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## **The Effects of Water Deficiencies in Middle East**

**Dr. Mohammad Salim Al-Rawashdeh**

*Associate Professor, International Relations. Al-Balqa'a Applied University, Princess Alia College for Applied and social sciences, Hashimite Kingdom of Jordan- Amman*

**Dr. Hani Ahmed Al-Shboul**

*Assistant Professor, Political Science, Al-Balqa'a Applied University, Social science, Dept. Salt. Kingdom of Jordan.*

### **Abstract**

*The 'water scarcity indicator', on the other hand, indicates the required level of technological inputs in order to maintain self-sufficiency by states. More importantly, it indicates the economic rationality of each state's water management policies.*

*Water history archives allow us to gain an understanding of the development of landscapes, how water flows through them and alters its course with changing climatic conditions. It also gives an insight into the historic uses of this precious resource and the refined systems of water sharing that have been developed over the centuries. This documentary heritage thus forms an essential basis for the development of sound water management systems today, particularly in Mediterranean countries where scarcity is increasingly putting pressure on water resources.*

*The Middle East region has experienced many environmental concerns lately. Water resources are becoming increasingly scarce, especially for the millions there who already lack access to sanitary water. Some of these countries, including Yemen, the United Arab Emirates, Saudi Arabia, and Iraq, are facing unique problems that require global, immediate attention. Beside their neighboring locations, one shared factor of all these countries is their lack of water resources and poor water management.*

*The intensity of regional politics in the Middle East reflects the importance of each states perception of its rights of access to water. When the downward trajectory of regional surface water was first noticed in the 1960s, competition between states in the region for scarce water resources was such that it led to hostilities on a number of occasions.*

**Key Words: Water Deficiencies, water scarcity, Stalinization, desertification.**

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**Introduction:** The overarching water-related problem in the (ME) region is that of water quantity; water is a scarce resource. However, also water quality is emerging as an important issue and is of growing concern to the public. Other characteristic features in the region are that the water resources often are shared between two or more nations and a heavy reliance on groundwater resources. Besides posing threats of its own, climate change will act as a multiplier of already existing stresses and further affect water availability and quality.

However, the region is naturally water scarce and yet the water consumption is high. The countries are using more of their water resources than other regions; in fact, more than the region receives each year. The low water availability, in combination with a fast-growing population and inefficient water use—especially in the agricultural sector – leads in many places to an average amount of water per capita that is far below the scarcity level.

Aspects underpinning suboptimal water allocation, perverse economic incentives, and low water efficiency in a naturally water scarce environment, include: food security policies, a fear that poor people will be affected by reallocating water from the agricultural sector, political difficulties to raise costs of water for irrigation in areas where farmers are powerful, and lack of knowledge of how water affects the economy. These are inherently issues that should be dealt with at a national level, but with obvious regional effects. Understanding the connections between water and the economy is crucial.

The low water availability is a limiting factor for development in the (ME) region and it negatively affects household incomes, education, and nutrition and will have large social and economic consequences for the region. There are a number of links between human rights and “environmental security”. The human rights to food, work, shelter, health, and water, entitle everyone to adequate nutrition, livelihood opportunities such as secure tenure, and sufficient, safe, accessible and affordable water for personal and domestic uses. Fulfillment of these rights is challenged by water scarcity and climate change. A human rights approach to water in a regional context means, amongst others: identification of minimum water requirements and allocations for all; and catalyzing international agreements on water issues thus contributing to resolutions of watershed disputes and conflicts between different users.

The impetus for this volume is a common concern about the water crisis facing countries around the Mediterranean, the Middle East and beyond. We recognize there are serious problems of scarcity and pollution, especially in the south and east of the region. We also know that increasing population and global climate change suggest that the problem will steadily increase unless something is done. The environmental dimension is often ignored in discussions of the current political and social crises in the region. In fact the environmental and political crises are intimately linked.

Rivalry between countries over scarce water resources is likely to get worse. Turkey’s massive dam-building project in eastern Anatolia has made Syria and Iraq dependent on that country’s benevolence. In a serious crisis, agreements between riparian nations over shared watercourses are only as valuable as the paper they are written on. The agreement between Syria and Jordan over the Wahdah Dam on the Yarmouk River continues to be a serious source of tension. In the West Bank, the Israelis and Palestinians have a precarious water-sharing arrangement under an interim agreement made in 1995 which was intended to last five years. It gives Palestinians an inadequate share of the Mountain Aquifer, but since Israel holds a position of superior power, the agreement is not likely to change in the near future.

On the other hand, it is clear that modern technology alone can no longer solve the water crisis we face, though it has indeed contributed to resolving some of today’s water challenges. In the Mediterranean and the Middle East, the depletion of aquifers, Stalinization, desertification, water scarcity and flooding are growing problems that neither modern technology nor traditional knowledge alone can solve. In this sense, new connections between past and present water management models and know-how are more necessary than ever.

Future water challenges in the Mediterranean and Middle East call for innovative, creative, interdisciplinary combinations between past and present knowledge, particularly with regards to the development of more sustainable water management models.

Moreover, the Water resources that cross national borders place the countries sharing the resource in a state of interdependence. This interdependence is often asymmetric, due to the upstream downstream divide, and due to regional power structures. Some 60% of the ME region's water flows across international borders. The major international rivers are situated in the Middle East, comparing the Northern Africa's shared waters are mainly groundwater resources. In general, water supply and sanitation are not considered to be Trans boundary issues, with the exception of Gaza/West Bank where it is linked to trans boundary ground and surface water resources.

Even without climate change, the region will exceed the limits of their economically usable land-based water resources before 2025. Adding to already existing stresses, projections assess that the warming in the (ME) region will be higher than the global mean warming and rainfall across the region is likely to decrease leading to a general decrease in water availability. The main climate risk in the (ME) region is thus related to increasing variability and extremes (in particular droughts), and resulting uncertainty in water availability. Sea-level rise will affect the coastal areas (10,000 km of coastline) and may have negative effects.

Water in the Middle East is political and the challenge for effective and beneficial management lies in convincing politicians of the solutions to save water. In fact, the technical solution to solve the water demand crisis lies mainly in just consuming less water in agriculture. Expensive desalinization is not always necessary if water users can work together managing the water demand and curtailing the amount of water that irrigated agriculture requires. However, a long history of mistrust perpetuates competition between and hampers cooperation in governance; whether it is sharing the Nile or Euphrates basin, using a common quant tunnel, or sharing a water supply system such as the Mountain Aquifer between the Palestinian West Bank and Israel.

Meanwhile, the storm water drainage and sewage disposal, and adversely affect groundwater resources through saltwater intrusion into coastal freshwater aquifers. Increased temperature will lead to higher evapotranspiration and affect water availability and quality of both surface and groundwater resources.

Moreover, Water governance in the Middle East is severely hampered by the instable political situation, a lack of coherent laws and incompatible political interests. Cooperation around shared water resources is intimately linked to politics and issues of sovereignty, and is in the Middle East mainly limited to bilateral agreements rather than on a watershed basis. In northern Africa, also cooperation around the Nile basin is heavily politicized. Historically, water has more often been a subject of cooperation than violent disputes. When disputes do occur they are mostly incidents at the sub-national level, and low water quality is often a cause. Although water is seldom the sole cause of disputes, it can act as both an irritant (make good relations bad and bad relations worse) and as a unifier (in basins with relatively strong institutions). A great reliance on Trans boundary water resources translates into the potential for large-scale conflicts because changes in the amount of water that a country is receiving can significantly impact the viability of that country's economy, especially when the largest user of the country's water is agriculture. Making the situation even more complicated is the presence of disputed lands and occupied territories. Since boundaries between sovereign nations e.g. in the Jordan River basin are not completely resolved, water sharing agreements are relatively non-existent.

