and its neighbors, especially Lebanon, Syria, and the Palestinians Territories (Al-Kattan, 1998). In fact, researchers, observers and practitioners from different fields often predict that the Middle East will sooner or later be on the brink of war over water sources, especially as the demand for water continues to increase dramatically at a time when supply is dangerously approaching its limit (Isaac, 2000; Tomanbay, 2000). Such predictions are not without merit. For example, Naff and Matson (1984) warned in the early 1980s that Israel's available water resources may be reaching their limit by the mid-1990s, possibly paving the road for a new war. Similarly, The Israeli Water Commission (2000) warned that Israel's projected water shortages will reach 445 million cubic meters in 2020. Zaslavsky (2001) also estimated that Israel's total water shortages will exceed 2,000 million cubic meters by 2020.

Figures on the estimated shortages of neighboring countries that share water pathways and sources with Israel, especially Lebanon and Syria, are scarce; but given the fact that 80% of the region's waters are inefficiently used for the continuously growing needs of agriculture and irrigation, as well as the fact that all Middle Eastern countries (with the exception of Lebanon) are classified as water-stressed or water-impooverished nations, it is not difficult to depict support for the pessimistic assumptions and predictions of future wars and violent conflict scenarios over water in the region (Bahloul, 2000; Baker, 2000). Additionally, Shapland (1997) points out that the political mindset in the region is still oriented towards war, especially over the question of water. For example, aside from the repeated threats that are frequently issued by Hezbollah officials in

Lebanon, Israeli officials have also repeatedly made it clear that they see water as an issue of national security. Furthermore, in 1995, Israeli Prime Minister Yitzhak Rabin mentioned that the greatest danger facing Israel during the ongoing cooperation negotiations at the time was the potential loss of control over the water resources of the Golan, especially Banias. Similarly, the Israeli Foreign Minister at the time, Ehud Barak, was adamant over Israel's position in refusing to allow the Syrians to return to the shores of Lake Tiberius for strategic water concerns when he said, "We don't want to see Syrian feet in the Kinneret" (Shapland, 1997, p.39).

While water war scenarios in the Middle East are by all means viable and legitimate, not only based on past experiences but also on the basis of the current hardliner positions of the different parties, other perspectives may also be possible. Despite the history of violence in the region over the past century, it is evident that these manifestations have not brought us any closer to resolving the water dispute, and it is unlikely that future wars will carry any of the conflicting parties to a final and permanent cooperation. Additionally, unlike other elements of conflict, water emerges as the only major factor that accords no respect or consideration to the political, strategic, military or geographic characteristics or interests of the involved parties. Not only does the issue of water impose its presence and realities on the political and strategic agendas of the nations in the region, but it is also, more often than not the only issue with which political leaders cannot practice the game of patience or the adopt a of "wait-and-see". Syria, for example, has adopted a posture of patience for over three decades in its negotiations with Israel, and Israel maintained a similar position during its occupation of South Lebanon for over two decades; but while questions pertaining to territory and borders can wait for

as long as politicians find an interest in playing the waiting game, water imposes its own rules.

Severe water shortages cannot and do not wait, especially in times of severe droughts that may last for years. Additionally, the deterioration of water quality, a problem facing all nations in the region, is also another serious issue that can only be resolved through measures taken in coordination by the different conflicting players that share water sources and pathways (Khalifa, 2001; Priscoli & Wolf, 2009). Political players in the region may be convinced for ideological or other reasons that they may be able to win water conflicts in the long term, but severe water issues often have their own schedule and are unlikely to offer hawkish political leaders and war-oriented ideologists the leeway they hope to have to resolve the conflict by violent means. Ultimately, peaceful alternatives must be considered.

It is out of these considerations that the perspective and rationale of this dissertation evolved. While the conflict in the Middle East may be among the most complicated on the international level, Aytemiz (2001) points out that 40% of the world population share international rivers and basins and that on various occasions, enemies have had to pursue alternative peaceful solutions as the only viable means possible to deal with their water needs and pressures. This has even been the case among some nations that have fought multiple wars over historic, religious and ideological causes as is the case in the Middle East and other parts of the world, such as Pakistan, Bangladesh and India.

1.3. Research Question & Objectives

The main aim of this paper is not to explore the potential solutions for water crisis solutions in the Middle East. Rather, the main objective is to explore the possibility of utilizing the problems and issues associated with water resources, as a potential window of opportunity to bring the conflicting parties in the Middle East together toward a peaceful resolution. This approach differs from previous approaches to the Middle East conflict in at least two ways.

First of all, it does not assume that the question of water is a residual issue that will be resolved along with the bigger cooperation package over land and borders. Rather, it holds that the conflict over water and the nature of the water crisis can be used as a means to set the conflicting players in a mode of cooperation and coordination that will help them address their shared water needs peacefully and that may set the groundwork for a wider peaceful resolution in the long term.

Secondly, this approach assumes that the water crisis in the Middle East represents a window of opportunity because of the very nature of water itself. To elaborate, the issues of a water crisis are pressuring, overwhelming and immediate by their nature. In other words, this is an issue that offers ideologists and politicians very little freedom to exercise political patience and procrastination, especially when considering the magnitude and extent of the effects of water shortages and of the deterioration of water quality on the economic and social interests of their constituencies.

Hence, the research question of this study is based on the recognition of transforming an existing source of conflict into a window of opportunity for peaceful cooperation as a first step toward additional cooperation-based initiatives in the future.

More precisely, the research question of this study is: To what extent can water issues be transformed into grounds of mutual cooperation and coordination between parties at conflict in the Middle East with special emphasis on Lebanon and Israel?

The study is limited to Lebanon and Israel for a number of reasons. First of all, addressing all water-related conflicts involving Israel and its neighbors would be a very extensive undertaking that cannot be possibly contained within a study of this size and nature, especially when considering the complicated questions involving different water resources (e.g. rivers, lakes, aquifers) with Syria, Lebanon, the Palestinian Territories and Jordan. Secondly, several of the rivers and other water sources are stretched geographically, making the inclusion of other nations even far more complicated. Thirdly, unlike other bilateral relations in the region, Israel and Lebanon do not have any major or significant territorial border disputes since the borders between the two countries are already demarcated and internationally recognized. This allows for a less complicated case setting by excluding other potential issues that may interfere with negotiations or agreements over mutual cooperation as the case would be with Syria or the Palestinian Territories, for example. Fourthly, the case of Lebanon and Israel offers an opportunity to explore the opportunities for peaceful cooperation over water from a number of angles because of the nature of shared and unshared water resources in these two countries since both countries share mutual water resources. At the same time, Lebanon possesses a number of water resources in areas that enjoy water abundance and which are located close to Israeli areas that suffer water shortages, thus presenting opportunities for water exchange and sharing schemes through peaceful means (Naff & Matson, 1984).

Needless to mention, while the starting point of the research question and of the research rationale of this dissertation may be perceived as utopian or unrealistic for a region that has become too accustomed to war, a number of factors make the consideration of such a perspective compelling. First of all, regardless of the intentions of any of the players in the region for war or cooperation, the fact that war has become a prohibitively costly option is becoming an increasingly recognized reality, especially in the light of the most recent outbreak of violence between Lebanon and Israel in 2006.

Secondly, even if the nations in the region still believed, for one reason or another, that violent conflict is a more viable option to resolve their water disputes, the fact remains that many of the problems pertaining to water quantity and quality needs cannot and will not be resolved without the cooperation of different players, and irrespective of whether or not they find this notion ideologically or politically acceptable. Water, after all, remains the only factor in this conflict impervious to the ideological or political considerations and interests of the parties involved in the conflict.

1.4. Principles of Resolving Water Disputes

The objective of this section serves to address the various principles and frameworks available with a view towards resolving water conflicts before relating it to the case study of Lebanon and Israel.

Although water issues and conflicts have been very common in the past, developments in international law to address such conflicts and concerns have been very modest, often requiring nations to resolve such matters on their own. As Kliot (1994) points out, the main obstacle to the development of international laws on water issues has

been the question of national sovereignty. In this context, several principles can be depicted.

Perhaps the oldest principle pertaining to water conflicts is the Harmon Doctrine, also known as the theory of absolute territorial sovereignty (Kliot, 1994). This concept is self-exploratory as it holds that nations enjoy absolute freedom to exercise their will with whatever resources lie on their territories regardless of what the needs or concerns of others may be. This doctrine, however, has proven to be highly unpractical and enjoys very little credibility today since it completely ignores the rights of other riparian nations that share these water sources.

Secondly, the absolute territorial integrity theory holds that the sovereignty of nations extends along with water paths. More specifically, this theory holds that lower-riparian states exercise sovereignty over the right to enjoy unaltered flows of water into their territories from upper-riparian states. Other theories, also suffering limited credibility or recognition, include the theory of prior appropriation doctrine, the doctrine of riparian rights, the theory of limited territorial sovereignty and the theory of equitable apportionment (Kliot, 1994).

On the other hand, the theory of equitable utilization seems to have gained significant traction and credibility internationally, primarily recognizing the rights of nations to use water resources to the extent that they do not harm the rights and interests of other riparian states. This principle gained support internationally during the UN Water Conference at Mar del Plata, Argentina in 1997 which stipulated, “In relation to the use, management and development of shared (international) water resources, national policies should take into consideration the right of each state sharing the resources to

equitably utilize such resources as the means to promote bonds of solidarity and cooperation” (Kliot, 1994, p.54).

In effect, however, the resolution of conflicts over water resources remains severely undeveloped in international law, often leaving nations to their own devices to seek solutions through negotiations, bargaining and cooperation. Ultimately, war and violence have also been among the options available to nations to resolve such issues.

1.5. Perspectives on Conflict Resolution

Interestingly, the literature on water conflicts seems to imply that water may be the likely cause of violence and war in the future on the one hand. On the other hand, however, it strongly suggests that water conflicts are often difficult or impossible to resolve through the use of violence or war.

1.5.1. Arguments against War

Priscoli and Wolf (2009) developed an extensive framework to support the claim that, in principle, the argument for water war (or the use of violence to resolve water conflicts and disputes) is not viable. To start with, the economic argument under this perspective holds that the economic costs of waging war over water is tremendously and prohibitively expensive to the point that it would discourage players from going to war to resolve their water conflicts. This may be particularly relevant in the Middle East. It is true that Israel succeeded in acquiring water-rich territories in the past, but this has not resolved its water shortage problems. In addition to this, the most recent war in 2006 was not only extremely costly both for Lebanon and Israel, but it also ended with the status quo maintained and without any territorial or real political gains for either side.

Additionally, even if a particular state were to annex a water-rich territory, making a permanent claim over such territorial gains is next to impossible. This is not to mention that the construction of any structures to improve the utilization of acquired water resources, such as dams, would be difficult because such facilities and plants would be easily subject to sabotage and destruction by the opponent.

Secondly, the strategic argument holds that even if nations used war to pursue a resolution for water disputes, they would still be unable to achieve their strategic objectives (Priscoli & Wolf, 2009). In the case of Israel and Lebanon, for example, it would be extremely difficult and costly for either side to achieve any strategic goals by going to war over water resources because of the demographic and geopolitical considerations (among others) of the terrain that make it impossible for any side to lay claims to land and water pathways and to impose a new strategic reality on the ground. Even at present, the state of tension prevailing in South Lebanon means that the Lebanese side is unable to make any real use of several of its water resources such as the Hasbani and Wazzani rivers. At the same time, Israel is unable to benefit from these rivers despite their close proximity to its borders. Going to war is unlikely to transform this situation, as the past three decades have shown that maintaining full and absolute control over the ground by either side is extremely difficult.

