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The prospects for Mesopotamian hydro-politics Iraq's water security concerns and Turkey's water policy

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Introduction

Numerous data support the idea that future conflicts will be fought over access to water because water is so crucial to a nation's existence. The 21st century will be known as the century of water while the 20th century was the century of oil. Iraq faces significant challenges due to the water crisis, as it has faced major water problems in recent decades since the last century. In particular, Iraq is an agricultural country, its land is suitable for agriculture, and the upstream country (Turkey) is behind this crisis. In the past, Turkey sought to build dams and reservoirs to put pressure on Iraq. According to the factors that Turkey's water policy creates, some factors limit water resources and affect their quality. Because Turkey's water policy has an effect not only on the quantity of Tigris and Euphrates River resources each year, but also on the quality of these resources, which has declined as a result of the country's storage practices, which have resulted in a high salt content.

Turkey's so-called projects (GAP) have tried to justify its seizure of the waters of the Tigris and Euphrates. One of the most obvious effects of the true crisis in the Middle East is the water issue. It is an indication that the region's economic, development, and water strategies have failed. Undisputed natural causes of this catastrophe include observable climate change, drought, and decreased quantities of stored water. The crisis of successive years of drought and the spread of desertification has started to intensify when most of the countries in the Middle East

have witnessed the massive growth of population and the expansion of large-scale agriculture and industry.

Since these issues have not been addressed or appropriately, or thoroughly planned to be dealt with for all parts of the East in the future, they have doubled in size and are now a significant problem in the Middle East's genuine challenges. It refers to defending them against pressures, threats, extortion, continuous siege operations, and penalties that have not yet been lifted. Here, the concept of "water security" was developed, which the Middle Eastern countries should adopt and incorporate as a crucial component of their plans and strategies.

Due to its location in the arid and semi-arid belt, Iraq has few water resources and little rainfall.

The issue of water quantity due to population growth requires the regulation of a policy system that is appropriate to the conditions of the country and region. This study focused on the hydro-political situation of the area throughout the following two decades. What impact does the current state of Iraq have on Turkey's water management strategies? What course of action should this nation adopt in order to address the difficulties and conflicts caused by the water crisis, and what strategic requirements should be implemented?

1- Hydro-politics of the Middle East and the nature of the water crisis

The Human Development Report (2006) entitled beyond scarcity shows that (1.1) billion people in the world do not have water after (2015), and (2.6) billion people suffer from a lack of sanitation.

At the level of the Middle East, this region is one of the poorest regions in the world, with water resources of about (269) billion m³ per year, of which about (42) billion m³ are renewable waters of the basin.

In addition to the water resources from rainfall amounting to (2.3) billion m³, the average per capita share of the total water resources is estimated to be about (700) m³ per year. According to the population growth rate, it is estimated that this amount will decrease to about (500) m³ in the year (2025). The reduction of the amount from the rivers shared with neighboring countries, while the average in Africa is (5500) m³, in Asia is (1000) m³ and globally is (7000) m³. This is due to the high population growth rate and the decrease in the amount of water received by the Arab countries from the common rivers originating from the neighboring countries, which is estimated to be (7.35) billion m³ (139.1) billion m³.

The majority of the Arab world is made up of arid and semi-arid regions due to internal origin as well as geographic factors. Therefore the Middle East region has been exposed to a real water crisis for decades. The majority of the Arab nations in the Nile Valley and Mesopotamia have been impacted by the ongoing inequitable distribution of the rivers' water quotas between upstream and downstream nations. In addition to the fact that there aren't enough additional water supplies to match the volume of demand in many of these Arab nations, these issues have also given

rise to war amongst the nations in the area, and an explosion might happen at any time, particularly in light of the expanding importance of water, its increasing demand, its consumption of scarce resources, its impact on climate change, and efforts to use it for political and special interest purposes. It can be said that this crisis has become big and complicated and it is not only related to the Arab side but also related to the countries through which the rivers pass. The nations of the Arab world benefit from it because (62%) of the Arab waters are from outside the Arab world. However, this percentage is high because it does not cover the vast Arab lands, and it suffers from an extensive and huge desert that is more than (80%) of the total area of those lands. (UNDP.2019).