**Water Strategy, Problems & Challenges in the Middle East:** A nation is considered “Water Stressed” if its total renewable freshwater resources are between 1,000 m<sup>3</sup> and 1,700 m<sup>3</sup> per person annually. However, “Water Scarce” nations have an average of less than 1,000 m<sup>3</sup> of renewable fresh water per person annually. 12 out of the world’s 15 “water scarce” nations are Arab countries and located in the Middle East. The Middle East is considered one of the driest and thirstiest areas in the world, and will experience severe water scarcity by 2020. In 2030, Arabs would have to live on around less than 500 m<sup>3</sup> of water yearly.

The Middle East has experienced many environmental concerns lately. Water resources are becoming increasingly scarce, especially for the millions there who already lack access to sanitary water. Some of these countries, including Yemen, the United Arab Emirates, Saudi Arabia, and Iraq, are facing unique problems that require global, immediate attention. Beside their neighboring location, one shared factor of all these countries is their lack of water resources and poor water management.

Water is allocated in these countries for consumptive uses in the different purposes of municipal, recreational and industrial purposes; in irrigation and fish farming for agricultural purposes; and for non-consumptive uses, mostly in power generation, and in transportation. The bulk of the consumptive water use is in irrigation. Except for the Fertile Crescent, and the southwest corner of the Arabian Peninsula, plant production in the Middle East is not possible without irrigation, a practice known by the people of the region for millennia. Irrigation in south Iraq was initiated some 6000 years ago, but was interrupted due to water-logging and soil degradation. In the valley of the Nile, however, it has been sustained since it was first practiced some 5000 years ago. All irrigated agriculture depended on surface water drawn primarily by gravity from the rivers of the region. Rain-fed agriculture started in the Fertile Crescent many thousand years before.

**Turkish case as a model:** Water has already become a political pressure exerted by some countries, which controls the headwaters of rivers or water sources to countries shared and riparian with it in the same water source tools, as do Turkey towards the riparian States with her, where it is often used Turkey aquatic relationship with Syria and occupied Iraq as a source of political blackmail and a means to achieve political and economic gains, where Turkey is seeking, through head water sources of rivers that flow including the Tigris and Euphrates to impose political and economic dominance of therestoration of the historical legacy of the Ottoman empire before its disintegration after the first World war in 1918 and the establishment of the Turkish Republic control.

Turkey's water weapon aims to put pressure on Syria and occupied Iraq to achieve several political gains from one side effect on Syria regarding PKK as the leader of Workers' Party (Abdullah Ocalan) was staying in Damascus and came to the point of military confrontation in the mid-nineties, but the endeavors made by Egyptian President Hosni Mubarak resulted in the signing of the Agreement (Adkheneh) or Adana in October 1998, which ended the presence of PKK in Syria and led to the expulsion of party leader from Syria.

There are several goals for Turkey that has been trying for some time to achieve in occupied Iraq now through compressed by water first-political, economic and possibly expansive and the other, Turkey is still considered the state of Mosul of its regions, an area that now includes the provinces (Mosul, Dohuk, Arbil, Sulaimaniya , Diyala) and now accounts for the provinces (Dohuk, Arbil, Sulaimaniya) Kurdistan region where the Kurds are the majority of the provincial population, where Turkey fears that this status enjoyed by the region, which is like a set federal extended powers away from central DC - Turkey fears this situation probably will be a political motive for

Turkey's Kurds for demanding an asymptotic situation obtained by the Kurds of Iraq, and the large presence of the Turkmen in Kirkuk of the factors that drive Turkey to use water in the political pressure on the Kurds of Iraq and that Iraq's possession of huge fortunes oil and metal quantities and economic push Turkey to put pressure on Iraq through the use of water perhaps as one of the methods of economic pressure as the water is pure Turkish fortune wealth as oil.

water plans for Turkey were revealed by the statements made by senior Turkish officials as stated by former Turkish Prime Minister "Tansu Ciller": "This our waters and our right to sell our water to those who we want," and that while talking about the project to establish a pipeline of peace for the transfer and sale of water from the Euphrates River to the Gulf Arab countries and the Zionist entity, and confirmed by the Turkish prime minister, who followed Tshiller, "MesudYilmaz," saying: "Our water is our oil and if there someone who is satisfied of sharing his oil with others, Turkey is ready to share its waters."

**The Israeli interference :** The Zionist entity throughout history, even since before the occupation of Palestine practices political pressure over water projects and suspicious water acts in the Arab region and most recently the Zionist entity of pressure on Egypt, through his coordination with Ethiopia to tamper with the Nile River to influence the share of Egypt and Sudan together, by providing financial assistance to Ethiopia for the construction of dams on the river, with the presentation of the Zionist ambitions in the waters of the Arab region and is derived from an ancient racial motives settlement of regional expansion, and thus water is for the Zionist entity is vital a strategic resource that worth military wars for fighting.

Before the establishment of the Zionist entity, Jews have established range of water projects indicate an early interest in the issue of water, such as the drying of Lake Hula in 1934, and the Rothenberg project to use the waters of Jordan and Yarmouk rivers in 1927, and the Eonidides project in 1938 for the study of water resources in Palestine, and Edwarproject in 1944 to study water resources in Palestine and the possibility of their use, and Heyzerproject in 1946, and after 1948, studies and projects were done to share and regulate the use of the Jordan River and its basin notably Johnson project in 1955 and the Zionist entity, the transfer of a large part of the Jordan River to the Negev desert has been prepared, which is now stealing water Gaza Strip cross-connecting and transferring to the Beersheba area through tubes.

The ambitions of the Zionist entity is very large and dangerous use of water as a key element in the Arab-Zionist conflict, where the water is one of the most important political and military strategy of the Zionist elements in order to relate to plans of expansion and settlement in Arab territories. These include ambitions in the Arab water resources of the Jordan River and its tributaries and the Yarmouk River and the water fountains in the Golan and collapsed the Litani and the Hasbani and Wazzani in Lebanon. In addition to the theft of groundwater in the West Bank and Gaza Strip for the benefit of the colonial settlements

The extent of the Zionist dangerous infiltration on water resources of the Arab by the support and blessing of the US which can be illustrated through explain is water plans as follows:

**Occupied Palestine:** The Zionist authorities controls about 81% of the total Palestinian water resources, amounting to about 800 million cubic meters annually where Palestinians get 120 million cubic meters, while the amount of water used by the Zionist entity billion cubic meters, 65% of which are taken over by the West Bank and Gaza Strip and the Golan Heights and southern Lebanon.

The Zionist entity is struggling through its settlement projects in the occupied Palestine to keep full control over the expropriation of water sources by direct occupation, and this is what explains the bulk of the amount of the Palestinian Water will remain west of the barrier racial, which will isolate Palestinian towns and villages in the West Bank into cantons desert in the face of settlements and settlers, where settlers consumed in 2006, six times as much of the Palestinian citizen.

Experts stressed that the Arab water security remains under threat, because of Zionist policy and that any political solution to the Palestinian issue will not happen except through the water issue.

After the signing of the Oslo accords in 1993 between Israel and the PLO which agreed to establish a committee for cooperation and coordination in the water issue, the Zionist entity has pledged in 1995 to increase the share of West Bank water, which is starting Palestinian water seized in 1967.

**The Strategic water policy of Israel:** Israeli ambitions appeared on Palestinian water since the establish of the state in 1948, where is the water was in the top priorities of the Zionist entity, subject so it was the decision to nationalize the water in 1949, which made it clear to the public domain of the state and control of groundwater and surface water and the artesian wells including River Basin Jordan and what posed the most fertile agricultural areas.

The Israeli entity consumes 500 million cubic meters of Palestinian groundwater before 1967 and increased the seriousness and horror of it after its occupation of the West Bank and the Gaza Strip and the Golan Heights in 1967, and recurring needs of southern Lebanon, where was able to control the water resources in those areas, as evidenced by so what carried out by the Zionist entity recently the establishment of a water dam in the Golan Heights near the ceasefire line.