1.5.2. Arguments against Non-Cooperation

Even if nations chose not to go to war and held on to their grounds by maintaining the status quo, as is the case now in much of the Middle East, this does not constitute a solution to water issues and needs. To the contrary, the opposite may be true as water realities start to impose themselves. Priscoli and Wolf (2009) refer to this as the cost of

non-cooperation which they argue results in a number of serious losses for disputing and non-cooperating sides. First of all, even if nations chose to stall the conflict and maintain the status quo over water issues, the laws of water demand and supply do not recognize the status quo. Droughts, rapid population growth and economic development sooner or later impose their weight and water demands begin to press decision-makers to change their positions, especially when there is little or no room to expand the supply of water.

Secondly, problems related to water quality are also likely to emerge, overriding the fact that politicians prefer the status quo and imposing new realities on both sides (Priscoli & Wolf, 2009). When disputing parties do not cooperate, the use of water supplies in one or both nations will result in the deterioration of water quality to the detriment of one or both sides, especially in the long term. This may even occur in the absence of conflict. For example, in the case of the Orontes River, no conflict exists between Lebanon and Syria over the use of the waters of this river which springs from Lebanon and flows into Syria. Additionally, the Lebanese side has little need for the waters of this river whereas it constitutes an extremely important source of water for Syria. Nevertheless, the quality of the waters of this river has suffered over the past decades as a result of pollution on Lebanese territories, forcing the Syrian side to pressure the Lebanese government to maintaining the quality of the river waters (Naff & Matson, 1984). In the case of conflicting nations, the refusal to cooperate can even become more costly for both sides and may constitute a cause for continuously rising tensions that undermine economic and social development for both in the long term. In fact, the need for cooperation, regardless of whether riparian nations are at cooperation or war, is impossible to deny because it is not simply limited to issues of demand and supply; it also

includes other questions such as the need to protect water from diseases and pollution, and the extreme difficulty of implementing multi-use projects without the cooperation of other riparian nations.

Recent literature has also emerged on conflict resolution over issues pertaining to water and other resources, highlighting the need for cooperation among conflicting nations to reduce costs, maximize benefits and to generate benefits that cannot be otherwise attainable by either side alone. Among such models that will be integrated into the framework of this paper are those developed by Waterbury (1982), and Fisher and Ury (1981), in addition to the alternative dispute resolution techniques of conflict transformation suggested by Priscoli and Wolf (2009).

1.6. Scenario of Settlement and its complexities

Having elaborated on the potential water wars that could explode in the region and having introduced some possible resolution models that would be elaborated in later chapters, it is important to note that a scenario of settlement between Lebanon & Israel should be set forward to accompany any cooperation between the two parties. The conflict between Israel and Middle Eastern countries has been ongoing for many years and it is often assumed that an individual Israeli-Lebanese bilateral peace deal is not a realistic option. It is important to set it as part of a broader regional agreement. In addition to that, there are currently no ongoing negotiations between Israel and Lebanon in the larger frame of a passive regional peace effort of the involved parties. Given these facts, it should also be highlighted that the current US administration has articulated its concern to pursue a comprehensive peace on its agenda but this has been proven ineffective. Consequently, this lack of progress with respect to negotiations has

historically resulted in sporadic violence between Lebanon & Israel.

On one hand, Lebanese officials have been reluctant to engage in any negotiations with Israel because most undermine the Lebanese sovereignty. Additionally, the divisions and the complications of the Lebanese domestic politics have hindered or prevented the progress of this settlement between the two parties. On the other hand, the Zionist ideology refrains from accepting any negotiation since most of them involve withdrawing from currently occupied territories. Subsequently, a common effort should be made between the various divisions of the Lebanese domestic politics to agree on a common goal, by shaping expectations and explaining to the population that such settlement could be beneficial from a political, economic and social point of view. And Israeli officials should recognize that some compromise should be done to create this two-state settlement and that the intangibility of their Zionist ideology should be reconsidered for the sake of future generations. A concerted effort must be made to shape expectations of both parties taking into consideration the complexities that are currently preventing it from being realized. A successful implementation with Lebanon and Israel could eventually incite other neighboring Arab countries to put it back on their agendas which would prove to be a blessing for the blossoming of the region. To be effective, this settlement process between Lebanon and Israel would require a mutually trusted arbiter that would considerably facilitate the process and the two-state settlement should be approached as an incremental exchange of concessions between the two parties.

Ultimately, the objective of this thesis is to show that the potential water conflict may be seen as a starting point for this settlement between the conflicting parties by transforming

a conflict into a mean to create opportunities for promoting peace between the two countries and eventually setting an example to the region.

1.7. Conclusion

The conflict in the Middle East has been ongoing for many years now. The two sides to this conflict, the Arabs and Israel, may or may not reach a peaceful resolution over occupied territories, religious symbols and displaced populations any time soon. It may even be argued that neither side feels pressured to reach a permanent solution any time soon. While land and people may wait and politicians may easily play the patience and waiting cards for years, water issues follow their own agenda and may set a potential flashpoint for regional strife. The region is already suffering severe water shortages and every nation in the region, with the exception of Lebanon, is diagnosed with severe water stress. Whether the nations of the Middle East will prefer to wage water wars or not remains a real possibility, but better alternatives do exist and can and should be presented and promoted, not only to political leaders and decision-makers but also to the general public on both sides, as their most vital interests are at stake.

It is not the objective of this study to identify and analyze the causes, effects or potential outcomes of conflict in the Middle East, and the researcher has no interest in arguing the rightness or wrongness of historic actions of either side in the conflict. The researcher strongly believes that water shortages and other serious and relevant problems of water in the region can be transformed into an opportunity for peaceful and mutual cooperation among foes. By taking Lebanon and Israel as a case study, the researcher hopes to illustrate that peaceful and mutual cooperation can be possible, even in the

absence of cooperation, and that such cooperation may constitute the ground for future steps toward a final and permanent cooperation.

1.8. Proposed Possible Resolution Model

The proposed possible water resolution model is still in the process of development at this stage, but it is based on the following concepts and principles:

- Cost-benefit assessment for various parties, focusing not only on the economic costs and benefits, but also on the social, political and other economic consequences of cooperation, non-cooperation and violent conflict scenarios.
- The virtual water model and how the collective implementation of such a model can provide the actors involved with massive and diverse benefits that exceed any possible gains that may be attained by any conflict-based alternative.
- A project of the benefits of a cooperation-based model in the short, medium and long terms.

1.9. Structure of the Study

In addition to this chapter, the study will also include four other chapters. Chapter 2 will discuss the issue of water from the perspective of nationhood and its relevant ideologies with an emphasis on how Arab, Lebanese and Israeli national ideologies have contributed to the definition of water as a national resource and as a cause of conflict. Chapter 3 will present and assess the various water resolution models that have been proposed and/or implemented in various parts of the world including the Middle East, in addition to presenting the water resolution model proposed by the researcher. Chapter 4 aims at discussing the potentials of transforming national ideologies in the region

(especially in Lebanon and Israel) in a manner that will reinforce the success potentials of the proposed water resolution model and also with the objective of improving the potentials of cooperation in the future. Chapter 5 will be a conclusion of the study, but it will also present recommendations to the different sides of the conflict and reference to the potential role of third parties in supporting the water resolution model and the cooperation process, such parties including other states, international governmental organizations (IGOs) and nongovernmental organizations (NGOs).

CHAPTER TWO

II- NATIONAL IDEOLOGIES IN ISRAEL & LEBANON & THE CENTRALITY OF WATER

2.1. Introduction

The main objective of this chapter is to present the prevailing national ideologies in Israel and Lebanon and to discuss the centrality of water as an issue of national ideology for both parties. Naturally, water as a scarce resource for many countries is considered a matter of national security for many countries, but in the Middle East, one of the most water-impooverished regions in the world, water sources are of extreme importance. Additionally, water in the Middle East is not just an issue of national security, but, as this chapter will argue, it is also a matter of defining national identities and ideologies, both for Israel and its neighbors, particularly Lebanon. The first part of this chapter will define and identify the question of water in the Israeli national ideology whereas the second part will present the Lebanese point of view.

2.2. Water and the Zionist Ideology

Since the beginning of the transfer of Jewish immigrants to Palestine, the Zionist movement had focused on obtaining control of agricultural land and ensuring that Jewish settlers had access to water resources. With the Balfour Declaration in 1917 which constituted an official promise by Great Britain that Palestine would be a homeland for the Jews, the efforts of the Zionist movement and its associated organizations became more focused on obtaining, controlling and exploiting water resources. According to Frederiksen (2009), for over nine decades, the main objective of the Zionist movement

was “to garner control of the water resources of Palestine and some of those belonging to neighboring riparians [sic] as a means to attain a quite different goal: ownership of all Palestine” (p.78).

At first, there seems to be a major flaw in Frederiksen’s argument, namely the link between the control of water resources and the ownership of all Palestine. The argument stipulates that control over water resources will result in the control of territory. Logically, however, it is the control of territory that is essential for the foundation and establishment of statehood. As Berck and Lipow (1994) indicate, however, several factors have made water such a priority in the history and formation of the Jewish state, essentially turning Israel into what Kartin (2000) refers to as “the sacred shrine of water” (p.98).

To start with, the formation of Israel and its transformation into statehood is different from any other experience known in modern times. The foundation of the Zionist state was based on transferring immigrants from Europe and other parts of the world and permanently locating them in Palestine, the historic Jewish homeland. This process was initiated by the Zionist movement in the late 19th century. But despite enjoying international sympathy and support, several obstacles had to be curtailed from the outset. The first obstacle was attaining territorial control, and this was accomplished through a variety of peaceful means, such as the purchase of land, and eventually violent means such as military conquest. The second obstacle was the presence of local Arab Palestinian populations that had been attached to the land for centuries, and which enjoyed support and sympathy from neighboring Arab countries and populations. The

third obstacle was nation-building and promoting the ideology of nationhood and national affiliation in the populations of settling immigrants (De-Shalit, 1995).

For the founding fathers of the Jewish State, attaining control of the land in Palestine was only one major challenge. A much bigger challenge, however, was to establish a sense of statehood among the Jewish immigrants, to promote their permanent connection to the land, and to reinforce the permanent Jewish presence on the ground against the demographic threat represented by the fact that the territory was shared by local Arab Palestinian populations and neighbored by other hostile Arab states and nations to the south, north and east. The solution devised by the Zionist ideologists to meet these challenges was the focus on agriculture. According to Kartin (2000), agriculture in the Zionist mindset was not just an economic activity, but also a process of socialization and nation-building. Since the early efforts of settling Jewish immigrants, the Zionist movement vehemently focused on transforming agriculture into a highly-symbolic value associated with the deeply rooted values of Judaism and Jewish existence. De-Shalit (1995) moreover adds that agriculture and agricultural activity were transformed into fundamental ideological symbols that literally defined the Jewish state and society for most of the twentieth century and for several decades immediately after the establishment of Israel in 1948.

Berck and Lipow (1994) argue that the importance of agriculture in the Zionist ideology was essentially driven by the Israeli-Arab struggle, pointing out that cultivating and irrigating the land were the only effective means by which the Zionist movement could reinforce the bond between the settlers and the land in a politically and demographically hostile environment.