2- Hydro-politics and dimensions of the water crisis in the Middle East

The issue of water resources is at the top of the priorities and interests of a large part of Middle East countries. Water security has become equivalent to the importance of military security, so we are talking about these countries' national security or food security. In the absence of abundant water resources, it is just meaningless talk, especially if we know that the water resources of most of these countries, especially the Arab countries, are supplied from outside their political borders.

The water crisis is one of the most prominent cases that Turkey can use to impose its hegemony on the Middle East region in general and Iraq and Syria in particular. In addition to the reflections that the Americans have created power in Turkey, the occupation of Iraq since 2003 and the changes Syria witnessed following the Arab Spring revolutions played a role that increased the impact of the problems facing Syria-Turkey relations. The policies of the Turkish government, led by the Justice and Development Party, deal with many issues between the two countries (Fahmi, 2011: 84). In this case, it addresses the political dimensions of the water crisis in the Middle East with the following two demands:

3-The geopolitical dimensions of the water crisis in the Middle East

The Middle East region has a distinct geopolitical position, which has placed it in the focus of the world's major countries due to its influential role in the vital interests of these major countries. Meanwhile, the term geopolitics is conceptually based on relationships.

On the political movement of the region, from a functional point of view, geopolitics is the meaning that makes the political movement of the global powers move towards this region, which becomes the subject of polarization and attraction for this political movement ((Majzoob1994:69-68). Therefore, these dimensions played a role in the water crisis in the Middle East region. This crisis created a conflict whose intensity rises at times and decreases at others. It is associated with Turkish political and economic ambitions, as Turkey granted itself the right to dispose of the

waters of the Tigris and Euphrates rivers through the implementation of massive projects, such as Project (GAP) and the (Kiban) project and the (Pipelines of Peace) project. They play a political role in the region, in addition to its continuous assertion that the Tigris and Euphrates are two Turkish rivers that originate from its lands and that they are transboundary and not international rivers (Mazloum, 1995: 268.).

Except for the Ottoman Empire's dissolution in the year (1923) and the separation of Syria and Iraq from Turkish sovereignty after that war, no political or legal issues regarding the use of the Tigris-Euphrates rivers' waters emerged prior to the outbreak of the First World War (1914–1918). This is because the two rivers, from their source to their mouth, were under the sovereignty of one state, the Ottoman Empire. Syria was allocated to the middle course of the Euphrates River, while Iraq was given to the Tigris River and the lower course of the Euphrates River (Salamah, 2001: 119). There are many treaties and agreements between the countries of the Tigris and Euphrates river basins regarding water, which are the treaties concluded between the British and French mandate states, or between Turkey on the one hand and France, the mandated state of Syria on the other, or between Iraq and Turkey. They did not regulate the use of water.

The rivers flowing in Turkey, Syria, and Iraq are fully regulated. With the exception of the Syrian-Turkish protocol regarding the release of a specific percentage of the Euphrates water in 1987, in which Turkey provided an annual rate of more than 500 cubic meters per second at the Turkish-Syrian border, and the Syrian-Iraqi agreement signed in April ,1990, they lay out some general rules that record the rights of the countries of the lower course of these rivers to benefit from water in general (Mohammed, 2006: 49).

The Turkish side ignored the majority of the prior water agreements signed with Iraq related to organizing work and determining quotas for the waters of two rivers, so that its dispute became solely with Syria regarding water as a result of Iraq's exit from the regional balance equation after the year (2003). Euphrates, Tigris, and rivers that share borders (Al , - Zubaidi (2008: 103).

The political exploitation of the water crisis in the Middle East comes through Turkey's early realization that its distant future is based on developing its political role and interests with the countries of the Middle East and not with the countries of the West, which have been refusing to accept them as members of the European Union.

In order to tighten its control over the Euphrates River's waters and manage its flow outside of its territory, Turkey has prepared for this duty by building (22) dams on the Euphrates River, the greatest of which is the Ataturk Dam, one of the largest dams in the world. Turkey is well aware of the significance of the Euphrates River's waters. For Syria, its importance is more than Iraq, although the Euphrates River flows in Iraq for a distance that exceeds in length the one it crosses in Syria and Turkey (Abdul-Badih, 1991: 147).