The Israeli entity transfers all powers on water to the military government full authority and granting military ruler in relation to water, the right to reject any license without giving reasons and became all Palestinian water resources belong to the Israeli entity and restricted dig artesian wells and dug wells along the armistice line with the Gaza Strip to the depletion fresh water and drilled several wells within the Israeli settlements.

**The separation wall in the occupied Palestine and Israeli strategy of water:** Experts stressed that the establishment of the Israeli entity to build the apartheid wall complies 100% with water basins path and groundwater wells in the West Bank, which confirms the goals of Zionism own control in private that, the Israeli individual consumes about four times the Palestinian citizen consumption and consumes, the Zionist settler in the West Bank Water about 7 times the Palestinian citizen.

The Israeli entity in cooperation with the Israeli Water Authority (Mkrot) drilled 500 wells along the West Bank border with the Zionist entity and the northern border in the Gaza Strip are working 18 hours a day, and inject massive amounts of Palestinian water reservoir and wells up to the main water-bearing strata groundwater basins west and north-east, leading to the withdrawal of large amounts of water from the basin for the benefit of the settlements and the transfer of a large part of them into the entity and in addition to that, the Israeli entity linking the two basins Jawvien east-west and north of Lake Tiberias through the main water network by country project and this has been diversion of the Jordan River and the resources section of the western basin of water to the Negev in the southern part of the state.

The Palestinian self-rule agreement signed in September 1993 with the Israel has touched on the water conflict between Israel and occupied Palestine, for the first time he said publicly, for the Palestinians, that they have rights that cannot be abandoned in the groundwater of the West Bank,

and provided autonomy to form a committee agreement (Palestinian / Zionist) joint water management in the West "in theory" but later "practically show" that Zionist settlers consume four times as much as Palestinians of water, and with the increasing Jewish settlement immigration, aggravated water to the Palestinians a problem, in addition, the self-rule agreement stipulates that the Palestinians get through the transition period to (70 to 80) million m<sup>3</sup> of water per year and this hardly covers only household consumption for the Palestinians of water.

**Lebanese water strategy:** The Lebanese water sector is facing shortcomings both on the infrastructure and management fronts. The core objective of the Country Water Sector Assistance Strategy (CWSAS) is to define an operational plan for World Bank involvement in Lebanon's water sector 2012-2016 in support of implementation of national water strategy. In March 2012, the Lebanese Government officially adopted its National Water Sector Strategy (NWSS), which was prepared by a high-level team of Lebanese experts and debated amongst stakeholders. Drawing on lessons learned from past Bank involvement (both projects and sector work), and on the Bank-Government Country Partnership Strategy (CPS), the CWSAS looks at the water sector through the lens of economic growth, poverty reduction and sustainability, identifying in Government's strategy how investment might play a transformative role, accompanying and helping to drive key institutional reforms. Recognizing that restrictions of political economy are real and must be taken into consideration, the CWSAS highlights how implementation of the strategy might be prioritized and sequenced, how ownership might be strengthened through further stakeholder involvement, especially at the local level, and how capacity building within institutions could bring greater likelihood of successful reform implementation. This combination of targeted investment and capacity building accompanying step-by-step implementation of a sequenced and consensual set of priority reforms could have a transformational impact on service delivery and on growth, poverty reduction and sustainability.

The Lebanese Strategy for Surface Water Storage includes a needs assessment up to 2035, a review of alternative water sources (aquifer recharge, wastewater reuse, surface water storage), a prioritization of potential projects using 13 evaluation criteria weighted according to importance, and an outline financial and economic feasibility assessment of the proposed development plans.

The Lebanese, Country Water Sector Assistance Strategy (CWSAS) is set in the context of the ambitious and comprehensive National Water Sector Strategy (NWSS) had discussed and now under adoption by government. Preparations are underway for implementation of the NWSS, which will be phased in the light of priorities in relation to targeted outcomes, availability of funds and factors influencing sequencing. This World Bank document has suggested some considerations for implementation planning and has set out proposals for focused Bank support to accompany the NWSS, both analytical and advisory activities (AAA) and investment lending. Bank support would be designed to help implement key parts of the strategy and to produce high impact results for the benefit of the Lebanese people.

**Israeli plans for water in Lebanon :** The aim invisibility behind the establishment of the Zionist entity of repeated war against Lebanon, was to control the water, In 1978, it enabled the Zionist entity to control the Litani River and has installed large pumps near the mustard Bridge and laying huge pipes ten kilometers from the river bed along the town as built by the Israelis. Huge tanks has been build on the southern outskirts of the town of Aita al-Shaab for storing Litani water and distributed to the settlements in the Upper Galilee region, as it converted the Litani River to the Galilee towns, as the Zionist entity dominated the Hasbani River and overlooks the Litani River and Wazza as well.

The rivers of the south Lebanese were of malignant targets for the Zionist entity which are the Wazzani and Hasbani and Litani rivers. The Hasbani River comes from Hasbani spring at the foot of Mount Hermon in the valley of Tim being before reaching a low of Houla in Palestine, where flows into the Jordan River, which flows into the Dead Sea. And a length in Lebanon of 21 km.

The Wazzani River is small which stems from the village of Al-Wazzan border about 4 km from the Lebanese-Palestinian border, south of the town of Khiam, one of the most important tributary of the Hasbani River.

In 1986, the Israeli entity put a fence several hectares of land around the Wazzani spring, after the expulsion of them Lebanese farmers, and began extended channels from the spring to the north-east, under the pretext of irrigation hock villages located within the borderline called (the security zone).

In 1989, it was extended a water pipeline from the spring eye branching from Walnut River; which is a tributary of the Hasbani, claiming to provide the villages of the occupied region of Hasbaya water.

Currently it exploits entity and fully Hasbani and Wazzani water, at a rate exceeding most often the amount of 145 million cubic meters annually, although the annual discharge of the Hasbani River, the rate does not exceed 160 million cubic meters.

The Litani River is stems from so-called Blackberry spring (which is a several springs scattered), which is located west of the city of Baalbek and then glides in south-westerly direction for a distance of 130 km, and turn then to the west to its mouth in the (Qasimiyah) north of the city of Sour, and empties into the Mediterranean sea.

It is estimated that the natural flow of the Litani rate (600,700) million cubic meters per year and is characterized by its delicious water; it does not increase salinity in the average 320 ppm.

The practical implementation of dragging Litani water was after the Israeli invasion of Lebanon in 1982, but that implementation was preceded by some practical steps also have been implemented before this date a few months later. Israeli forces have begun excavation work to exploit the waters of the Litani before that date. Large amounts of water were transferred in the south of the Litani and the Lebanese. A study suggests that the entity seizes at 500 million cubic meters annually. Technically, Zionists may have made a tunnel to connect the Litani River from the soles of its course in the occupied territories of Galilee.

**Israeli ambitions in the Syrian water :** Golan Heights represent great importance in Zionism water strategy and control of the Zionist entity, it has achieved control of the tributaries of tributaries of the Jordan River and the two "Al Dan and Albanias." Allowing it to exploit the water resources of the Golan Heights, and it exacerbates the water crisis in Syria.

The entity exploits the Syrian Golan water, especially the famous Baniyas springs on the Sea of Galilee, where the projects were established and considered Lake Tiberias basic water tank in the area.

It is also built on the land of the Golan settlements, the depletion of groundwater balance unfairly, and influential on the water reserves in the area.

**Israeli ambitions in the Jordanian water :** The Israeli entity has been violating the wealth of Jordan water, and the most prominent example of this is a project of the Jordan River water

diversion project was a milestone of breaking the Arab will landmarks before the war 67, where the Arab summit called for by Abdel Nasser failed to rally Arab powers to stop this project. The Syrian policy also failed to stop the project.