Kartin (2000) identifies three specific strategic objectives that justified the unusual emphasis of the Zionist ideology on agricultural activity as a defining factor in the history of the Jewish state. First of all, agriculture was seen as the best means to establish a bond between the settlers and the land, an objective that was of great importance since the Jewish settlers had come from different ethnic, cultural and geographic backgrounds and were only bound by religious affiliation and the dream of returning to the “Promised Land”. The second objective was to shape the character of Jewish settlers on the individual level, focusing on the fine and firm combination of farmer and warrior. The third objective was to reinforce and demonstrate territorial sovereignty and ascendancy since agriculture was perceived as the ultimate form of connection to the land and demonstrating permanent control over it. Thus for example, the Jewish state invested heavily in the development of the village of Even Mehanem, supplying it with water near the Lebanese border despite the complete lack of water resources in that area, and simply because Zionist leaders believed that the lack of Jewish presence in that region constituted a form of abandoning the land. Abandoning the land, from the Zionist ideological perspective, would be an unfathomable undertaking.

Given these historic, political and ideological concerns, agriculture, became a paramount national and ideological factor that was defined by the Zionist ideology, but which in turn became a defining factor of the Zionist and Israeli identity. According to Newman (2002), while the control of territory constituted the tangible dimension of the Zionist ideology in the conflict with the Arabs, agriculture and water constituted the symbolic dimension which “explains the deep sense of attachment felt by groups to the territory within which they reside and which is perceived as eternally theirs” (p.633).

In other words, while acquiring and controlling territory through peaceful or other means was relatively easy for the Zionist movement and its supporting groups on the ground, the real challenge was in establishing a sense of nationhood that permanently linked the settlers and citizens of the new nation to the land. It is for this reason that agriculture, and consequently water, had to attain such an unusual historical, religious, ethical, mythological and political importance in the Zionist ideology (Newman, 2002).

The importance of water, however, was not only limited to the ideological and symbolic dimension of state- and nation-building in Israel. It was also a matter of survival. According to Frederiksen (2009), at the time of Israel's inception in 1948, Israel controlled no more than 5% of the waters of the River Jordan. From the beginning, the political leaders of Israel realized that such a fact constituted a serious threat to the national security of a new state that was formed by war and that was already in a state of an ongoing war with its neighbors. In this sense, control over water sources was a strategic national, political and security priority for survival since, as Frederiksen (2009) further adds, "The control of water could be a devastating weapon in Middle East conflicts" (p.77).

In 1967, Israel successfully launched a surprising and devastating six-day war against Egypt, Syria and Jordan. At the time, Israeli political and military leaders justified their decision to go to war by a number of factors such as the rising tensions with Egypt and Syria, the Egyptian claim of acquiring new offensive missile systems, and other excuses, all which aimed to portray the war as an act of preemptive self-defense. Frederiksen (2009), however, argues that the real objective of this war was to expand Israel's control over the major water sources in the region, especially the fresh water

aquifer in the West Bank which at the time was under the administrative control of Jordan, and the Golan Heights, which was always Syrian territory and had never the subject of any Israeli territorial claims before the eruption of the military activities in 1967.

Frederiksen (2009) also points out that decades later, the former Israeli Prime Minister Menachim Begin confessed that the 1967 War had nothing to do with the Egyptian threats, which Israel considered unrealistic and tenuous, “but as a cover to occupy the Golan Heights and the rest of Palestine” (p.78).

2.3. Water in the Lebanese Ideology

Despite the difficulties and circumstances that accompanied the formation of the Lebanese state in 1924, and eventually its independence in 1943,¹ Lebanon did not have to go through a struggle similar to that witnessed in Israel as part of its state formation. Lebanon’s territories and borders have, to a great extent, been mapped and recognized internationally, sparing it the problems of border disputes that continue to characterize political and diplomatic relations in the region. More importantly, unlike its Jewish neighbor and the majority of the nations in the Middle East, Lebanon enjoys significant water resources as a result of its rivers, creeks and rich mountainous environment, not to mention the relatively high levels of annual rainfall.

Lebanon, however, has never maintained a consistent national ideology, a factor that is often considered, among others, responsible for the weakness of the central state and the continuous eruption of domestic and regional violence in this small country. For

¹ Lebanon was originally envisioned as a homeland for the Maronite Christians and it was only in 2009 that Syria finally made a clear statement that it had no historic claims to Lebanon, a declaration that was followed by the unprecedented step of exchanging diplomatic missions for the first time ever.

example, Lebanon was among the Arab nations that fought the Zionist project in 1948 and among those who signed the 1949 Armistice with Israel. Yet, the Lebanese state had always distinguished itself from other Arab countries with respect to the conflict with Israel in two ways. First, given Lebanon's small population and limited military capabilities, it considered itself as a state of support rather than as a state of confrontation in the Arab-Israel conflict, and hence was not expected to participate directly in military campaigns against the Jewish State. Thus, for example, Lebanon did not participate in the 1967 and 1973 wars between Israel and its Arab neighbors despite the fact that it shares its entire southern border and part of its eastern border with Israel. The second factor was the acknowledgement by Arab leaders that Lebanon had a unique political and demographic structure in the Middle East, and hence the need to spare it the burdens of the Arab-Israeli conflict. This was particularly maintained in 1958 following the eruption of the first Lebanese civil war with the historic meeting between Egypt's President Gamal Abdul-Nasser and the Lebanese President at the time, Fuad Chehab. Despite this agreement, however, the Lebanese remained essentially divided politically, with the majority of the Muslims calling for Lebanon's involvement in the Arab-Israeli conflict to support the Palestinian cause, and the majority of the Lebanese Christians insisting that Lebanon maintain a neutral status and be spared the consequences of such involvement.

Given these divisions and the complications of Lebanese domestic politics, Lebanon's strategy with respect to the water issue since 1949 has been what Khalifeh (2008) defines as the strategy of passivity or impotence (p.81). On the one hand, Lebanese official and unofficial discourses had always referred to the country's water sources as its "blue gold" (Khalifeh, 2008, p.83), but at the same time, the official

position of the state was always that Lebanon neither enjoyed excess waters nor suffered a water deficit.

Given the scarcity of data and statistics on Lebanon's water resources for decades, such an official claim often went uncontested. Effectively, however, there was consensus among water experts in Lebanon, as well as in other neighboring countries, that such claims were unfounded. However, Khalifeh (2008) attributes such claims to a number of strategic and ideological factors. First of all, by making the claim that Lebanon neither suffered a deficit in its water nor enjoyed excess supplies, the Lebanese state was attempting to adopt a preemptive but passive strategy to prevent Israel from making any claims to its waters, especially those close to the Israeli border or those in close proximity to the flow of the River Jordan. Since many of these water sources were unused or underutilized, Lebanese officials always feared that Israel would eventually mobilize the international community, initiate military action, or attempt in other ways to secure access to those water sources that are arguably of greater value to Israeli settlers in the north than they are to Lebanon's southern and southeastern regions. Indeed, such fears were not unfounded as Israeli politicians expressed the need to annex the Lebanese River Litani to the stream of the River Jordan, especially since Lebanon's use of its flow was almost nonexistent (Shapland, 1997; Khalifeh, 2008).

In the late 1960s, and especially after the Six-Day War which resulted in displacing hundreds of thousands of Palestinians from the West Bank, following by the expulsion of Palestinian militants from Jordan in 1970, Lebanon came under tremendous political pressure from its Arab neighbors to support the Palestinian cause by hosting Palestinian militants on its territories. Despite Lebanon's domestic political and

ideological cleavages over this issue, Palestinian militants were ultimately hosted in South Lebanon and other parts of the country. This Palestinian presence resulted in continuous skirmishes with Israel, the weakening of the central Lebanese state and eventually the outbreak of a long and devastating civil war that lasted from 1975 to 1990. In 1978, Israel launched Operation Litani which aimed at eradicating the Palestinian presence in South Lebanon. The fact that the Israeli troops stopped at the River Litani and the fact that the operation was named after the river itself aroused deeply-rooted suspicions regarding Israel's interests in Lebanon's waters (Naff & Matson, 1984; Khalifeh, 2008).

With the limited success of Operation Litani, Israel launched another extensive invasion in 1982 which, at its peak, resulted in the occupation of Beirut before the Israeli troops were withdrawn to South Lebanon. With this partial withdrawal, the Israeli presence maintained an occupied security belt that provided Israel with control over several rivers such as the Litani, Hasbani and Wazzani, not to mention other underground sources of water. While the Israeli invasion successfully ended the problem of the Palestinian military presence in South Lebanon, it resulted in the emergence of new forces of resistance to the Israeli presence, especially the Iranian-backed organization that eventually transformed into Hezbollah in 1982. In 2000, and after a long war of attrition in South Lebanon, Israel finally withdrew to its internationally-recognized borders. This state of affairs has basically remained unchanged since then, despite the 33-day war in 2006 between Israel and Hezbollah which resulted in international

intervention through the presence of a reinvigorated international peacekeeping force ² in South Lebanon (Khalifeh, 2008).

Throughout these years of political instability, Lebanon's national ideology in general, and with respect to the water issue in particular, seemed to go through a number of variations and transformations. For example, on the official level, the Lebanese state and most political leaders, as well as water experts, held on to the state's classic passive strategy which on the one hand claimed that water was Lebanon's untapped gold, but on the other hand claimed that Lebanon neither enjoyed a water excess nor suffered a water deficit. At the same time, Lebanese officials and politicians continuously accused Israel of water piracy.

Such accusations constituted an important element of the Lebanese ideology and strategy. To start with, given the Israeli military occupation, Lebanese politicians and experts had virtually no access to investigate the occurrence of such Israeli piracy, except from the scant reports by local residents. Secondly, Israeli politicians often referred to Lebanon's waters as a possible viable resource and solution for the water scarcity problems in the northern regions of Israel, but at the same time the Israeli government never took any serious political or technical steps toward developing a water policy in the occupied Lebanese territories. This is in sharp contrast with the 1981 declaration of the permanent annexation of the Golan Heights by the Israeli Knesset, a controversial step that has never been acknowledged or accepted by the international community or from the perspective of international law (Khalifeh, 2008).

² Please note that the United Nations interim Force in Lebanon (UNIFIL) has been present long before the 2006 war, its mandate was simply strengthened after the 33-day war.

Hence, except for a few limited incidents where the Israeli army actually installed pumps at river streams and wells for various usages, there seems to be no evidence of serious Israeli attempts to transform the flow of any of the Lebanese rivers during the years of the occupation. This may have also been attributed to a number of factors such as the continuous attacks by Hezbollah militants, the hostility of local residents and various other factors that may have made it extremely difficult and costly for Israel to consider such projects. In all cases, Lebanese officials and politicians continued to accuse Israel of water piracy and repeatedly raised this issue in international forums, occasionally resulting in investigations by UN envoys of such activities. Apparently, these complaints and accusations were aimed at achieving several objectives. The first objective was to impose as much political and diplomatic pressure on Israel to undermine any possible attempts by Israel to actually consider changing the flow of any of Lebanon's rivers into its territories or to install any significant projects on these rivers and other water sources. The second objective was to support Lebanon's territorial claims in South Lebanon in support of UN Resolution 425, which had called for the withdrawal of foreign troops from Lebanese territories, and to reinforce international pressure to prevent Israel from considering the possibility of annexing South Lebanon to its territories as it did with the Golan Heights (Khalifeh, 2008).