As a result of its skill in using the water card as a strategic weapon in dealing with not only Syria and Iraq but also other Arab and Gulf countries, as well as Israel,

through the so-called Peace Pipeline Project, Turkey is known as the only country in the Middle East to enjoy an abundance of water. Therefore, the political nature has become dominant over Turkey's motives in its water actions, as it does not draw its water policy because of its need for electric power and irrigation of crops but because it realizes that water is a more deadly weapon than the rest of the conventional and unconventional weapons together. Water has the least noise and cost and the cleanest weapon, which Turkey has access to lot of it. Turkey wants to achieve a greater regional hegemony through this weapon in the present and in the future, while overcoming some of its internal problems through the optimal use of the water tool (Muhammad, 2006: 38).

The dimensions of the existing geopolitical water crisis in the Middle East, determined in the dispute over the waters of the Tigris and Euphrates rivers, go back decades. This dispute does not only provoke confrontations between Turkey and the two Arab countries, Syria and Iraq, which are located below the two river basins, but rather it has sparked confrontations between these two Arab states. If the conflicting parties had agreed to negotiate sometimes among themselves, , each party tried every time to stipulate obtaining some regional or political advantages in return for the approval of any agreement. Thus the talks conducted by the joint committees between those countries never resulted in any final agreement or compromise. This is due to the complexity of the geopolitical map of the region since the distribution of the property of the Ottoman state, as the policies pursued by the old colonial countries, Britain and France, played in putting obstacles in the way of any understanding on a fair division of water resources between the riparian countries.

3-The economic dimensions of the water crisis in the Middle East

A set of determinants control the economic relations between the countries of the world, some of which are general and govern those relations and are related to the economic policies of the parties concerned. Some of them have to do with international accords. Others are associated with the political and economic blocs that the parties to the economic connections are connected to. The primary factors that determine how economically connected a country is to the rest of the world are its national, national, political, and economic interests (Al-Hamash, 2012: 203). Therefore, Turkey sought to make a fundamental change in its policy during the last two decades of the twentieth century in order to restore the international status that it had during the rule of the Ottoman Empire. Thus, it began to open doors to the global economic system, the market movement was launched and the foreign trade system was liberated. The change in the concept of industrialization in the first stage was in the strategic transformation at the level of the state's theory of Global Markets (Nofal, 2010: 13).

Turkey faced the role of the World Bank as a pressure factor in the economic dimensions of the crisis. There is water between Turkey and both Syria and Iraq. The World Bank is the financial tool that holds the reins of the major countries in the world, as it refuses to finance the water projects implemented by Turkey as long

as it does not reach an agreement with Syria and Iraq on the sharing and management of the waters of the Tigris and Euphrates. However, the western side did not take into account this issue, therefore it started to offer loans and aid for other areas of the Turkish annual budget. This made it possible to create a national fund with participation from both the public and commercial sectors, which helped fund the \$30 billion initiative to develop the Tigris and Euphrates rivers' origins. However, the other two river basin countries do not lack the means of pressure on the Turkish side, as there is the issue of the extension of the repercussions of the Kurdish problem and the Turkish need for oil ((Gaib, 2009: 76 .)

The geographical reality imposes on Turkey that its position should be in this region where the Arabs form its southern flank. On its land borders are the two central Arab countries, Syria and Iraq, which form the gateway to Turkey and have formed an inevitable corridor for crossing to other parts of the Middle East, especially the Arab world. Turkey also found that its interest in the Arabs in general, Syria and Iraq in particular, was from a gateway. The conflict is not cooperation with them due to the historical calculations between the Arabs and the Turks and the association of Syria and Iraq with the socialist camp in previous stages. At the same time, Turkey was the spearhead of the foreign center.

The problems that Turkey suffers from, such as borders, water, and the Kurds, overlap with the geographical reality of Syria and Iraq and Turkey's new policy of turning enemies into friends and zeroing out problems and historical depth. (Nouradin, 13:2012). The impact of these problems that Turkey suffers from goes beyond the political aspects. Hence, Turkey's efforts in dealing with the Kurdish problem from the beginning of its emergence came in an attempt to integrate the Kurds into economic and political life based on Turkish conditions.