The project aimed to irrigate three million acres through the provision of 1500 million cubic meters, which means converting all of the Jordan River water along with 100 million cubic meters from the Yarmouk River.

The project included a water tank in the Sea of Galilee and in the BekaaButtof and generate electricity from regression between Jordan and the Sea of Galilee 250 meters power, water pump and sent to the coast where the related line (Auja (Yarkon) Negev.(The project was completed in the charts in 1956. In 1958, these schemes have been modified to be through this project management 1800 cubic meters per year to insure the Jordan River and springs east of the occupied territories, the equivalent of 650 million cubic meters.

Jordan River project has been associated with several other projects set up by Israel inside the Green Line, namely:

- 1 - project (Yarkon) Auja:** It is to benefit from the Yarkon River before it flows into the sea, where it meets the project of the Jordan River at (Yarkon) near the settlement (Tsalim) which include:
  - A - East (Yarkon) project** from Ras Al Ain until the northern Negev was carried out in 1955 along the 106 km diameter and 165 cm for the transfer of one million cubic meters of river water.
  - B. West (Yarkon)project** from Ras Al Ain until the colony (Halts) west of the line where it met with the first line. And a length of 65 km and a capacity of between 80-100 million cubic meters of water and connects to the western Negev was carried out in 1960 and a diameter of 117 cm, and Tel Aviv provides approximately 45 million cubic meters of water, and then moving to the Negev and extends west of the first line.
- 2- Western Galilee Project (Kishon) or section of the river:** and includes the construction of a small dam near the Kfar Baruch Village to book flood waters and floods in the valley of Marj bin Amer, as well as water springs, wells and streams refined coast in addition to the section of the river (Kishon), to provide 150 million cubic meters of water and collected in a tube diameter of 120 cm to the dam.
- 3- Marj Bisan project:** Includes water transfer in diameter 180 cm tubes, after the water springs Bisan and water wells Aljelba assembly and add untapped water to country water network to provide 125 million cubic meters of fresh water in addition to 55 million cubic meters of salt water to breed fish in Bisan.
- 4-Yarmouk project -pisan- Tiberias:** depends on the withdrawal of part of the Yarmouk and Jordan waters south of Tiberias and pumped in Tiberias winter, then pull the 44 million cubic meters of Tiberias irrigation Bisan and triangle Yarmouk across the channel diameter of 120 cm and a length of 5 km with setting up a station to adjust the salinity of the water and the exploitation of salt water for fish farming
- 5- Ramat Bschar project:** On the borders of Marj Bin Amer Valley and meadow Bisan limits card about one million cubic meters to supply Alzubi and Tmra and Kafr Egypt villages and

four other settlements with water. It has completed the first two phases ended in 1965 and the second in 1966.

- 6- Lower Galilee Project:** is based on the utilization of Tiberias Bisan water to supply the old colonies in the Galilee at about 12 million cubic meters per year and in two phases. It has been completed between them (1965) and (1969).

Water floods compilation of the valley of (Himka) project near Gaza coast. It began in 1936. Bridging the bumper near the Jordanian border to store rainwater, as well as project Menasha Valley, which ended in 1967? It pumped 12 million meters of flood water and floods. As well as rain water storage and flood project in Caesarea Add.

**Israeli water agreements:** The peace agreement between Jordan and Israel, (Wadi Araba) that occurred in 1994, concerns the water agreement between them, and taken the Arab world on this agreement it has ignored the rights of other Arab countries in the Jordan River and Yarmouk River and entered the Israeli entity a key player in the Arab cooperation or regional in the field of water resources development, and it established the dominance of Israel on water resources in the Jordan River and groundwater basins.

Strategic Water Studies reveal that this enemy even in its treaties, which called it (peace treaty) has not given up at least partially what really consider him in the land water, which is assumed under these treaties withdraw from it, like someone who wants to take away the spirit and restores the body dead to his companions (because water is the soul of the earth)

**Israel - Ethiopian Water Policy (Nile Basin):** The increasing interest of the Zionist entity in Ethiopia in the middle of the last century .The relationship has seen a big leap for the following reasons:

**First,** the Zionist entity claims that Filachamura, who have lived in the territory of Ethiopia are " the heirs of the ark of the Prophet Suleiman, who is not excluded that the Zionist entity is longer plans after plans to try to "steal" or get it at any price.

**Second,** Ethiopia is rich in special "aquatic natural resources" in its territory, many rivers being the most important of Abai, Tkaza, Barrow, Omo, Aoacho, and Abhibli beside the Great Lake Tana which in the aggregate represent a large water reservoir.

**Third,** the strategic importance of Ethiopia geographically and demographically and politically, not only for being the state headquarters of the African Union, but for its contributions to the African liberation war and its impact, especially in Somalia and Eritrea's territory. For all these reasons and others it was said that the Zionist entity relationship with Ethiopians important and strategic with all implications of each word.

The littoral Arab states on the Nile River, face directly to its security watery threats, following calls by some Nile basin countries, such as Ethiopia, Tanzania, Uganda and Kenya calls for the revision of the Convention on quotas riparian states of the Nile Basin, despite the appearance that these calls did not appear throughout the past decades, but its appearance in the recent period was due to two main factors: first, the growing needs of these countries of the Nile water as a result of rising cases of water poverty and the establishment of development projects rely on water .second is the growing Zionist penetration of the African continent this is a direct threat to Egypt's water security.

On the other hand, Ethiopia is seeking to secure a greater share of the Nile waters regardless of the needs of the other nine countries involved in the Nile Basin.

**Turkish Arab strategy for water :** Turkish ambitions also come in the Tigris and Euphrates water as an indicator of the importance of water a political film takes Turkish conflict - the Syrian - Iraqi form of crisis, but with the outbreak of the second Gulf War, where it tried to Turkey's implementation of the provisions of the Protocol to the Turkish Syrian-which gives Turkey a half of water revenue to the Euphrates River on a temporary basis, since this moment the water crisis between Turkey and Iraq on the one hand and Syria originated on the other hand, Turkey began promoting false concepts including:

- 1- Rejection of the principle of sharing of water and put the principle of adequate water use.
- 2- The claim that the Tigris and Euphrates rivers are not international but two rivers crossing border.
- 3- Promoting the idea of Turkish water sale to Asia and the Arab countries through the so-called "peace pipes" in order to make money with no less than two billion dollars annually-peer selling water to those countries.
- 4- Achieve the special Turkish strategic requirement to ensure the Arab dependence on Ankara in the field of water.

The Turkish project was rejected and these ideas of Turkish water were rejected by Arabs for two reasons.

**First**, is the fear of Arab States of the receipt of their amounts on the subject of vital such as water to control the source countries.

**Second** reason. Is because the Zionist entity among the beneficiary countries of this project, which allows the normalization of Arab relations with the entity without the obligation to give withdraw from the occupied territories.

**Turkish dams strategy and violations of water quotas :** Turkey has imposed a fait accompli by force of arms, and it goes ahead and build private dams at the Ataturk Lakeside, in 1992 as the basis for the GAP project for the development of the Southeast Anatolia in violation of the rules of (Helsinki agreement) in 1966 and 1987, with Syria on the right to benefit from the joint water, which pledged to provide it with five hundred cubic meters per second from the Euphrates River fell after the dam projects to 160 M cubic meters as a result of lack of consultation with Syria and Iraq as two neighbors of the Euphrates to curb the devastating effects of their economies, according to the rules of international law and protocol which prohibit the establishment of such projects before consult with other parties animate legal rights in the river. Were it not for the political efforts to contain the Turkish military escalation on Syria's borders under the pretext of the liquidation of the strongholds of the rebels and request the extradition of Kurdish leader Abdullah Ocalan, would have been a war between them. These endeavors resulted in for the signing of fumes agreement in October 1998, where it insisted Turkey to end its activity PKK and not to search vital issue of water until the Syrian response, but that despite Syria's commitment to the Turkish conditions. Ankara has refused to fulfill its obligations interview which led to continuous revenue Euphrates in August fall 2000, which Turkey explained the status of drought only refusing to resume negotiations with Syria and Iraq to reach a fair share of water attached so big its losses agricultural crops.