However, apart from these political steps and accusations, the Lebanese state did not really have a clear strategy regarding its water sources as per the conflict with Israel. More importantly, aside from the fact that the majority of water sources in Lebanon remained underutilized or poorly exploited, water did not seem to constitute an element of the Lebanese national ideology (Khalifeh, 2008). Interestingly, however, the

ascendance of Hezbollah as the primary military, political and social power in South Lebanon in the 1980s and 1990s tapped the question of water and considered it a matter of national security and ideology.

In the early 1980s, Hezbollah emerged as a local extremist Muslim Shiite group that attracted recruits from the Shiite villages in South Lebanon and the Bekaa Valley in the east. The organization enjoyed direct and extensive financial, political and military support from the Islamic Republic of Iran. To gain local legitimacy and overcome the accusation that Hezbollah was in effect a militant arm of Iran in Lebanon, Hezbollah capitalized on a number of steps and factors to prove otherwise. For example, it established numerous social and economic institutions that served the local communities at a time when the state was virtually nonexistent. Secondly, it gained significant legitimacy from its successful guerilla war against the Israeli occupation in the South at a time when many believed that the Israeli presence there would eventually become permanent as the case seemed to be in other occupied territories such as the West Bank and the Golan Heights. More importantly, however, Hezbollah raised the water issue as an element of national ideology and as a central theme to its political activity. The transformation of the water issue from a minor element into such a major issue in Hezbollah's discourse can be traced to a number of factors (Shapira & Minzili, 2009).

First of all, the water issue was often a question in which local farmers and residents had accused the Lebanese state of showing no real interest or serious consideration. Secondly, local communities in South Lebanon had for years, even long before the Israeli occupation, accused the Lebanese state of neglecting them and their socio-economic interests. The Green Project at Litani River, for example, was often the

subject of sarcasm among local residents since it was announced in the 1950s as the largest and most important developmental project that would change the economic and social face of the region, but in reality was never materialized by the state. Thirdly, aside from accusing Israel of committing water piracy in the south, the Lebanese state had never really taken any practical steps to secure its water interests, and its strategy had always been a passive one based on the claim that Lebanon had no excess waters to share or offer. Hezbollah's leaders, however, identified the sensitivity of the water issue and embarked on transforming it into a pillar of their ideology (Shapira & Minzili, 2009).

Hence, in several of his speeches before the Israel withdrawal in 2000, Hezbollah's Secretary General Hassan Nasrallah referred to Israel's interests in Lebanon's waters and its piracy of Lebanon's water sources. At the same time, however, he announced that Hezbollah's struggle against Israel would not stop at the liberation of the land and the people, but also at liberating water sources and ensuring that Israel had no access to these sources whether they were over the ground or underground. In part, such announcements resulted in raising awareness about the importance of the water issue among the Lebanese public, but they also constituted part of Hezbollah's strategy to gain legitimacy not only among their local Shiite constituencies in the occupied territories in South Lebanon and in the Bekaa Valley, but also among the general Lebanese public. In effect, this was part of Hezbollah's strategy to replace the legitimacy of the state in those regions by its own presence and power (Shapira & Minzili, 2009).

Even with the Israeli military's withdrawal in 2000, Hezbollah's politburo continued to refer to Israel's interests in and claims to Lebanese waters. Although the Israeli presence on the ground was no longer existent, such reference to water security

seems to have been primarily motivated by Hezbollah's domestic agenda for the future. Indeed, a decade after the Israeli withdrawal from the occupied Lebanese territories, Hezbollah continues to use the water issue, among others, as an excuse to justify its existence as the only military organization outside the control of the Lebanese state (Shapira & Minzili, 2009).

In simple terms, the argument is that the Lebanese state has never been able to maintain the water security of the nation but that Hezbollah has been successful in this respect and will continue to be so as long as it remains armed and in practical control of the territories in South Lebanon (Shapira & Minzili, 2009).

Without dwelling deeper into Lebanese domestic politics, the ascendance of the water issue as a result of Hezbollah's discourse and actions in the past three decades has resulted in a number of important transformations with respect to the Lebanese national ideology.

First of all, water has become a matter of national security and priority in the mind of many Lebanese for the first time. Secondly, water was transformed into an issue of conflict with Israel, whereas for decades many, if not most, Lebanese accepted the idea that Israel did not have any conflict-causing interests or claims in Lebanon's territories or its other resources. Thirdly, whereas in the past Lebanon's national ideology considered that Lebanon did not have enough waters to result in conflict with Israel, the current ideology that is shared by Hezbollah and most Lebanese politicians today holds otherwise that Lebanon's water sources constitute a primary issue of conflict and is a matter over which the Lebanese are willing to go to war.

2.4. National Ideologies versus Water Realities

Reinforced with symbols, deeply-rooted political and historic values, myths and various other elements, even the most irrational of national ideologies have often proven to be resilient in the face of political, economic and social realities and needs on the ground. It is such resilience that has enabled national ideologies such as Zionism in Israel, Arab nationalism, and different varieties of Islamic fundamentalist ideologies to survive in the Middle East. Water realities, however, constitute a unique challenge to national ideologies because they pay no heed to national, political, security, economic, social or other interests. As this chapter has illustrated, the political players in the region have resorted to a variety of politics and actions to circumvent the realities of the water factor. For example, Lebanon exaggerated its water scarcity for decades while enjoying an abundance of the resource, and in later stages, the emergence of Hezbollah as a force on the ground gave way to the possibility of a military option as a means to maintain Lebanese water interests. Similarly, Israel emphasized agriculture as a national, political, economic and social activity with significant symbolic value, and when this option clashed with water realities, the Jewish state resorted to military conquest to acquire additional water sources in 1967.

Whatever solutions had worked in the past, however, are highly unlikely to succeed in the future. To start with, the abundance of Lebanon's waters in an arid region such as the Middle East will sooner or later raise political, economic and international legal questions as to the rights of neighboring states to access and exploit those water sources, especially if these waters are left to waste. Similarly, Israel cannot rest on its laurels as the Palestinians continue to exert political and legal pressure on the Israeli

government to gain bigger access and usage rights with respect to the fresh water aquifer in the West Bank, which according to international law remains an occupied Palestinian territory. Similar issues face Israel with respect to the Golan Heights which Israel will have to consider returning to Syria as part of any future peaceful resolution between the two countries. This leads to a number of important assumptions in this study as will be argued and discussed in the coming chapters:

- Water realities will become impossible to avoid in the next fifty years as a result of population growth and the expansion of industrial and urban water needs, not to mention the dependence of the region on water-inefficient agricultural activities.
- Whereas Lebanon continues to enjoy abundance in water sources, the majority of its water supplies remain untapped, even despite the country's ongoing urban water shortage crisis in summer times every year.
- The option of military conquest is next to impossible, especially in light of the extremely high cost of military confrontations as became evident during the 2006 War between Israel and Hezbollah in South Lebanon.
- Simply put, the state actors can neither maintain the status quo nor change it through the conventional solutions established in their mindsets, namely with respect to military solutions or relying on costly technology such as desalination. Accordingly, their only realistic solution is to explore unconventional frameworks of cooperation that result in much higher and more productive yields.

2.5. Conclusion

Historically, the Zionist ideology of the Jewish State has, since its inception considered water as a matter of national security and a most basic element of nation- and

state-building, particularly with respect to its centrality to agricultural activity which for historic, religious, political and symbolic reasons has been considered a priority in the formation of the Israeli identity and in bonding the population to the land. In contrast, at least until the early 1990s, Lebanon's national ideology did not accord such importance to water and the Lebanese strategy had been one of passive preemption; that is, a strategy that aimed at disinteresting any Israeli claims in Lebanon's waters. This ideology, however, was effectively transformed during the Israeli occupation of South Lebanon and consequently as a result of the ascendance of Hezbollah as the dominant political force in that region, and eventually within the Lebanese state. As a result, the issue of water in the Lebanese national ideology constitutes a priority and a major potential cause for going to war or entering a violent confrontation with Israel.

Yet, just as the dominant national and political ideologies in Lebanon and Israel both prioritize the water issue and consider it a matter of utmost importance from the perspective of national security, water realities will sooner or later clash with the assumptions and intentions of these ideologies. Chapter 4 in particular, will show how this clash is inevitable and that the national ideologies in both countries will have to accommodate the new realities of water, because even the most extreme of solutions (e.g. the military option) may simply fail to provide either side with adequate solutions to their water needs.

The next chapter of this study presents a number of available water-conflict resolution models that have been proposed or implemented successfully in the past. The chapter also presents a number of theoretical and hypothetical frameworks that are proposed as grounds for a potential long-term-oriented solution for the water conflict

between Lebanon and Israel. In a nutshell, the next chapter is an attempt at presenting the variety of available possible solutions upon which cooperation efforts can be initiated, using the existing or potential water conflicts between the two countries as a catalyst to pursue cooperation.

CHAPTER THREE

III - POTENTIAL WATER MODELS TO PROMOTE COOPERATION BETWEEN LEBANON & ISRAEL

3.1. Introduction

The objective of this chapter is to present and discuss the potential water models that may contribute to transforming the scarcity of water sources from a possible cause of armed conflict between Lebanon and Israel into a means to create opportunities for promoting peace between the two countries. This view is based on a number of assumptions that have been discussed in previous chapters. First of all, the view assumes that water scarcity in the Middle East is a serious issue that threatens the political, economic and social systems in the Middle East. The second assumption is that conventional means may no longer be viable in the future, especially as water scarcity problems become too acute in the long term. The third assumption is that regionally-integrated and cooperation-based models yield better outcomes and consequences for the communities in the region, especially when compared to conventional unilateral and military options. Most importantly, this chapter will argue that conventional solutions and models may no longer be sufficient to achieve effective solutions in the Middle East and that countries such as Lebanon and Israel must start considering unconventional solutions, transforming water scarcity as a window of opportunity to initiate and achieve peaceful solutions.

This chapter will first reflect on the current situation and future expectations, as well as the options currently available for Lebanon and Israel. The second part of the chapter will discuss and critique the different water models that may contribute to

peaceful outcomes, with emphasis on Allan's Virtual Water model. Ultimately, this chapter will provide the theoretical and practical framework for the construction of a cooperation-based model that will be recommended at the end of this study.

3.2. Current Challenges

The current water situation in the Middle East as a whole can be best described as a situation of ongoing and chronic crisis, or as Azar, Juredini and McLaunn (1978) described it "a protracted conflict" that is characterized by the absence of a distinguishable point of termination (Quoted in Kartin, 2000, p.107). This current situation is further characterized by the severe limited availability of water resources which is coupled with a rapid increase in population and equally rising water needs.

3.2.1. Water Realities

This is not surprising given the fact that the countries of the region have run out of renewable fresh water sources since the 1970s, and at the same time their populations have been increasing dramatically. According to Drake (2000), the region had a population of 60 million only in 1950, but by 1999, the population had exceeded 300 million and it is expected to double to 600 million by 2035. At the same time, however, the already insufficient water supplies have been decreasing both in quantity and quality.