As soon as this effort failed, it resorted to violence and a policy of relentless war. Then Turkey realized that these harsh measures had driven larger sections of the Kurdish population to further radicalization. Turkey moved towards developing the Kurdish regions to contain the economic and social backwardness that the Kurdish regions suffer from. Therefore, she came up with the Southeast Anatolia Development Project (GAP). This multi-purpose development project includes dams, power plants, and vast potential for irrigation of the Tigris and Euphrates rivers.

This project aims to transform the undeveloped, vast, and unstable region of Kurdistan, in addition to the electrical energy it produces, into a reservoir in the Middle East, which turns the Kurdistan region into one of the largest factories for the production of this energy. (Majzoub, 1994: 71).

After the Turkish project was completed, which denied Syria and Iraq the water they needed from the Tigris and Euphrates rivers, Turkey rejected the principle of sharing available water resources and instead suggested the principle of integrative use and management of shared water resources, which took on an economic dimension.

Turkey asserts that deciding on the hydraulic arrangements to be achieved in order to ensure maximum returns for all is more important than securing or

asserting sovereignty over the waters of the basins. Rather than settling on a division of the waters of the Tigris and Euphrates among the three nations, Turkey suggests achieving sectoral specialization in the areas of production.

Turkey, which controls the sources of the rivers, must produce enough to meet the food needs of all the countries in the basin through intensive and large-scale irrigation and supply it with electricity. In return, Iraq can provide Turkey with oil, which is the Turkish economy. It is mainly dependent on it. (Gab, 2009: 84).

The Turkish parliament refused to let American soldiers cross Turkish territory to invade Iraq from the north, in A Turkish bet that America will not risk a war on one southern front, and as a result, Turkey, unlike most Arab nations, went so far as to jeopardize its relations with its strategic ally, the United States of America. Although the Turkish chance was not in the right place, the United States of America contented itself with invading Iraq from the south front, so the Turkish position was a realistic test of the new directions of Turkish foreign policy towards the Arabs (Nouradin, 2012: 13).

It became clear that Turkey began drawing its foreign economic policy within the framework of its new strategy through flexible paths in which the margin of maneuver expands in its economy's interest, thus serving its other strategic goals. The path of moving towards establishing new partnerships with Arab countries was one of those paths, by contributing to the water shares that allow its passage to both Syria and Iraq. Thus, it creates a broader window on the future within a new Middle East framework that is established between the region's countries and with the will of these countries that welcomed the new Turkish policy. They also took serious steps in various aspects of political and economic activity.

Most of the Arab countries that have continuous contact with Turkey saw that the Turkish choice to turn towards the Arab countries could be seen as opening horizons for relations within the framework of regional and international transformations to establish real partnerships for the benefit of the peoples of the region. In addition, these partnerships will enable the countries of the region to Play a fundamental role in solving regional problems on the one hand and imposing the presence of these countries in the international arena on the other hand (Al-Hamash, 2012 207).

As it maintains exemplary relationships with numerous local non-state actors, some Arab organizations, and some Arab figures in addition to its clear role and positive relationships with Kurds and Turkmen in Syria and Iraq, Turkey is aware that it has the strength and ability to express, and sometimes practice, what it aspirations in dealing with Arab countries and regimes in particular. The Justice and Development Party has always considered others, especially those close to it, that they are greater than the ruling Arab regimes and a significant player in the region. These perceptions come from an excess of strength and self-confidence which sometimes pushes it to tackle issues greater than its diplomacy's ability, and from its actual ability to carry out, and perhaps beyond that by aspiring to a historical role that restores its lost role in the Arab region.

Due to Turkey's economic hub and its location at the confluence of the Tigris and Euphrates rivers, it occasionally adopted a strategy of meddling in the power dynamics in Arab nations to the point where it interfered in some of their domestic affairs. Along with rejecting the Tigris and Euphrates rivers' international status, Turkey was also eager to play a significant role in oil and gas transportation projects in the Caspian Sea and Iraq. This gave some Turkish officials the confidence to recite the adage that Turkey will sell water just as the Arabs do with oil.