**International penetration of Arab water:** The importance of water issues and the importance of the control as an input to dominate and control the rest of the states and then saw a history of foot

plots US and Zionist plans specifically for the possession of water resources or uncontrollable, which is already evident. The following are read in the American and Zionist and Turkish intervention in the Arab region in order to control the secret of life "water".

- 1- America and the strategy to control the Arab water the element of water in the Arab region, especially in the US strategy occupies Washington attention because it pays keen interest which is dedicated to it through most of the specialized research centers, and extrapolating the role of water in the region's future, the United States believes that the water component is the basic elements of importance for the formulation of public policy in the region, which means that the issue of water, which emerge as if the issue of non-political is handled in Washington are politically invested and incorporated into the strategies of the United States for the Arab region and this is confirmed by most of the studies published in the recommendations, which focused on four major themes, namely: Advanced technology of the water.
- 2- Strategy of water resources management and maintaining it.
- 3- Coordination between the United States related to water resources agencies.
- 4- Research and long-term planning.

Thus water technology are considered political blackmail in the hands of the United States as a tool that possession means possession of a weapon and permanent pressure on nations and governments that used tools and are in dire need of it and indispensable.

**The occupation of Iraq and aquatic resources:** The strongest and clearest examples of the American penetration of the Arab Water, the consequences of the establishment of the US occupation of Iraq from the control of its oil and water resources and control of aquatic plans and control of the reins of the decision-making of water. There is no doubt that the US occupation of Iraq contributed to the strategic interests of the Zionist entity by facilitating the achievement of its ambitions in the Tigris and Euphrates water without opposition from Iraq or Syria.

**The Drought of Al-Ahwar Region:** Turkey dams and its seizure on water resources without taking into account the rights of States shared with it Led to drought and desertification of vast expanses of water bodies of the area in southern Iraq marshes Golan, which only left of them two thousand square kilometers near Hovaiza area represents one tenth of the original size, with a five-thousand-years.

Draining of the Ahwar area mainly aims to build Turkey thirty dam to hold the water in its territory without consulting the neighboring countries benefiting from the water in accordance with international law and environmental experts predicted the extinction of animals and the flight of migratory birds and killing of fish, the bankruptcy of fishermen and doubled the number of unemployed in the northern Gulf, near the borders of Kuwait, in addition to the migration of one hundred thousand residents of the Ahwarto Iran, according to official statistics and the displacement of thousands of others into Iraq after it was the population of the region of half a million.

That's about Al Ahwar, and the methodology of measurement dimensions can be visualized of the looming catastrophe in Syria lands and Iraq and may result in the return of instability to the Kuwaiti-Iraqi border because of the widespread displacement and the expected continuation of Turkey's water policy.

**Future water wars between support and exclusion opinions in the Middle East :** The theme of water, especially in the Arab world got its importance in view of the limited availability of them as drinking water, according to the index, which leads to that of any country where the average per capita which of water per year from 1000- 2000 cubic meters is considered a country suffering from water scarcity, and therefore the 13 Arabs countries fall into the category of a water-scarce countries. This water scarcity exacerbated by the constantly increasing high population growth rates. the World Bank report of 1993, explained that the average annual per capita renewable and renewable in the Arab world water resources (excluding underlying water reserves in the ground) will reach 667 cubic meters in 2025 after it was 3,430 cubic meters in the year 1960, a decrease by 80%. The renewable water resources per year in the Arab region amounts to about 350 billion cubic meters, covering 35% of them by the next river flows from outside the region, as it comes through the Nile River, 56 billion cubic meters, and by the Euphrates River 25 billion cubic meters, through the Tigris River and its branches 38 billion cubic meters. Irrigated agriculture and get the lion's share of the water resources in the Arab world, as it holds an average of 88%, compared with 6.9% for domestic use, and 5.1% for the industrial sector. It has been identified by the World Resources Institute of the Middle East region that water shortage reached a crisis point, and has become a prominent political issue, especially along the international river basins.

Since the water is still and will continue to be of the most important natural resources at all so that the lifeblood and backbone without it cannot be for an organism to live, and cannot for the majority of machines to operate and the scarcity of declining all economic activities and other human activities Water is essential in the daily living of the food, drink and things, such as agriculture, industry and the conduct of the wheel of life so the water is the most expensive boat to deal with human life in public and private. In any case, the conflict over natural resources remained since time immemorial trait of human beings, but the conflict continued to evolve and change from generation to generation. During the colonial period was the economic resources and manpower strategic goal and then followed after World War II and two main communist bloc led by the Soviet Union (formerly) and mass capitalism US-led conflict turned to the acquisition of the centers of influence and dissemination of ideologies and post-communist pole fall after 1991 and privately USA oscilloscopes world Turn the world into the conflict to secure sources of energy and open up international markets for trade through the world trade Organization and other means.

In any case, the conflict if there are no reasons for the countries with special interests seek to create that conflict and in any manner and at any cost is the most important things is to focus on now, especially in the Middle East is the conflict over water and the theater is prepared since quite some time for such this conflict by talking about the water crisis in the Middle East and the horn of so sensual matters such as deprive the Arab countries such as Syria and Iraq by building huge dams in Turkey, on the headwaters of the Euphrates River and the theft of Israel for water, the Yarmouk River and the Jordan River and the Litani River in Lebanon do not forget also help Israel to Ethiopia in the construction of dams on the Nile River in exchange for allowing the immigration of Ethiopian Falasha Jews. The conflict on the ground these days and is now killing the children and young people every day for the expulsion of Palestinians and subjection and humiliation of the rest of the Arabs with them to ensure the security of Israel, accompanied by a hidden struggle sometimes apparent in other times it is a conflict over water sources and resources. The experts say that the world will see in the atheist and the twentieth century, a sharp conflict over water which is very similar to the conflict on oil fairly and believe that more than one billion people in the world may suffer from the effects of the water shortage, especially with the increase in the case of drought and

increased water demand so it is not unlikely to see all from Asia, Africa, wars aimed at controlling sources of water where puffed and priced the flames stakeholders and monopolies and vampires peoples.

In the Middle East, the conflict over water may be the case of future so that the achievement of water security is one of the most important priorities in the next phase of the conflict, the water may be added factors to the factors that are causing instability in the region. It studies about the water crisis in the Middle East, as pointed out by the report published by the Institute of Strategic Studies in London in 1989, which stated that the Middle East will see within the next ten years a war for control of water sources due to the increase in population in the region and increase growth programs economic with the decrease in the amount of water available to it, such that the conflict could lead to shatter the fragile ties between the countries in the region and on the other hand, US Secretary of State Harold Saunders assistant pointed out in a report prepared for the Middle East during his tenure, where he said that there is another source of risk other than oil which must be said the word, a scarcity of water, and added: the water issues will have an increasingly attention of political leaders in the region in the coming years. American writer Jules Cooley also spoke in his book *Water War*, where he said that the Middle East after the depletion of oil will see wars because of the conflict on the water so that development plans in the region will depend on just water. American writer Thomas also spoke of will in the international symposium on "Israel and the Arab Water", which was held in Amman in 1984, where he said that the Arab Water captured by Israel after the war of 1967 "spoils of war" where Israel occupied the headwaters of the Jordan and Yarmouk River, the Baniyas, and added saying the ambitions of Israel in the Arab water is an integrated part of an Israeli policy concept of resources, which also include oil and metals trading and race and get cheap labor and other economic resources.