Qadir et al. (2007), for example, argue that in today's world a volume of 1,000 cubic meters per capita is perceived as critical for any nation, whereas an average of about 2,000 cubic meters per capita is needed to attain a comfortable standard of living for the respective population. Against these requirements, the realities on the ground in the Middle East are quite harsh. For example, in 2005 Lebanon maintained average per

capita renewable water resources of 1,170 cubic meters, a figure estimated to decline to 938 cubic meters by 2030, well below the critical threshold of 1,000 cubic meters posed by Qadir et al. In Israel, the situation is several times worse, with 254 cubic meters per capita in 2005 further estimated to drop to the severely low level of 190 cubic meters by 2030. Frederikson (2003) also points out that this situation is further complicated by the political, military and other factors which prevent several countries in the region from using their renewable water resources efficiently. Drake (2000) also illustrates these geopolitical charms by noting that over 50% of Israel's water flow is shared with its neighbors.

3.2.2. Limitations on Available Options

The current water situation in the region imposes a number of serious limitations on the governments and societies of the region. Lebanon, for example, is the only country in the region with excess water resources at present, but it has suffered a chronic water problem as a result of several factors such as poor planning and utilization of water resources, civil war and political instability (Khalifeh, 2008). Additionally, Lebanon also suffers the inability to use most of its water resources in South Lebanon as a result of repeated outbreaks of hostilities with Israel. For example, Wessels (2009) refers to the fact that in 2002, the Lebanese government announced its intention to make use of 315 million cubic meters of water flows from the Wazzani and Hasbani Rivers. Although both rivers fall within the Lebanese territories, the Lebanese government had to postpone its plans indefinitely as Israeli Prime Minister at the time, Ariel Sharon, announced that such plans would constitute ground for war between the two countries.

Israel, on the other hand, has been much more successful than Lebanon in exercising control over its extremely limited water resources. It has also resorted to military conquest and expansion to attain control over most of the flows from the River Jordan as well as the major aquifers in the West Bank. However, such solutions have proven to be less than optimal for a number of reasons. First of all, they have kept Israel in a state of ongoing hostility and complicated the possibility of cooperation with its neighbors. Secondly, Syria and the Palestinians have not given up on their rights in shared water resources and the possibility of the outbreak of violence over these water sources remains a constant possibility. Further complicating the matter is that, even with its campaigns of military expansion, Israel has only been able to secure part of its water needs. Hence, in the long run, Israel will be facing another serious water shortage problem.

In the face of water shortages, countries in the Middle East have often considered the possibility of relying on conventional solutions. Qadir et al. (2007) for example, refer to desalination techniques, a solution that has been pursued by Israel. Other possible solutions include seawater reverse osmosis processes, rainfall harvesting and the physical transportation of freshwater from water-rich countries. Frederiksen (2009), however, argues that such simple and unilateral solutions are unlikely to work for developing countries facing chronic and severe water shortage problems, not only because of the massive capacity of water needs that such solutions may not be able to provide, but also because of the enormous investment levels that these countries are unable to afford. Similarly, Drake (2000), points out that some solutions such as water desalination can

only be effective for specific purposes but are associated with very high costs, environmental harm and limited effectiveness for water-shortage problem solving.

Drake (2000) points out that administrative solutions can be useful in the short term, such as in reducing the allocation of water resource for certain activities pertaining to agriculture and irrigation which consume the majority of water supplies in the region. However, Isaac (2000) admits that such solutions may be impossible to attain in a country such as Israel, at least in the short term, because agriculture is associated with sensitive political, ideological, cultural and symbolic values that touch on the dimension of national security. More specifically, Fishelson (1994) argues that Israel must reduce the allocation of water to agricultural activities by at least 25% to better manage its water shortage problem in the short term, a goal that is politically impossible. Likewise, large communities still rely on agriculture and irrigation in Lebanon, making it difficult to consider such significant structural shifts in economic activities in a short period of time (Khalifeh, 2008).

3.3. Potential Water Models

Given the persistence and frequency of water crises in many parts of the world, a variety of water models have been proposed over the years. These models vary according to their assumptions as well as their objectives. One common category of models may be classified as unilateral, whereas others may be classified as multilateral and cooperative.

3.3.1. Unilateral Models

Unilateral models are generally based on traditional assumptions of sovereignty, especially territorial sovereignty and the rights and abilities of nations to use water

resources on their territories to achieve political, economic, social and other objectives. Examples of this model have already been discussed in this and previous chapters, but in a nutshell, they can be described as solutions pursued by an individual state to accomplish goals to address water shortage problems. Solutions under this model include efforts to balance water demand and supply through administrative solutions; these include efforts to increase supply through water importation, water desalination and processing, reuse of water, cloud seeding, and the reduction of demand (Shapland, 1997).

Problematically, however, unilateral models suffer from a number of weaknesses. Firstly, they are far from adequate when considered in countries that suffer from severe chronic water shortage problems, as is the case in the Middle East. Secondly, the cost-effectiveness of such solutions is highly questionable, especially when considering the massive water needs that must be covered by these solutions, as is the case in water-impooverished countries in the Middle East. Thirdly, various political, economic and social considerations are often stumbling blocks that prevent the effective implementation of such solutions. For example, although Israel is successfully using the water flows of the River Jordan and the underground water in the West Bank aquifer, political conflict, possible military action and legal claims by other actors continuously loom over such water utilization efforts, raising serious questions about the viability of such solutions in the future.

3.3.2. Multilateral/Cooperative Models

Unlike unilateral models, which are based on the ability of governments to initiate and execute actions and plans within their boundaries, multilateral models take a more comprehensive approach to the management of water shortage issues, often involving

integrated approaches and the involvement of the various riparian parties affected by any plans or actions with respect to the use of various water sources.

At the heart of multilateral and cooperative models of resolving water issues is the assumption that nations are willing to cooperate to resolve their conflicts over water. Piscoli and Wolf (2009) refer to the functionality theory of international politics which holds that states are willing to transfer sovereignty over matters of public concern to a common authority. In fact, this is exactly what Israel and several Arab states did in the 1950s when they partially transferred their sovereignty to the US as an independent negotiator in what became known as the Johnson negotiations over the River Jordan (Clawson, 2008). Ultimately, these talks and negotiations collapsed as neither Israel nor the Arab states involved had any real interest in cooperation at the time, especially as political leaders on both sides truly believed that military options could yield better results for their nations. Similarly, Ali (2008) argues that peaceful relations are not a prerequisite for achieving cooperative peaceful solutions and agreements over water. For example, sworn enemies such as Pakistan and India have successfully negotiated, executed and maintained a comprehensive agreement over the River Indus, and the agreement has withstood the challenge of repeated hostilities and wars between the two countries and continues to stand today.

In fact, although the Arab-Israeli conflict is considered to be both chronic and endless by many, the fact remains that Arab states and Israel have on a number of occasions negotiated openly and secretly over water. Additionally, the two sides repeatedly address water issues whenever the possibility of cooperative negotiations is raised. However, unlike negotiations over territories and other interests of national

concern, negotiations over water, according to Bencala and Dabelko (2008) require a transition in the mindset of the parties involved in the bargaining and negotiation process. The first phase starts with the traditional assessment of respective water rights by the different actors. In the second phase, the actors start identifying and analyzing their needs as well as defining the means by which water supplies can meet those needs. In the third stage of this transition, the actors remove the political boundaries from the map and start searching for constructive ways to share the benefits, thus turning cooperation over water into a de facto conflict-prevention tool.

Even within the context of a chronic, multifaceted conflict such as the Arab-Israeli struggle, the construction of cooperation-based frameworks on the basis of resolving water issues remains a possibility. For example, Gideon Fishelson of the Armand Hammer Fund for Economic Cooperation states, “The danger of war over water hangs over the heads of the Middle East countries, yet there is also the possibility of cooperation and harnessing new technologies and capital that would prevent such wars. Solving the water issue is one of the essential prerequisites to achieving a meaningful and lasting peace in the Middle East” (Quoted in Drake, 2000, p.303).

The promotion of multilateral and cooperation-based solutions may require more than just the good intentions of the actors involved, however. Frederiksen (2009) argues that the international community has a big role to play in the development and promotion of such frameworks, especially in cases of major conflicts involving developing countries. Parallel to the effective promotion of such frameworks of cooperation, international partners must not only provide technical assistance and infrastructure

financing, but they must also play a direct role in assisting the actors in negotiating peaceful solutions and in developing frameworks based on mutual cooperation.

Additionally, international players and intermediaries must also play a direct role in the construction of the infrastructure of the river basins and assist the involved parties in building the appropriate institutions and facilities that would enable them to develop regionally-integrated forms and systems of cooperation over water resources. The ultimate objective of these cooperation-based systems is to encourage the conflicting actors to acknowledge and maintain joint ownership of benefits (Frederiksen, 2009).

Similarly, Issar (2008) states several necessary conditions for the success of cooperation-based projects between nations to resolve water conflicts and problems. To start with, such projects must be comprehensive and their components must be integral on the regional level such that the costs and benefits are shared by the different actors. This contrasts with the traditional win-lose model which focuses only on maximizing the marginal benefits of the individual state. With cooperation-based frameworks, more sophisticated projects that yield multiple benefits for various actors become feasible.

Reaching such a mindset is possible, but only when the political leaders of the involved states begin to realize that water ignores political boundaries, and hence solutions must also ignore political restrictions and limitations. According to Wolf (2008), moving from a zero-sum mindset to the possibility of attaining synergies with water solutions requires not only comprehensive solutions, but also the realization that “water has an economic value in all its competing uses and should be recognized as an economic good” (p.55). In the context of the Middle East, it is noted for example that both Lebanon and Israel still perceive water as a resource with more political and

symbolic value than as an economic commodity. As a result, a major obstacle to approaching shared water issues in the Middle East from a cooperation-based framework is that the water conflict between nations such as Lebanon and Israel has become “institutionalized” (Barnaby, 2009, p.282).

Priscoli and Wolf (2009), on the other hand, argue that even with deeply-rooted attitudes and hostilities, cooperation over water issues remains possible, even if cooperation between the involved actors is unlikely in the foreseeable future. In this sense, conflict over water becomes a common bond that the conflicting actors can work on to achieve their common goals, possibly transforming this level of cooperation into a framework for achieving peaceful agreements over other more complicated aspects of the conflict. In such a framework, Priscoli and Wolf (2009) propose a model of four stages to transform water conflicts. In the initial change, intermediaries start to focus on trust-building between the different parties. In the second stage, the focus is on changing perceptions and on bridging the gap between the actors. In the third stage, the emphasis focuses on enhancing benefits beyond the immediate outcomes related to the basin or shared water flows. The last stage constitutes putting all elements of the solution together, focusing mostly on institutionalizing the solution and building organizational capacity to make the sharing of benefits both comprehensive and feasible in the long-term.

3.4. The Concept of Virtual Water

One of the recent and promising concepts in the field of managing water crises and issues is the concept of virtual water, also known as embedded or invisible water. The concept was originally developed by Professor J.A. Allan who defined virtual water

as the volume of water embodied in food crops that are traded internationally (Wichelns, 2001). To simply illustrate the concept of virtual water, Allan (1996) argued that states and communities tend to diversify their agricultural activities away from water-intensive crops to crops that consume less water. For example, since growing one ton of wheat requires 1,000 cubic meters of water, an economy can save one billion cubic meters of water by importing rather than growing one million tons of wheat. In support of the virtual water theory, Wessels (2009) argues that societies such as the Middle East can significantly reduce their water shortage problems by diversifying their economic activities away from agriculture.