To achieve this, it establishes and develops projects in southern Anatolia and builds a series of dams and irrigation systems. In this context, it proposes the Peace Pipeline project to supply some Arab countries and Israel with water from the Turkish Jehan and Ceyhan rivers, just as Turkey refuses to subject the Tigris and Euphrates rivers to a political or legal agreement that preserves historically acquired rights for both Syria and Iraq.

6- The goals of Turkey's water strategy

Countries seek to achieve goals that achieve their highest national interests by investing in their material and human capabilities in a way they see fit. Turkey is interested in the same policy considering the field of natural resources that it has. Turkey has not hidden its ambition to play a vital role in the Middle East through its strategic water projects in the Tigris and Euphrates rivers. Turkey's water policy depends on extensive plans and programs like the GAP project.

It enables the country to control the water of the Tigris and Euphrates rivers in its territory and achieve political and security, economic and social goals through the development of its southeastern plains. The plans that Turkey seeks to accomplish through its water policy at the domestic level are as follows (Suleiman Abdullah Ismail, 2014: 115).

- Achieving political and security stability, as Turkey seeks to resolve its internal political problems on behalf of the Kurdish issue through its water policy.

Despite the events and developments in Turkey, all successive governments did not recognize the national rights of other Turkish nationalities, mainly the Kurds, in addition to the most critical areas where they live, which suffered from economic and social problems.

The backwardness caused by the deliberate neglect of the government caused dissatisfaction. It led to political and security problems and tensions in the Kurdish regions in the country's southeast.

Therefore, Turkey saw a way to solve these problems and tensions in its water projects in the framework of (GAP), by reducing the inequality at the economic and social level between the southeastern Anatolia region and the rest of Turkey and stabilizing social and economic growth in the project area.

It is improving economic development since Turkey's water policy aims to solve part of the country's financial problems by increasing hydropower capacity. Turkey mainly depends on oil to meet its domestic needs and produce electricity.

Turkey knew that it was not an oil country, so it suffered from a lack of energy, but after the establishment of its numerous projects on the Tigris and Euphrates rivers, the country's hydropower production has increased significantly and has offered to sell energy.

Turkey has produced energy annually (26.5 billion kilowatt-hours) from its projects within the framework of (GAP) Since (1991).

- Improving the level of agricultural production and agricultural industries by increasing the level of irrigated lands through large irrigation projects in the(GAP) project. These plans have economic and social returns that help reduce unemployment and improve stability and sustainability, scientific, social, service, and tourism development. In the last twenty years, the agricultural sector in Turkey's politics has been a priority in the area of the Tigris and Euphrates rivers, and the total irrigated land in the framework of (GAP) in the Tigris and Euphrates basin has reached 177,984 hectares.

Water storage as a strategic asset. Therefore, Turkey seeks to store water as much as possible through the dams it has built for the Tigris and Euphrates rivers, in addition to the other dams to be built on these two rivers, to supply its water to reach the strategic goals of the total water stored in Turkey's GAP project are (90 billion cubic meters) (Salman Shamran Al-Eisawi, 2016: 157).

But the goals of Turkey's water strategy abroad are summarized as achieving political and security stability as well as economic and social development in the southeastern Anatolia region, which is considered one of Turkey's turbulent regions. Thus, Turkey's hydro projects will help increase agricultural land and hydroelectric power generation, adding a new and important source of national income and Turkish economy, improving its position domestically and reflecting on its position in Turkey's regional and international levels.

- Turkey's foreign goals in its water policy seek to achieve various foreign goals in the political, security, and economic fields and because it is fully aware of the importance of water in the Middle East, especially for Syria and Iraq. We will address these goals as follows:

- Focusing on the importance of Turkey's role in solving the vexing water problem in the Middle East region, which increases from period to period with abundant water and numerous water projects, leading to their strengthening. Political and economic situation in the region (Hisham Fawzi Abdul Aziz, 2008: 261).

Applying pressure on Syria and Iraq through Turkey's water factor to stop PKK support from the Tigris and Euphrates rivers has been used as a pressure card on Syria and Iraq, as Turkey has communicated its demands to them.

Tigris and Euphrates cannot be considered unless they stop supporting that party to ensure its regional security. And also the connection of the Tigris and Euphrates water issue with the Orontes river issue with the Syrian side.