So there must be a study of Israeli ambitions in the Arab sources of wealth, including water and American researcher in his research, added saying that the economic benefits in the Middle East impede the peace and encourages Israel to aggression. The apparent meaning of the Arab-Israeli conflict, the political and the military has covered the ongoing subtle conflict, which is that Israel is planning confidentially economic struggle, while the Arabs are busy with things without essence, therefore, the exploitation of Arab water by Israel in the West Bank and Gaza Strip and the Golan Heights and southern Lebanon have saved to Israel more than two billion dollars the price of water.

In any case, Israel is looking for different excuses to expand so as to achieve the dream and the objective set a major creation of Israel from the Nile to the Euphrates, which will not be implemented all at once, but on multiple stages and during several decades and the most important of those excuses acquisition of water sources and secure sources of energy to it and allied countries all of this can be entered among the constituents of water and economic security and other terms that are familiar chant until then to talk about it on the basis of the facts that cannot be ignored and then begin negotiations on them and mediations are held by the beneficiaries and not for the weak non-acceptance. It is words that came about the water crisis in the Middle East include:

- 1- According to a report by UNESCO in 1992 that the Arab world will be engulfed in a severe water crisis after 2000 solutions, which will be reflected on the food supply and the negative impact on industrial production and the experts considered the most dangerous historic impasse facing the Arab nation\.
- 2- Ben-Gurion the Prime Minister of Israel in 1955 said that the Jews are engaged in a battle with the Arabs for water.

- 3- Participants in Water and Environment Conference, which was held in Dublin in 1992 delegations said that the Arab countries are the most exposed to the risk of disputes and conflicts regarding water, the American delegation participating in the conference said that river Nile and the Euphrates and Jordan will be Circuit real bloodiest in future conflicts, said the American delegation also that the water used as tools and targets of the war, and that conference following the Earth summit in the same year, which was held in Rio de Janeiro, which carry the same direction.
- 4- In 1992 the United Nations decided to launch the water holding the name of the last decade of the twentieth century.
- 5- The Los Angeles Times newspaper in 1987 wrote as follows: Both Israel and the Arabs will face severe water shortages by the end of the twentieth century and forced the two parties to cooperate (that means submitting to the wishes of Israel) or fight in a war caused by the lack of agreement on sharing the water way that will satisfy Israel.
- 6- The World Resources Institute, which is one of the American Studies Institutes, the research of natural resources in the world to report to the US government in 1991, warning it that its interest in resolving the old conflict in the Middle East is focused on finding formulas has not changed since it began such efforts, but ignoring a serious crisis to come inevitably, a water crisis and what will be caused by the conflict flared around. On the other hand, Jessica Matthews, vice president of the institute, said in an article published in the Washington, that if the swap of land for peace seem difficult enough in front of efforts to settle the conflict in the Middle East, water swap peace will be impossible, and she said that any peace agreement to be agreed upon does not address the problem of water resources will be shaky and will not stand up to the need for water and the consequent conflict therefore firmly believe that water will be the cause of new conflicts or excuse her elsewhere Jessica said, quoting a source as saying: " do you think that we fought a war for oil , so wait until the struggle over water begins.
- 7- As noted earlier, the cooperation between Israel and Turkey and Ethiopia in many areas, the most important control in the water makes the water crisis in the growing Arab states all of which are difficult within Israel adopted after ensuring its military superiority on the combined and choose the current slogan, which says that the Arabs have in front of them two options, only two, namely "cooperation or war," and that Sharon, who thought, he put the Arabs and their leaders with a fait accompli and that if don't face, they will lead to generate the "subjugation or war" strategy that is not the victor limits stands then so how about if it was a terrorist govern a country with the slogan Israel is a terrorist".
- 8- I would like to point out that Israel has stolen amounted to more than 600 million cubic meters of West Bank water annually and more than a100 million cubic meters annually from Syria and 500 million cubic meters of Lebanon, bringing the total captured by the Israel becomes annually Arab water after 1967 an estimated 1200 million cubic meters. Thus, the conflict over water resources, which will determine the future of the Middle East during the next two decades is the will reinforce these expectations increased drought situation faced by the Middle East with the increase in the shortage of water for achieving alternative water sources and secure.

Through the above we could find that, the Arab nations should stand united like a military alliance which won (storm packets and thunder North) and proper planning and attention to what is

going on in the outwardly and inwardly from the Israeli ambitions and build an Arab water strategy and activation or the establishment of an Arab water planning for the future and reveal roles. Israel is suspicious and prevented the means and methods appropriate and spoiling their projects alliance with Turkey and Ethiopia to hit Arabs from the back by cutting or reducing water supplies to them it is no coincidence that the engineers and technicians Israeli supervision of the irrigation projects and dams on the blue Nile in Ethiopia also no coincidence that Turkey is cut the Euphrates River from Syria, and Iraq after the purchase of water by Israel of \$ (250) million cubic meters per year in the amount of 200 million dollars, which are transported through ships.

It has become the subject of water a candidate to ignite wars in the Middle East, according to the analysis of global political circles, especially that most of the Arab countries do not have full control of the headwaters of the waters. Ethiopia, Turkey, Iran, Guinea, Senegal, Kenya, Uganda and Zaire may also are countries control about 60% of the headwaters of the water resources of the Arab nation. There is talk now about the link of peace in the Middle East with water after the rape of Israel for most of the share of the Arab states Ring of water. Also, some states took adopts a very serious proposal is in attempts to persuade the international community to apply the proposal to water pricing, and thus international waters sale. Located at the head of these countries Turkey and Israel. More seriously, the adoption of some international organizations (like the World Bank and FAO) of those proposals, forgetting the fact that the close link between water security and food security on the one hand, and Arab national security on the other.

In the words of the Secretary-General of the Arab League Dr. Esmat Abdel Meguid in water security conference in Cairo said: "The issue of water in the Arab world is of particular importance given the nature of the strategic location of the Arab nation, where the headwaters are located about 60% of water resources outside the Arab territories, making it controlled by non-Arab countries, and it is even more complicated with the Arab world suffered from an aqueous poverty up soon to the danger level with increasing population density and the processes of sustainable development".

**According to Abdel-Meguid on the Arabs to solve the water problem faced three challenges, namely:**

**First:** The waters of the Tigris and Euphrates, the issue of how to solve what currently exists between Turkey, Syria and Iraq on the one hand, and between Syria and Iraq on the other.

**Second:** The ambitions of Israel, which he accused of using water as a key element in the Arab-Israeli conflict, where the water is one of the most important Israeli political and military elements of the strategy so as to relate to plans expansion and settlement in Arab territories. These include ambitions in the Arab water resources of the Jordan River and its tributaries and the Yarmouk River and the water fountains in the Golan and collapsed the Litani and the Hasbani and Wazzani in Lebanon. In addition to Israel's theft of groundwater in the West Bank and Gaza Strip for the benefit of the colonial settlements.

**Third:** How to cope with the risks of the growing scarcity of Arab water sources and associated with population growth and requiring face common Arab efforts politically, economically and scientifically, in order to determine priorities in the distribution of water resources and the rationalization of investment, in addition to the development of environmental awareness of the dangers of pollution and the development of the techniques used and the reliance on modern technological methods of irrigation and treatment of desertification and refining projects and water desalination, which will witness the next phase increase the use and investment.

Then Dr. Abdul Majeed call for an «Arab summit on the water to examine all aspects of the Arab water security.