In fact, Allan (1996) has actually argued that the different countries of the Middle East have used virtual water as a means to avoid dealing with their complicated and compelling water shortage problems. In other words, these states have taken advantage of the low prices of food grains in international markets to import food products rather than grow them, thus achieving significant water savings.

As a concept, Virtual Water Theory has been gaining increased support in various parts of the world. In supporting his theory, Allan (1997) argued that “the mechanisms of international trade in staple foods continue to operate with proven effectiveness to ameliorate the uneven water endowments of the world’s regions.” Kumar and Singh (2005) also found evidence of practices based on Virtual Water Theory in 146 countries. Additionally, Qadir et al. (2007) have reported findings of strong evidence related to the benefits and gains of applying Virtual Water Theory by Middle Eastern countries on the southern coast of the Mediterranean.

Ansink (2010) attributes the popularity of Virtual Water Theory to two central claims inherent in the theory. The first is the claim that virtual water trade will ameliorate uneven water distribution by using crops as vehicles of trade through which nations can compensate for their water shortages by importing water-intensive crops grown elsewhere in regions that are richer in water. The second claim holds that trade in virtual water reduces the potential for water conflict, mainly because it provides an opportunity for nations to manage their water shortage problems more efficiently through international trade arrangements.

On the other hand, Virtual Water Theory has faced a number of criticisms and challenges. To start with, a study by De Fraiture et.al. (2004) has found that the evidence of findings attributed to the trade in virtual water may be exaggerated and be leading to overly-optimistic conclusions. Similarly, Yang and Zehnder (2007) were unable to find sufficient evidence supporting the claim that Virtual Water Theory was widely applied; rather, they found that such evidence is strongly present in only a small sample of countries. Warner (2003), on the other hand, questioned the entire relationship between the international trade practices of nations and Virtual Water Theory, arguing that this relationship is not straight forward, and implying that in many cases such benefits are incidental. In addition to this, Ansink (2010) has questioned the soundness of Virtual Water Theory on the grounds that it does not fit within the traditions of classic economic theory, but on the other hand, has accepted that benefits can be explained on the basis of this theory.

The debate over the soundness of Virtual Water Theory will probably continue for years as the theory remains relatively new and in need of additional research to verify its

claims and assumptions. In principle, however, there is some form of agreement among many scholars on what Barnaby (2009) considers the main benefit of this theory, namely the tendency and willingness of poorer nations to diversify their economies away from agriculture in the hope of creating wealth more efficiently from industries that require less use of water.

However, insofar as this study is concerned, the main problem with Virtual Water Theory lies not in its assumptions, but in the framework that it adopts. At the basic level, Virtual Water Theory assumes that nations will take steps to manage their water supply challenges by importing water-intensive crops rather than growing them, thus ameliorating the water shortage problem. This assumption leads to two problems with respect to the Middle East crisis.

First of all, it leads to the conclusion that Virtual Water is unilateral in nature and that it does not encourage or invite cooperation among nations. Hence, a nation can simply manage its trade in crops to attain water gains without having to cooperate with other parties in any way, acting in a virtual vacuum.

Secondly, the theory leads to the conclusion that nations can escape the need for cooperation or consideration of peaceful solutions for their conflicts through the gate of water shortage management because they simply do not have to as the virtual water model informs decision-makers in these countries that they can solve the water shortage problem without having to communicate and cooperate with their neighbors or enemies.

3.5. Virtual Water & Cooperative Frameworks

One of the central assumptions of this study is that a peaceful future in the Middle East, especially between Lebanon and Israel can be attained through cooperation-based

frameworks aimed at resolving water shortage problems. The study also assumes that Virtual Water Theory is a promising theoretical approach that can be integrated into the proposed cooperation-based framework although in essence it may be argued to be of a unilateral nature. More specifically, Virtual Water Theory assumptions may be integrated into the schemes of regional planning of water management, not only between Lebanon and Israel, but also at the regional level since the water flows and its ensuing problems cannot be separated on the basis of territorial borders. This approach will be defined in greater detail in Chapters 4 and 5.

3.6. Conclusion

Potential water models to resolve water conflicts and water shortage issues between nations can be divided into two broad categories, namely unilateral and multilateral/cooperative. The interest of this research is focused on the latter category, specifically on schemes that are based on integral regional perspectives and which are comprehensive in nature. This chapter has also addressed Virtual Water Theory, which may be a promising component of future cooperative solutions in the region.

In Chapter 4, the study will focus on presenting the necessary changes needed in the national ideologies, discourses, attitudes and policies of nations, specifically with respect to Lebanon and Israel, to resolve their water issues and start paving the long road toward cooperation. The chapter will also discuss a number of creative and innovative approaches such as the virtual water model that can enable decision-makers on both sides to address their political commitment to unrealistic ideological positions.

CHAPTER FOUR

IV- RECONCILING NATIONAL IDEOLOGIES & REGIONAL COOPERATION

4.1. Introduction

As shown in Chapter 2, water issues occupy a significant position in the national ideologies of Israel and Lebanon. In the case of Israel, the use of water, specifically for the purposes of irrigation, agriculture and settling on the land, has been considered among the most important characteristics and aspects of the Zionist ideology (Drake, 2000). In contrast, although water issues have only recently started occupying a position of similar importance in Lebanon, specifically with the emergence of Hezbollah as a political party attempting to impose its political agenda, water is now perceived as a matter of great significance for the emerging Lebanese national ideology. In other words, both nations have allocated such value and sensitive attributions to the question of water that it has transformed into an issue over which they are willing to go to war. On the other hand, Chapter 3 proposed a number of models to address water shortage issues in Israel and Lebanon, specifically focusing on multilateral models of cooperation and presenting them as a superior alternative to the unilateral model in terms of outcomes and benefits for the parties involved.

Hence, whereas the ideological positions described in Chapter 2 perceive water as an essential cause of conflict between two ideologies and nations, Chapter 3 offers an alternative position that proposes water conflict as a possible path to cooperation aimed at the achievement of shared benefits. More specifically, the chapter will revisit the ideological positions in both countries and will attempt to explore possible windows of

opportunities through which amendments and changes in ideological perspectives and positions can be attained in order to promote mutual cooperation.

The first section of this chapter will discuss the concept and nature of ideologies in Lebanon and Israel. The second section will revisit the dominant ideologies in Lebanon and Israel from the angle of the water question and will attempt to identify potential windows of opportunity through which frameworks of cooperation can be introduced and promoted.

4.2. Ideological Discourses in Lebanon & Israel

In the most general sense, ideology may be defined as a set of beliefs, values and objectives that are shared by a group of people. A national ideology, therefore, may be defined as the set of beliefs, values and objectives, in addition to the myths and other elements and components that in a way define the building blocks of a nation and consequently allow the formation of the state that governs the nation. The main objective of a national identity is to act as the glue that brings the members of a nation together around a common idea that bears emotional, social, cultural or religious values. In addition to this, national ideologies often propose a central claim that aims at differentiating a specific nation from other groups, thus setting the boundaries with other nations. For example, a central claim in the Zionist ideology is based on the religious conviction that the Jews are the chosen people of God and that the return of the Jews to Palestine as a permanent homeland is a promise which is grounded in the Old Testament (Frederiksen, 2009). Irrespective of the accuracy and credibility of such claims, the power and effectiveness of ideology lies in the extent to which the members of the community are willing to share, promote, preserve, and ultimately act upon it. In this

context, the success of Zionism in the establishment of the State of Israel can be primarily attributed to the ability of the proponents of this ideology to promote its beliefs, myths and objectives among the Jewish communities all over the world despite their numerous and substantial cultural, ethnic, and other differences (Kartin, 2002).

Similarly, Arab nationalism as an ideology was successful in most Arab countries for a great part of the twentieth century because it successfully appealed to millions of Arab intellectuals who truly believed in the determinism and indispensability of unity among all Arab states in North Africa, the Arab Peninsula and the Levant.

Ideology, moreover, often thrives on the existence of a shared threat or enemy. In the case of Zionism, for example, the proponents of the Jewish State were very careful to capitalize on the fear of annihilation at the hands of hostile Arab and Muslim neighbors. Such fears of annihilation, although unrealistic and almost mythical, were in fact used as a means to design, justify and support many of the actions taken by consecutive Israeli governments, such as mobilizing national resources for war efforts and pursuing unpopular economic policies (Newman, 2002).

In a similar manner, Arab nationalism and more recently new variations of Islamic fundamentalism were able to thrive by exploiting the fear of Western and Zionist hegemony. It is in this context that the liberation of Palestine from Jewish occupation became a central theme in Arab nationalist discourse as a means to legitimize many Arab governments even when, in effect, none of these governments had any intentions of waging war against Israel. Accordingly, slogans of national ideologies in Israel, as well as in many Arab countries including Lebanon, were generally aimed at consolidating power in the hands of ruling elites through the mobilization of national support and

resources behind these slogans (a rally-around-the-flag effect) and by maintaining the legitimacy of the state and the political groups in control of the state.

In Israel, Zionism has consistently survived as the dominant national ideology and as the driving force behind state policies since the establishment of Israel in 1948. Despite the rise of religious and secular challenges both on the right and left extremes of the Israeli political spectrum, Zionism and its fundamental principles continue to thrive. In this respect, the single most important proposition is that Israel remains the promised land of all Jews all over the world. Another important principle and objective of Zionism is the need to settle Jews in the land of Israel permanently with close connection to the land. Also of relevance is the Israeli policy of universal military conscription which is based on the notion that the entire Israeli society should be prepared for war with its hostile neighbors at all times (Berck & Lipow, 1994; Kartin, 2002).

In contrast, Arab nationalism no longer constitutes a major national ideology in Lebanon. In fact, Arab nationalism as an ideology suffered a severe blow in the aftermath of the defeat during the Six-Day War. In the Lebanese context, this ideology suffered another severe blow as a result of the long civil war that afflicted Lebanon between 1975 and 1990. As discussed earlier, it is Hezbollah's ideology which incorporates both Shiite and national slogans that is currently attempting to dominate the political arena in Lebanon. Moreover, Hezbollah's ideology is of significant relevance as far as this study is concerned because of the fact that Hezbollah has been the de facto force on the ground in the south and east where Lebanon shares its borders with Israel. This is not to mention that Hezbollah and its allies have successfully controlled half the vote in the consecutive

Lebanese cabinets since 2000 and the wields, since 2008, veto power over any major cabinet decisions.

Although Lebanon may be home to several national ideologies at the same time, several basic principles and objectives can be identified. First of all, the dominant ideology in Lebanon accepts that cooperation with Israel is impossible and that Israel has permanent expansionary interest in Lebanon's territories and resources. Secondly, within the context of Hezbollah's ideology, much of which reflects the principles of the Islamic Revolution in Iran, Israel – along with the United States- is perceived as an absolute evil that must be annihilated. To compound this matter, both Hezbollah and its political opponents within Lebanon share the belief that Israel has a vested interest in Lebanon's water sources as a means to resolve its water shortage problems.

Lebanon and Israel share a long history of bloody conflicts which, in many ways, has contributed to the emergence of hardliner attitudes and policies on both sides of the border. In the 1970s, Lebanon was the target of several Israeli assaults while South Lebanon was the launching ground from which Palestinian militant groups waged a guerilla war against Israel. Following the 1978 and 1982 Israeli invasions of Lebanon, the long guerilla war that Hezbollah waged from 1982 until the final Israeli withdrawal from Lebanese territories in 2000, and the destructive 33-day war in 2006, the Lebanese-Israeli borders have finally enjoyed some peaceful stability, especially under the aegis UN peacekeeping forces in South Lebanon.