- Between 1987 and 1999, Turkey made a great effort to change the balance of strategic forces in the Middle East in favor of Arab and Islamic parties through an alliance with countries outside this range, that is, with Israel.

Turkey has paid attention to Israel's participation in the peace pipeline project and the GAP project to achieve its goals and interests in developing its political, economic, and military relations with Israel, to pave the way for this country's entry into international institutions and forums.

In addition to partnering with Israel to create a new order in the Middle East based on securing their and America's interests in the region, it tried to weaken regional powers (Suleiman Abdullah Ismail, 2014: 117).

• In addition to developing agricultural and industrial projects, Turkey is aiming to become the Middle East's main producer of food goods through its water projects, such as the Southeast Anatolia Project (GAP), which intends to construct dams and power plants on the Tigris and Euphrates rivers. The al-Ghab project will significantly increase Turkey's agricultural and industrial production and export its surplus.

This ends with Turkey's goal of playing a regional role in the Middle East, as it wants to be a food basket for the Middle East countries and the independent republics of the Soviet Union (Suleiman Abdullah Ismail, 2014: 117).

• Turkey seeks to exchange water for oil because the country's water policy serves the principle of exchanging water for oil and obtaining oil at a low price.

• With its water policy, Turkey is trying to promote a new principle in international relations: the principle of selling water to regional countries.

As well as obtaining financial resources through the process of selling water through the peace pipelines, as Turkey in the eighties and nineties considered the importance of its available water as an important economic commodity. The President of Turkey (Turkut Özal) (1991) stated that Turkey is the only water source in the region, and that is why we called for the creation of the Peace Water Project. We will sell water to the Arab countries and the Persian Gulf (George Al-Masri, 1996: 122).

7-Hydropolitics of the Middle East, the water needs of countries

The global water crisis started as a result of several natural factors that caused the emergence of other crises related to the water crisis, such as the food crisis that the southern countries, including several countries in the world, have suffered. The climate changes that the world witnessed in the first decade of the 21st century, such as global warming and drought, are among the natural factors in the growing water crisis in the Middle East, especially the Arab countries.

United Nations studies show that some of the world's major rivers may dry up in the next few decades. The increase in population aggravates the severity of these crises in front of different countries of the world and worries about the emergence of the war for water (Alou, 2012: 187).

Natural factors and policies adopted by coastal countries and international conditions have interacted to produce local economies that can meet the needs of citizens in many countries, including those in the Middle East, which have become powerless.

The need of their people for food and causing bleeding in the annual budgets that are prepared and go towards major capitalist industrial centers and the economy of underdeveloped countries with strong food dependence on capitalist industrial production and, as a result financial debt. (Nahar, 1993: 105).

Water shortage is one of the significant problems facing Middle Eastern countries, which are one of the least water-rich countries in the world, and for this reason, it has become one of the areas in need of water. Only (1) percent of the world's water reserves are available to the people of the Middle East countries, even though this region contains (5 percent) of the world's population.

What increases the need of the countries of the region, especially the Arab countries, is the fact that (60) percent of the sources of these waters are outside the geographical borders of the Arab countries.

While Turkey's dispute with Syria and Iraq is over the share of water in the construction of (22) dams by Turkey, the largest of which is the Atatürk Dam along the Tigris and Euphrates rivers within the borders of Turkey (Alu, 2012: 188).

The rate of rain that falls in Iraq varies from region to region because Iraq is located in the extreme northeast of the Arab world and occupies an area where the volume of irrigation reaches about (425) thousand square kilometers. The amount of rainfall varies between (50-800) mm. (Dabbagh, 1994: 233). The water of these rains is lost due to evaporation and leakage to the ground, mainly because the dry season in Iraq is long and reaches about (8-9) months, during which the amount of evaporation increases in the center, south, and west of Iraq found to be (15) mm per day (Khodam, 177: 2003).

The total water resources of Iraq is (106) billion cubic meters, of which (80) billion cubic meters flow into the Tigris and Euphrates rivers in addition to underground water because these two rivers are the primary sources of Iraq. Still, the water of the Euphrates River is damaged.