If indeed the water deficiencies and difficulties in the Arab world, where its share of the global total rainfall of 1.5% on average does not exceed, while an area of more than 10% of the total land of the world, the reality of the situation in the Eastern Arab seems more complicated, as it does not exceed its share of 0.2% of the total available water in the Arab world, at a time when consumption rates rise significantly. During the period 1980-1990 doubled the demand for water for agriculture in the GCC eight times, the desire to achieve self-sufficiency for some food, and household consumption has increased by three-fold during the same period, due to the improved standard of living. And the importance of the water issue locally, but also regionally, lies in the fact the direct links to the efforts of development in general, and document links to the agricultural sector in particular, and the fact that government support for the agricultural sector policies is one of the main reasons leading to the depletion of groundwater problems. But those links do not stop there, but extend to affect a number of topics, perhaps each of which involved a challenge, such as the environment, natural resources and even the state budget deficit.

In a study on the future of water in the Arab region, the Arab Organization for Education, Culture and Science and the Arab Center for the Studies of Arid Zones and Dry lands predicted, the emergence of a water deficit in the region is estimated at about 261 billion m<sup>3</sup> in 2030, rain study that fell in the Arab countries by about 2238 billion m<sup>3</sup> falls including 1488 billion have been estimated m<sup>3</sup> at a rate of 300 mm on the areas account for 20% of the Arab world space and about 406 billion m<sup>3</sup> falls on the drier areas of rainfall rate between 100 and 300 mm ranges while this rate does not exceed 100 mm in other areas. The study discussed by the ministers of agriculture and water Arabs that the Arab world has a huge stockpile of non-renewable water resources are considered strategic reserves currently invests about 5% of it. Estimates and desalinated water treatment amount of about 10.9 billion m<sup>3</sup> annually, of which 4.5 billion m<sup>3</sup> desalinated water and 6.4 billion m<sup>3</sup> water, sewage and agricultural and industrial. As for future water needs are linked to rates of population growth in the Arab world that have become among the highest in the world. It is expected to reach 735 million people in 2030 compared to 221 million people in 1991 and to narrow the gap between available water resources and future needs, the study suggested that the two axes of the solution:

**First:** Is the development of new water sources and invest the water sources of groundwater represented in several countries basins.

**Second:** Solution is to rationalize water use and protection. It is so clear that the Arab states have to give the subject of water resources development and conservation a top priority when developing the security strategy, and should be the subject of «water security» as the top priority, due to the lack of traditional water resources, which requires hard work to maintain this resources and try to develop as well as finding new water resources. Especially now that most of the headwaters of the river, however, non-Arab countries, which does not give them the recipe safe supplier, and the groundwater, in most Arab countries, limited mostly nonrenewable (depleting) for lack include rain is based on feeding the reservoirs and increase the resources of renewable natural resources. So we should focus the attention of those in charge of water resource management to sustain groundwater resources and increase the quantity, but the quality of mind and a strategic stockpile in the reservoir safe. Dr. Samer Mukhaimar summed alternatives to overcome the current gap between water supply

and demand (available water resources and the actual needs of consumption) in the Arab region are as follows:

- 1- Rationalization of available water resources consumption.
- 2- The development of available water resources.
- 3- The addition of new water resources.

For the rationalization of consumption of water, there are several methods that can be followed:

- The raising the efficiency of the maintenance and development of water transmission and distribution networks.
- The development of irrigation systems, raising the field irrigation efficiency, change the crop structure as well as the development of strains and new varieties of crops consume less water, and withstand higher salinity.

As for the available water resources development, there are several aspects need to be addressed, such as:

- The missing of the water and reduce the dams and reservoirs projects by evaporation from the surfaces of reservoirs and streams as well as the diversion of water transport networks.
- As for the addition of new water resources, which is the most important topic of our point of view, especially for Gulf Arab states, it can be achieved through two axes:

**First:** Add a conventional water resources such as surface water and groundwater, as there are ideas ambitious in this area, such as tow icebergs from the polar regions and dissolved, storage, and transfer of water surplus from one country to another by extending the huge pipelines, as well as conducting studies and explorations for long periods of time to find new underground water tanks. But all these ideas are really ideas of a very expensive and take a long time to be applied in practice in addition to that they cannot be relied upon as a source of security for water.

**Second:** Add unconventional (artificial) water resources can be achieved by exploiting supplier's blend of both the wastewater and water desalination. Perhaps this is the subject of the most important topics that must be on the poor countries of natural water resources, including the Gulf Arab states, attention and focus on fundamental and renewable source (non-depleting) of water. exchange, whether industrial or agricultural or health, can be cured by modern techniques and reused for irrigation of agricultural land and industry and even human use (under the terms and conditions of a particular) rather than being discharged untreated into water bodies causing serious environmental problems lead to a waste of an important source of water sources of wealth. Perhaps the growing interest of rich countries to water resources, such as European countries and America, and of huge sums of money spent annually in order to improve wastewater treatment technologies and reuse is a conclusive evidence on the importance of this resource and the need for attention to the poor by States and work to be supplied as an additional source of water resources.

As for desalinated water, there is no doubt that most of the Arab states are coastal countries, which gives it a source of water in quantities limitless feature can be desalinated and reliable additional resource, but in some countries such as the Gulf states as the primary source of water. For example desalinated sea water represents more than 75% of the water used in the Gulf Arab states, while the proportion rises to 95% in Kuwait.

**The advantage of desalinated water resources from natural resources:**

- Now It can be considered a reliable water resource to provide fresh water as is the case now in the Gulf region.
- Can be set up in sites close to consumption sites, leading to the establishment of the provision of transmission lines is very expensive.
- It can be considered as a guarantee in order to avoid a shortage of water resources, regardless of the reality of the hydrologic cycle and volatility.
- Require low capital cost per unit volume compared to the cost of establishing and operating traditional facilities such as dams, but it needs a much higher operational cost.
- Consists of mechanical equipment, so it is expected to continue the development of efficiency and economies.
- Have the ability to process and convert seawater and other salty water to the excellent quality water suitable for drinking, and therefore devoid of political, social or legal barriers such as obstacles related to the exploitation of shared natural resources such as rivers.
- Available a variety of sizes and different techniques so that they can use the right ones required to meet the water needs for the purpose.

Suitable for most operations to organize the financing of projects compared to traditional operations finance water projects.

- Create a much shorter period of time to establish the transfer of water from remote areas lines.
- So those in charge of water resources planning all over the world should take the desalinated water resources in mind to lead the following purposes:
  - 1- Integrated water source stand-alone and can also be used as a source of additional fresh water to supplement the traditional water resources.
  - 2- An essential resource for the adoption of it in emergency situations, especially in seasons of drought and lack of adequate water availability.
  - 3- Alternative to transport water over long distances resource.
  - 4- Technology relied upon to improve and support the quality of the available water.
  - 5- Water source for quality is very suitable for industrial applications and other uses of water.
  - 6- Suitable for processing and re-use of wastewater and remove all contaminants and pathogens technique.

It is a murmurs talk to say that desalination is expensive or too expensive without taking into account political and geographical conditions and the economics of alternative water resources. For example, many countries prefer to have self-available water resources to meet all their needs regardless of the price. Many ideas for the transfer of water by pipes and across multiple countries have been put forward, but did not apply any of them for economic or political-geographical considerations. Study prepared by the Atomic Energy Commission in Vienna in 1992 that the cost of water transport by tankers from Europe to Tunisia than one dollar per cubic meter have shown, as the same study showed that the cost of water transfer by pipe to a distance of more than 300 km above the cost of production by desalination ways.

In areas that suffer from a severe shortage of fresh water, this is my very precious and strategic importance, has gained the status of my strategy for being of vital importance and is a rare

commodity, unchanged in that case and other strategic goods that are characterized by scarce and vital need them, such as oil and some precious metals. The strategy mentioned goods characterized by common properties, including :

**1-** The need to be provided and stored.

The need for business research and development to reduce the use and conservation, treatment and re-use. Finding alternatives to resources.