In assessing the situation on both sides of the border, a vicious cycle seems to prevail. To begin with, the existence and emergence of hardened ideologies both in Israel and Lebanon have fed the tensions and military conflicts between the two countries. At

the same time, the tensions and military conflicts seem to have fueled and promoted the emergence and persistence of these hardened ideologies (Barnaby, 2009). On the Israeli side of the border, Israeli politicians often capitalize on the conflict with Lebanon as an opportunity to mobilize support and power, with belligerent discourse threatening to bomb Lebanon back to the “dark ages”. On the Lebanese side, the conflict with Israel takes a symbolic value as a means through which Hezbollah attempts to legitimize its power and status as an armed non-state actor, often mobilizing support by threatening to annihilate Israel with weapons delivered from Iran and Syria, liberating Jerusalem and returning Palestine to the Arabs (Shapira & Minzili, 2009).

Despite the evident prevalence of hardliners on both sides of the border, this does not necessarily imply that ideological inflexibility and discourse completely negate prospects of communication and possible cooperation. In fact, through a number of intermediaries such as the German government and the International Committee of the Red Cross (ICRC), both sides have previously engaged in a number of communications even in the immediately aftermath of hostilities. These channels of communication were particularly prudent when it came to the exchange of prisoners and corpses. Hence, while neither side acknowledges the existence of the other from an ideological perspective, pragmatism often prevails when common interests are involved.

4.3. Ideology & the Water Issue Perspective

Chapter 2 identified and discussed the significance and relevance of the water issue for both sides, specifically from political and ideological perspectives. This section briefly sums up the ideological positions and the actual water realities in Israel and Lebanon with reference to economic realities and considerations.

4.3.1. The Israeli Perspective

As discussed earlier, water occupies an extremely important position in Zionist ideology, specifically given the strategic and ideological objective of attracting Jewish immigrants from all over the world and settling them in agricultural land. From a Zionist ideological perspective, water is not just a matter of national security, but it is also an issue of defining the national identity and a basic pillar for the survival and sustainability of the State of Israel. Hence, it is a matter over which the proponents of this ideology are willing to go to war, as indeed they have repeatedly in the past. On the political level, the Zionist ideological discourse pertaining to water has been manifested in a number of strategic policies. First of all, this discourse has been the driving force behind the hostile Israeli policy toward its Palestinian, Syrian and Jordanian neighbors, specifically in terms of the acquisition of land and control of water sources by military force (Al-Kattan, 1998; Shapland, 1998). Secondly, it has motivated the ongoing Israeli policy to refuse any peaceful settlement with Syria as long as such peaceful negotiations involve returning land rich in water sources to the Syrian side. Thirdly, it is this ideological discourse that has, since 1948, driven the Israeli national policy of allocating significant political, economic and logistic resources to support and promote agricultural activity and the settlement of agricultural communities in the various regions of Israel, including the most arid regions. As a matter of fact, it is as a result of the full commitment of the Israeli state to the Zionist agricultural strategy that over 75% of waters available in Israel continue to be allocated for agricultural purposes at the expense of other needs, namely industry (Drake, 2000; Isaac, 2000; Kartin, 2002).

From an economic perspective, various Israeli politicians, economists and water experts have repeatedly expressed their concerns over the matter, warning that the Zionist water strategy is not viable in the long term and that the national water strategy must change in response to economic, social and political realities. Economically and socially, the persistent Israeli strategy has favored agriculture and agricultural activities over any other economic and social activities that require water sources. However, the Israeli economy has transformed substantially since the 1970s with the emergence of a massive industrial sector, whereas the importance of agriculture as an economic sector has continued to decline. Despite these transformations, consecutive Israeli governments have maintained their commitment to the Zionist ideology, allocating the majority of the nation's water sources to agricultural activities (Drake 2000; Isaac, 2000).

By and large, several prominent Israeli water experts have warned that cutting water allocation to agriculture by 25% would resolve much of the nation's water problems and would create new opportunities for reducing Israel's tensions over water with its neighbors, especially Syria and the Palestinians Territories in the short term, and Lebanon in the long term. Most Israeli politicians, however, have responded to such calls in one of two manners. On the one hand, politicians aware of the economic and social realities of their national water problem simply choose to dodge the issue and avoid placing it on their political agenda altogether. On the other hand, the majority of these politicians have chosen to commit their agendas to the Zionist ideological principles, turning the water issue into a slogan to promote their political careers or mobilize support during election times or whenever their political fortunes declined (Drake 2000; Isaac 2000).

4.3.2. The Lebanese Perspective

While the Israeli perspective is confined to the predominance of the Zionist ideology in as far as the water issue is concerned, the Lebanese perspective manifests a number of complications. Firstly, as discussed earlier, the Lebanese State had historically maintained a passive discourse in which it claimed that Lebanon neither enjoyed water surpluses nor suffered water shortages. Secondly, the rise of Hezbollah as an armed non-state actor in south and east Lebanon has also resulted in the emergence of two different ideological perspectives in Lebanon; One that is officially endorsed by the state and which considers Lebanon as a state that supports the Arabs and Palestinians in their conflict with Israel, and another that is promoted by Hezbollah and which considers Lebanon as a state involved in direct confrontation with Israel. As far as the water issue is concerned, and despite their many and fundamental differences, both ideological discourses have been converging rapidly in recent years (Shapira & Minzili, 2009).

The convergence of these two ideological perspectives over the water issue can be attributed to a number of reasons. First of all, the problem of water shortages has been fast-metastasizing as a serious problem in Lebanon. Over the past decade, for example, agricultural, industrial and urban centers have repeatedly complained about water shortage problems. In the summer of 2010, for example, all Lebanese cities without exception suffered severe water shortage issues. Although these shortages are mainly caused by the poor management of water sources and supplies as well as the lack of investment in new water distribution networks, as far as the public conscious is concerned, Lebanon has now joined the rank of water-impooverished countries. Consequently, hardliner positions that consider water as an issue of national security, and

hence the readiness to support hostile actions in defense of water sources, now enjoy far more popularity and support than at any time in the past. Secondly, repeated Israeli statements revealing interest in natural resources that arguably fall within Lebanese territory or waters such as oil, natural gas and water sources have also created significant support for ideological and political discourse that endorse hardened positions against Israeli interest in Lebanese water sources.

4.4. Obstacles & Opportunities

The assessment of the water-related ideological discourse in Lebanon and Israel reveals a number of serious obstacles that prevent cooperation. To begin with, as a result of domestic and regional political factors, Israel continues to maintain its strategy of controlling as many water sources and as much water as it can, irrespective of whether this results in additional tensions and hostilities with its neighbors. Secondly, Israeli politicians exploiting water as a domestic political item on their personal political agendas has further placed Israeli policymakers in a tight spot as most are unable to retreat from these hardliner positions, even if these positions supported water-related policies that were economically, socially and politically counterproductive. Similarly, on the Lebanese side, the combination of water shortages caused by poor water planning and distribution, rather than the scarcity of water and fears of Israeli interests in Lebanese waters, has resulted in solidifying hardened political positions insofar as the water issue is concerned. Despite the growing chorus of pessimism, it is possible to identify several opportunities for a change in ideological positions and for cooperation with respect to the water issue. First of all, the Israeli policy is rapidly reaching the end of the road as Israeli experts are now warning that the current national water strategy is impossible to sustain

over the next few years unless the government takes substantial measures by reducing water allocations to agriculture by at least 25% or by expanding the supply, most probably through another war and subsequent annexation. Another war, however, must be with Lebanon where viable water sources lie, But as the history of the armed conflicts with and occupation of Lebanon has shown in the past three decades, the feasibility of such a sustainable military endeavor is not only too costly and dangerous, but next to impossible (Isaac, 2000; Wolf, 2008).

Secondly, Lebanon too has reached the end of the line with respect to its outdated water planning and distribution policies and will require massive modernization in this sector, in addition to substantially changing its strategic objectives on this issue. However, the Lebanese side faces a quagmire in water-rich areas, especially in South Lebanon. Not only is South Lebanon considered a dangerous zone as a result of the tensions between Hezbollah and Israel, but senior Israeli officials have repeatedly made clear that any attempts by the Lebanese government to construct major water projects in South Lebanon could result in immediate war or at least in the bombings of those installations. Although Israel does not contest Lebanon's rights to using most of the rivers and springs in South Lebanon, it has repeatedly expressed its concerns about Lebanese plans to divert the waters of the Hasbani River, whose flow, Israel argues, should be combined with the flow of the Jordan River (Wessels, 2009).

The Hasbani River dispute is in itself a source of opportunity for both sides to cooperate over since Lebanon has little use for this river since that part of the country is rich in a number of major springs as well as smaller rivers that efficiently provide water to agricultural lands. At the same time, however, the Lebanese are unable to make any

substantial use of most of their water sources in South Lebanon as a result of the ongoing tensions and the repeated Israeli threats to bomb and destroy any major installations that it suspects may be used to divert the flow of the Hasbani River (Priscoli & Wolf, 2009).

As a matter of fact, it must also be noted that while South Lebanon is relatively very rich in water sources, the adjacent region of northern Israel on the other side of the border is extremely water impoverished. While such geographic proximity and variation in water sources may be causes for conflict between Lebanon and Israel, the variation in the water needs by both sides can be transformed into an opportunity for cooperation if and once the two sides acknowledge the possibility of such mutual cooperation and once they perceive water shortage as a problem common to both of them.

4.5. Conclusion

Eliminating the ideological, political and other sensitivities from the picture, a distinctive image emerges. On the Lebanese side of the border, rich water sources flow without any real effective usage or exploitation. On the opposite Israeli side of the border, water-starved lands desperately await for solutions. The Israelis possess advanced technologies and industrial capabilities that the Lebanese lack and need. The Lebanese possess abundant water sources that exceed their needs in that region sources which they are unable to effectively exploit for technical, political and security reasons. It is within this context that opportunities exist to circumvent the tough positions that ideological discourse and political maneuvering have left politicians within Israel and Lebanon. Communities in both countries are starving for water and economic development, and what one country has in abundance; the other lacks severely and needs badly. It is within such a context that the water conflict between Lebanon and Israel can be transformed into

an opportunity for cooperation to resolve immediate water-related problems in the short term, and hopefully achieve peace-related objectives in the long-term.

In light of these potential opportunities for cooperation and peaceful agreement, Chapter 5 will propose a plan of action through which the opportunities identified in this chapter can be transformed into tangible policies and steps toward cooperation and peaceful resolution, both in the short term and long term. The chapter will attempt to reconcile the water models discussed in Chapter 3 with the opportunities identified in Chapter 4, ultimately resulting in a feasible and viable plan of action that overcomes the ideological and political obstacles identified in Chapter 4.

CHAPTER FIVE

V- CONCLUSION & RECOMMENDED ACTION PLAN

5.1. Introduction

The objective of this chapter is to present the conclusions of the research findings as well as the various water models that have been suggested or implemented previously. The second part of this chapter will propose an action plan for implementation as a means to achieve cooperation between Israel and Lebanon on the use of water sources in a more efficient and productive manner with the hope that the success of such a model will attract other parties to become involved in what can become a multilateral model of cooperation to resolve the problem of water shortage in the Middle East. More importantly, the proposed action plan rests on the assumption that attaining a peaceful model of cooperation over water may constitute a window of opportunity for additional initiatives to reach a peaceful conclusion of the Middle East conflict that has been raging on for much of the past century.