Deterioration of its quality and increase in salinity resulted from water projects in the upper part of the river (World Bank World Development Report for 1992, 1993: (309).

The exploitation of underground water in Iraq is minimal, except for some areas far from surface water sources, such as desert areas and the slopes of mountains and hills. The total water resources and annual use is about (1.5) billion cubic meters. , mostly estimated for agriculture (Mohammed, 2006: 34).

The water need in Iraq increased by 5% from 1990 to 2000. In fact, as a result of the increase in population causes an increase in the deficit. In meeting water needs (Mokhimer, 1996: 76).

Water needs in Iraq are mainly for agricultural purposes because the arable area in Iraq is about (31) million hectares, which is a tiny percentage of the size of Iraq (422.7 million hectares).

Iraq's water level needed about (45) billion cubic meters in 2000, and it is expected to need (53.33) billion cubic meters annually in 2025. (Khodam, 2003: 216.). The domestic demand for water in Iraq is related to population growth,

urbanization, and the improvement of the social and cultural level of the population. The domestic demand for water in Iraq is estimated at 1.83 billion cubic meters annually and will reach 3.46 billion cubic meters in 2025. (Dabbagh, 1994: 237).

.Regarding water demand in the industry field, after 1991, there was a noticeable decrease in water demand due to the destruction of this vital sector during the Second Persian Gulf War 1991. As Iraq needed about (0.5) billion cubic meters in the year (2000) and there is a possibility that the water demand in the industry sector will increase to about (1.05) billion cubic meters by the year (2025). (Mokhimer, 1996: 79).

It can be said that the percentage of rainfall in itself is more problematic in the Middle East and especially in the countries of the Arab region due to the high drought situation, primarily due to the lack of it, more than in other areas of the world. Rainfall and, in addition the problem of population increase, which shows that its rate is higher than in many countries of the world, and this is also related to water resources and their consumption percentage, as well as their improper use.

In Arab countries, the percentage of use for agricultural purposes differs from industrial and manufacturing services, in addition to domestic use, related to temperature rates, rising sea levels, global warming, and other issues. In addition, Turkey has started implementing this project in Southeast Anatolia (GAP), which leads to the withdrawal of a large volume of water from these two rivers, resulting in the rationing of water reaching both Syrian countries.

Iraq was affected, which created many factors to affect the food security of these two countries so that many international and regional organizations issued warnings in the late 20th century indicating the possibility of the Tigris river drying up completely. The Turkish projects and Iran are in the process of construction, some of which have political and economic motivations at the same time.

8-Challenges facing water security in Iraq

The challenges facing Iraq's water security with changes in the world's climate due to global warming and many other challenges, especially water pollution and political and geopolitical, shows that its effects since 1990) have worsened. The effects of the policies of the neighboring countries that started to dominate the water resources are hitting the international laws regarding the water organization of the international rivers, including the Tigris and the Euphrates.

In addition to the increase in water demand due to population growth and the growing need for economic and social development, and the ever-increasing achievement of food security in Iraq, as well as the ever-increasing demand for food and the poor management of existing water resources, the most critical challenges, include the following:

8-1 Weather changes

Climate change is the biggest threat facing the future of water in Iraq, as the effects of these changes have been visible since the beginning of the last decade

of the 20th century. These changes in the feeding area of the Tigris and Euphrates rivers led to a decrease in rainfall, especially after 1999.

Drought years during this period were more frequent than in previous years. For example, the climate station Duhok received on average (769) mm from 1970 through 1998. This amount decreased from 1999 through 2007 and reached (604) mm. According to published reports, this decrease in rainfall will increase in the future. The United Nations Government Authority on Climate Change (IPCC) has announced that the water resources of the rivers located in the south and southeast of the Mediterranean, including the Tigris and Euphrates rivers, will be lacking (33) percent at the end of the first quarter of this century due to the change that will occur in the amount of rainfall. (Reza, 2012: 58-59)

8-2 Population growth

One of the main challenges facing achieving water security in Iraq is population growth because the more the population increases, the per capita share of water decreases. The population in 2012 reached about (34) million people per capita. The share of water import was (1.435) billion cubic meters per year. In 2014, the population increased to (36) million people, the available resources were (41.20) billion cubic meters, and the water demand reached (57.84) billion cubic meters.