In this sense, the decision-makers to take as desalination supplier of water a new alternative, and they have to evaluate alternatives, including desalination, and put their recommendations based on the geographical and political technical and economic analysis makes it easier for the decision-maker to choose a suitable alternative for the supply of fresh water covered the Least costs and guarantee the means and the best from a political viewpoint - geography.

It seems clear that there are two opposing tendencies about the possibility of a future water wars in the Arab world and the direction of my logical rationale as follows:

**First: The direction of Rejection of the water war:** This trend comes of the conviction that the Arab world is rich in aquatic riches and that whatever has lost of them or offended used, there is enough. this trend ad believes that if there were researchers from going to the possibility of depletion of water resources in the Arab world and sets off alarm bells and the fear of the outbreak of a fierce war on water which causes the Euphrates and the Tigris River , the Jordan River , the Litani River and the Nile River because of the ambitions of Israel , Turkey and Ethiopia, but the Arab world which has enough renewable water, it is a rich region in groundwater and underground resources; however, it did not take advantage of good use and did not invest yet. And then: "The Arab Water is a complex and chronic problem, and the first things proven that there is a water problem in the region is the lack of proportionality between the supply and required, and the existence of differences over management, but not certain - so far at least, it can lead, directly, to the armed clashes, there are frameworks for dealing with water problems, such as bilateral, regional or international agreements, which do their time of need, and most countries are trying to manage collaborative ways than run the logic of confrontation.

This trend is seen in spite of his conviction difficulty or impossibility of the outbreak of a water war in the present or the future, it is thanks to the many different factors that will continue to be excited is always the problem, as it is unlikely possible war occurred because of them, it is also difficult to imagine a final solution, it has dozens held conferences, seminars and meetings in order to try to resolve the issue of water, and only a very few of which led to a little thing" .

**Second: The supporting direction:** Supporters of this trend sees are many of the world will witness a Sharpe struggle on the water, looks like a conflict on oil, and it is estimated that 1.2 billion people in the world, may actually suffer from the effects of the water shortage, and they are unlikely to see Asia and Africa, will witness wars of not political objectives, but break out for control of the water sources, which could lead to the creation of political crises and conflicts long, no less ferocity about the Arab-Zionist conflict..

Experts justifies that most countries in the world receive more than 50% of its water from outside the borders of any of the other countries as the most major rivers and groundwater wells are shared by more than one country and then some predict that the conflicts will be exacerbated because of the water shortage which is expected to be the case of two-thirds of the world's population, some experts in the area of the world constitute unlike counted could turn into an armed conflict for

control of water sources, and the Arab region occupies the forefront of these areas, and these differences are:

- 1- Turkey-Syria – Iraq - due to the exploitation of Turkey to the broad waters of the Tigris and Euphrates rivers and set up giant projects lead to reduced water contained size of Syria and Iraq.
- 2- Iran - Iraq tan competing on the Shatt al-Arab confluence of the Tigris and Euphrates rivers.
- 3- Egypt - Sudan - Libya -Tshad-Niger, which is going on, a dispute over water Jovi field depth of 800 meters and Libya, wants to invest in an artificial river to feed freshwater coastline. Mauritania -Senegal - around the Senegal River water sharing of the Republic of Mali.
- 5- India - Bangladesh Rivers around the delta of the Ganges and Brahmapurtra.
- 6- India - Pakistan over the Indus River investment.
- 7- Uzbekistan -kazakhstan -qrgustan - Tajikistan on Moadareia Srdaraya River and the River and the Sea of Aral.
- 8- Elmer- Slovakia on the establishment of projects for electricity on the Danube River.
- 9- Croatia and Serbia due to lack of water and convert pollution into the Danube River.
- 10- Syria- Jordan- Israel-Lebanon on river water sharing (Jordan- Hasbani-Aloizana).

This trend is supported by the report published by the US CIA identified ten areas in the world will witness the conflicts and confrontations on the water, mostly in the Arab region, the report identified three levels of seriousness as follows:

- 1- Areas that are exposed to war because of the water, they are Jordan, Palestine and the Israeli entity.
- 2- Areas that is fraught with danger that may be in real danger, a basin of the Tigris and Euphrates, and the Arabian Gulf.

Watery areas of tension candidate to enter the circle of danger during the 20-25 years, namely Egypt and Sudan.

**Conclusion:** This paper tackled the numerous water problems, deficiencies and challenges in the Middle East from a socio-economic and political perspective. A general overview of the water current situation in Lebanon, Jordan, Israel, Palestine, Egypt, Turkey the Gulf, and other countries in the Middle East was presented along with facts, numbers, and statistics. Syria and Iraq were the most abundant with water; while, the gulf countries were among the countries with the lowest water capacity. Lebanon and Egypt have a high water capacity, nonetheless, Lebanon suffers from water waste and Egypt suffers from the exponential growth of population, making water demands in these countries overpass the supply of their water resources. Additionally, climate change and global warming is expected to further worsen existing water shortages, rendering the majority of the Arab countries almost deserted and suffering from water scarcity problems, water quality damage, and GDP reduction.

Solving the water scarcity problem lies mainly in managing demand. Most of the water demand comes from irrigated agriculture, which should be heavily reduced or even nullified. This would mean a major shift from subsistence agriculture to a more diversified economy. Today most of the economies of Middle Eastern countries like Egypt and Syria are based largely on agriculture. Tony Allan of King's College London, drawing on virtual water theory, believes that moving away from agriculture is the only way for Middle Eastern countries to solve their water scarcity and distribution problems. Water currently used in food production could help be used towards restoring the water

balance in the region. For this to occur, Middle Eastern nations need to diversify their economies and import more food, growing less of their own wheat thereby utilizing less water resources on agricultural production. “The major driving force that will lead to the transformation and reform of water policy and management in the region is progressive socio-economic development. This option is not feasible any time soon as the largely agricultural lifestyle continues to heavily influence Middle Eastern political bodies. Even if it were possible to change the role of agriculture, it poses an ideological problem as relying largely on food imports is difficult for many contemporary governments to justify.

There is a need to improve integration of socio-economic and political aspects of water use and water efficiency, and include all different water using sectors. There are currently no regional programmes that focus primarily on the water economy, with trust- and peace building being a secondary or long-term goal. However, there are some work done related to the socioeconomic aspects of water and water accounting, e.g. by the Friends of the Earth Middle East and The Center for Environment and Development for the Arab Region and Europe (CEDARE).

However, The Middle East (ME) region faces unprecedented levels of water scarcity and food insecurity. Food insecurity is a major concern for all countries in the region, which imported more than half of the regional demand in grain, or over 40 million tons, in 2011. Moreover, the gap between national needs and production is widening. Constraints are mainly associated with water scarcity, but also unfavorable climate and/or degraded land resources and lack of investment.

Meanwhile, the pressure of humans and climate on water resources is increasing around the world, and the Mediterranean is no exception. The Mediterranean has traditionally been a region where the availability of fresh water is limited, while at the same time being important for its agricultural production and tourism facilities. These two main production sectors put strain on water supplies in a region where water availability can be severely limited in parts of the year. An expected decrease in rainfall and increase in air temperatures because of climate change will probably aggravate the situation. To overcome this limited water availability without limiting growth in the region requires creative ways to limit the use of fresh water, increase water storage on or under the land, and increase the amount of fresh water that can be used in a sustainable way.

At the end I would like to say that, this is not only important for sustaining current livelihoods, activities and production in the region, but also for the environment. Water conservation and increasing water storage on land prevents depletion of groundwater reserves, which has multiple benefits as this:

- 1) Increases the water buffer in case of drought;
- 2) Increases environmental flows in streams, which is favorable for both in- and near-stream flora and fauna;
- 3) Pushes down the fresh/saltwater boundary, which decreases the risk of groundwater Stalinization. All these positive effects help comply with the (ME) States. Water Framework Directive, which requires from all the (ME) states to take care that all water bodies (above and below ground) have good water quality and quantity

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