5.2. Summary & Conclusions

With the rapid growth in world populations and the pressing needs of urbanization and industrialization all over the world, water continues to be a source of tension and, occasionally conflicts among different nations. In many parts of the world, nations have opted for multilateral cooperation-based solutions. Such solutions have been implemented successfully not only between and among friendly neighbors, but occasionally even between sworn enemies. In the Middle East, tensions and conflicts have dominated the scene, especially in so far as Israel is involved. Except for a peaceful

agreement with Jordan over sharing the waters of the Jordan River, the approach to addressing water issues with other parties such as the Palestinians Territories, Syria and Lebanon has generally been unilateral, confrontational and conflict-oriented (Shapland, 1997; Al-Kattan, 1998). In addition to this, most water experts agree that the water supply in the Middle East has already dangerously exceeded the demand, which implies heightened risks of the outbreak of new conflicts over water (Drake, 2000; Isaac, 2000; Tomanbay, 2000).

Incidentally, however, the choice of war which seems to have been the preferred approach by Israel as well as other Arab states, may no longer be viable. Even with Israel's military superiority, its ability to acquire new territory and establish full control over water sources (as was the case in 1967) has been dangerously compromised as the July 2006 War clearly demonstrated (Khalifeh, 2008; Shapira & Minzili, 2009). At the same time, neither Syria, Lebanon nor the Palestinian Territories are in a position to initiate a military war over water against Israel. Political leaders on all sides are probably very aware of the fact that war over water has become too expensive and costly (Priscoli & Wolf, 2009), unviable and impossible to justify (Fredericksen, 2009). Realistically, this does not exclude the possibility that Israel and its neighbors will not go to war over other issues such as territorial or maritime borders or other national-security-related issues. On the other hand, however, the possibility that one side can wage a war over the other and ultimately acquire and control water sources in a way that makes it possible to use them in an economically or socially sustainable manner is simply unrealistic.

It is amidst these strategic paradigm shifts that the opportunity for alternative peaceful solutions emerges, especially as political leaders and decision-makers in Israel,

Lebanon, Syria and the Palestinian Territories become more aware of the parallel push arising from the futility of military solutions and the pressing nature of economic and social needs imposed by water shortages in the region. The search for innovative and creative solutions thus becomes a necessity that both sides will have to acknowledge sooner or later, and it is within this framework that this study falls.

The single most important conclusion of this study is that military action is no longer a viable solution for water shortage issues. While the Middle East remains at risk of military confrontations, it will by no means result in any practical solutions insofar as water shortages in the Middle East are concerned (Isaac, 2000; Issar, 2008).

Secondly, water shortage issues, in terms of quantity and quality, have already become the single most defining aspect of the water reality in the region, even in Lebanon which was historically envied for its water abundance and wealth (Drake, 2000; Zaslasky, 2001; Khalifeh, 2008).

Thirdly, there is strong evidence indicating that the ideological positions that have historically and recently dominated the political, social and economic arenas, particularly in the Levant, have become a burden in as far as the water shortage issue is concerned. In Israel, the predominant Zionist ideology that has, for over a century, driven the national ethos and contributed to the formation of Israel as a viable state and nation is now at odds with water realities. The allocation of vast water sources for agricultural purpose in the service of Zionist ideological objectives is simply impossible to sustain, adding significant pressures on political decision-makers in Israel (Isaac, 2000; Kartin, 2000). Likewise in Lebanon, the growing aggressive rhetoric that holds water as a sacred resource may have served the ideological purposes of Hezbollah and the Lebanese State,

but by no means does it provide any real and practical solutions, especially insofar as it creates a state of stalemate in South Lebanon where the Lebanese are unable to use their waters without facing the risk of instigating a military response from Israel which considers such actions a direct threat to its national security (Khalifeh, 2008).

Fourthly, the evaluation of possible non-military unilateral solutions and models such as water desalination schemes, water purchasing, demand and supply management and other similar means indicates that such solutions may only result in very limited positive outcomes and improvements in addressing the water shortage challenges facing countries such as Israel and Lebanon, and only in the short term. In the long term, however, these countries are not only faced with troubling prospects of hostilities between one another, but their continuously growing water needs indicate that the economic, social and political pressures that will emerge from the issues of water are unprecedented (Shapland, 1997; Zaslasky, 2001; Khalifeh, 2008; Wolf, 2008; Priscoli & Wolf, 2009).

Finally, the traditional perception of water on the social, economic and political level needs to be dramatically transformed in the Middle East. As a result of this demanded transformation, it is important to focus on the fact that water has no respect for political agendas and ideologies, economic realities or territorial borders. Water simply crosses through all these barriers and imposes its own agenda around which the political, social and economic factors must act. More specifically, water should be seen as an economic good, this would constitute the beginning of the shift in the mindset of the actors in the region (Allan, 1997; Wolf, 2008).

5.3. Recommended Action Plan

Before presenting the recommended action plan, it is important to review the assumptions upon which this plan is based.

5.3.1. Assumptions

Some assumptions should be highlighted on which the recommended action plan is based. Firstly, it should be noted that even when the risk of military conflict continues to persist, military solutions for water shortages are too expensive and costly and, above all, neither viable nor sustainable by either side. Secondly, acknowledging the fact that cooperation over water does not in any way imply that the actors will give up their sovereignty or their claims for other demands in relation to disputed territories or on any other issues related to the greater conflict in the Middle East. Thirdly, acknowledging the fact that despite the animosity involving nations, previous experiences show that even nations at conflict are capable of attaining viable and sustainable cooperation over water issues. In the Middle East, repeated experiences in recent history have shown that such cooperation is possible even at times of heightened tensions such as the exchange of prisoners and corpses between Israel and Lebanon on a number of occasions in recent years. Fourthly, with the current realities, the need for a trusted third party that enjoys an acceptable level of credibility in terms of its intentions, experience, expertise in water issues, and willingness and ability to provide technical and non-technical support to both sides. Although the United States qualifies as the most powerful mediator in the Middle East, its credibility has been repeatedly questioned, especially with respect to its flagrant support of Israel. Other actors, such as the United Kingdom, the Republic of Ireland, Germany, Turkey or the European Union may prove to be more effective mediators.

Ultimately, there is a need to minimize the political dimensions involved in the development of possible innovative and creative solutions for water problems, at least in the initial stages of developing the framework for cooperative solutions. Isolating the model from political interventions and ideological influences is essential to creating an alternative vision around which decision-makers may then have to make adaptations or introduce their own concerns and limitations. To accomplish this task, it is also important to mediate and encourage inputs from experts on both sides with the availability of technical assistance and expertise from the mediating side.

5.3.2. Objectives of the Action Plan

The objectives of this action plan are four-fold. Firstly, there is a necessity to create a forum for experts to develop a multilateral cooperation-based framework solution for the water problems facing Israel and Lebanon, and eventually other countries in the region at a later stage. Secondly, it should be accompanied by setting grounds to encourage the actors to reach viable solutions that can be isolated, or at least protected from the oscillation of tensions and risks of military confrontations in the region, while at the same time addressing the social and economic needs of the communities on both sides of the border and without ignoring the political and security realities on the ground. Thirdly, both the Israelis and Lebanese should be encouraged to perceive water as a vital economic resource whose scarcity shows no respect for political borders, security concerns or the diversity and distinction of economic and social needs. The ultimate objective in this sense is to carry both actors to one side of the table in the face of water shortage and its related problems as the real enemy.

Lastly, both the Israelis and Lebanese should be stimulated to search for, identify and consider innovative and creative solutions that circumvent political, ideological, military and security differences and fears, and in doing so, encouraging them to think of solutions that can be implemented effectively in a manner that maximizes mutual benefits and minimizes costs for the communities and political actors on both sides.

5.3.3. The Action Plan

The recommended action plan consists of the below mentioned steps. First of all, the need to initiate mediation efforts by a credible and experienced third party (e.g. a water or environmental consortium, or the departments of energy and water in a European country that is deemed acceptable by both sides). The mediation efforts must focus on getting the approval of Israel and Lebanon for this initiative by providing assurances that it has no political consequences for either side, while at the same time encouraging them to share information, data and knowledge on water-related issues. This step is also necessary to ensure that water experts from either side will not be subject to blackmail or intimidated by opportunist politicians or radicals. Secondly, the necessity to isolate the workings of the forum from political interventions, interferences, pressures or other factors and ensure that the generation of ideas is motivated by scientific and objective interests and goals. Then, the importance of creating effective and reliable means for the sharing and exchange of data, information, knowledge and ideas among the participating experts on both sides.³

³ While Israeli experts may not face a problem in participating directly, Lebanese experts are legally banned from establishing any direct communication with Israeli officials, experts or citizens. Such direct communications have occurred in the past, but only in secrecy or when all political actors, especially the state and Hezbollah, had accepted such direct exchange or communication to occur. Consequently, this is a

Thirdly, the importance of introducing previously and effectively tested models such as the experiences between India and its neighbors, the River Jordan agreement between Israel and Jordan, the Nile Basin agreement and various other case studies to derive lessons learned and possible guidelines for what should and should not be considered when proposing new working solutions. Fourthly, the requisite to develop several evaluation models, especially cost-benefit analysis and other economic valuation models while taking into consideration communal needs on both sides in order to achieve a shift in the mindset on water. This forum should also be an opportunity to engage in a simulation testing exercise of the virtual water model as a possible alternative. They should at the same time focus the deliberations and exchange of ideas on cooperation and projects of mutual benefits while acknowledging that they may be politically impossible. Although effective solutions may be reached eventually, political realities may prevent their execution. However, this can be changed through awareness campaigns that may require years of education, persuasion and lobbying on both sides of the border until the political perspectives and attitudes are changed.

Fifthly, focus on the benefits for the communities and economics on both sides with emphasis on development opportunities as opposed to the catastrophic outcomes of the current status quo and the limitations and costs of unilateral solutions. The findings of this step should also eventually become the foundation of awareness campaigns to be introduced both in Israel and in Lebanon.

Sixthly, an essential part is to invite water experts from other countries that qualify as stakeholders or that enjoy influence over the water issue in the Middle East, especially

matter that the mediator has to take into consideration with the possible solution of using indirect communication as a final alternative.

from Turkey, Syria, the Palestinian Territories, Jordan, and Egypt.⁴ And at the same time, also invite politicians from Israel and Lebanon to share the results and outcomes of the forum and engage political leaders and other potential mediators to consider the means by which the proposed solutions can be introduced despite the political and other obstacles on the ground. Ultimately, it is essential to present the results and outcomes to community leaders, NGOs and other social and political actors in both countries, as well as to other countries in the region, to trigger possible change in public opinions and to encourage civil society to participate in pushing for peaceful and effective solutions for water problems by initiating bottom-up pressure on politicians and decision-makers to change their attitudes and relax their hardened ideologically-driven positions.

⁴ Both Turkey and Egypt have in the past proposed a variety of water-trading agreements in addition to the possibility of building water pipelines extending over the entire region as part of a comprehensive peaceful agreement involving Israel and its immediate neighbors.

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