This led to a decrease in Iraq's water share per capita and a water deficit of about (15.27) billion cubic meters, especially after the completion of Turkish projects, as well as an increase in the need for food and water shortages.

Self-sufficiency in food increases the tension between the countries, as Iraq and Syria were former exporters of grain and now import, especially after the implementation of Turkey's water projects and reduced water supply due to population growth. According to estimates, Iraq's population will reach (48) million in 2025, which will lead to a reduction in the amount of water used per person. In addition to the low quality of water that increased the ratio of salts and substances, the mismanagement of solid water in cases where old irrigation methods are used, such as tourist irrigation, the use of chemical fertilizers and return irrigation water, and unlined irrigation channels led to the deterioration of water quality and discharge of industrial waste. Because of the pollution brought on by the rivers' sewage, countries downstream from the rivers, like Iraq, experience erosion. (Thaer Mohammad Rashid, 2018: 281).

Conclusion

We are facing future water crises in the Mesopotamian region, especially from the policy-making and decision-making apparatus of Iraq, as one of the main countries exposed to the water mentioned above crises. The study of existing trends shows that the world map shows the incompatibility of political borders with catchment areas. The world's population has tripled during the last 100 years, while the demand for water has reached seven times. This issue has led to competitions

to exploit water as much as possible as a geographical area of power. In the western region of the Middle East, the issue of water is a regional issue with international considerations because it is directly related to the region's security.

Studies show that if the current trend of exploiting water resources continues, more than 42% of the world's population will be exposed to water stress by 2050.

Due to the lack of water resources, the West Asian region has always been on the threshold of water crisis and tension, and it is expected that these tensions will increase.

The location of the Middle East in the dry belt of the world and the lack of rainfall in this region are effective in limiting the number of resources in this region so that although 5% of the world's population lives in this region, only 1% of the world's available freshwater resources are located in this region.

.Additionally, the Middle East region has a relatively uneven distribution of freshwater resources. The research issue stems from the fact that more than 50% of the people in this area utilize shared resources and live in common water basins. Shared water resources have a role in reducing water crisis in the region. In the future, the world's countries will use water as a pressure lever against the downstream countries, and this issue is significant concerning the Mesopotamia region. Climate change will be the most critical challenge of the 21st century, which exposes the policy-making and decision-making system to provide the context for facing the mentioned process. The water crisis will cause tension with neighbors in common areas. Water will play a unique role in societies' political, social, and economic stability. The water category will be raised as one of the primary factors of power. The water crisis may lead to internal political and social crises in societies. Finally, the water crisis will threaten the national security of countries. Iraq's lack of water resource management and more than Turkey's water strategy creates water tension for the mentioned countries. The primary threats to the Mesopotamian civilization due to water tensions in the region are severe and possible scenarios.

The water crisis will be the most significant factor of instability in the Middle East in the next two decades . It creates a challenge in Iraq's industry and power plants and intensifies desertification. It also results in the formation of a massive migration wave as a threat to Iraq's social security; drying up of wetlands and groves; severe threats to the field of food security. Climate change is the most important threat caused by the water crisis causing serious damage to the agricultural sector. It also raise tensions with Turkey as a result of water resource restrictions and leads to the formation of the scenario of the escalation of popular demands and protests, which may cause more severe losses than the war for Iraq is likely. In the end, it should be acknowledged that even though the water war in the Middle East has not happened militarily, it has started with legal instruments and security infrastructure. Iraq, as one of the countries seriously exposed to threats in this sector, should organize its water strategies in the region in the form of a new policy system to minimize the effects of threats in this field. Today, the crisis of water

scarcity requires a look beyond the borders of a country, and the issue has been removed from a traditional border framework. The category of "public interests" has replaced "national interests." This issue is much more important in areas with common water basins. Turkey's water policy in the form of indiscriminate dam construction has exposed the countries of Syria, Iraq, and Iran to serious threats. However, the situation in Iraq is mainly different from the two mentioned countries. It is necessary that this country's planning system, including the trustees, expert, executive, and management bodies, move in a direction that will minimize an essential part of the tension-causing trends caused by water issues.

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