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Iraq's Water Crisis
Challenges and Solutions

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Introduction

For several years now, the Middle East, and particularly Iraq, has been suffering from a dire water crisis, compounded by the decrease in water quantities from rivers flowing from upstream to downstream countries. Iraq has been severely affected by this; as there are no alternative sources of water commensurate with consumption. These factors are at the heart of the region's conflicts and are liable to explode at any time; especially after recent climatic and environmental changes; the scarcity of water in dams and rivers, and the lack of rainfall at a time of increasing demand stemming from increased consumption. It is evident that this is a large and complex crisis; not only for Iraq, but also for the other countries which benefit from the rivers flowing into them.

The water resources available in Iraq

The types of available water resources vary in the countries of the Middle East. Some rely mainly on surface water from international riparian rivers, such as Iraq, Syria and Egypt. Other countries, such as Yemen, Djibouti and the Gulf States rely mostly on groundwater and desalinated sea water. Yet still, other countries in the region rely on a

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mix of surface and groundwater. The majority of these countries fully exploit all of the available surface water. The waters of many of the major rivers do not reach the seas and oceans: as numerous countries in the region have built dams and reservoirs for water storage, as well as making huge investments in expanding their irrigation networks. Additionally, other countries in the region are exploiting desalination technology and recycling waste water.

However, most of the investments that have been made, have not, in the majority of cases, been accompanied by the necessary institutional and policy changes, and more often than not, not only failed to generate wealth, but have in fact proved destructive. For example, these policies have not encouraged the proper use of water in the agricultural sector, and there is no future plans that call for the optimal utilization of these waters and for the preservation of renewable surface water.

Iraq depends entirely on the Tigris and Euphrates rivers. These rivers are the main water resources of the country, especially as their basins cover a total of 705,500 sq.km. They originate from the highlands of eastern Turkey. The Ministry of Planning has estimated that the annual flow of the Tigris River to be 15.37 BCM (billion cubic metres), whilst the total annual flow of its tributaries is estimated at 24.23 BCM. Hence, taking into account the tributaries, the total flow of the Tigris River is 39.60 BCM, or 72.3% of total flow from the combined rivers.

The annual flow of the Euphrates River is estimated at 15.15 BCM, or 7.27 % of the total combined annual flow of the Tigris and Euphrates Rivers, estimated at 54.75 BCM. Iraq has a number of water basins such as lake Habbaniyah, Therthar, and Razzazeh which may hold sufficient quantities of water to partially offset the water shortages.

The problems with the country's water resources management over recent years have added, and continue to add, significantly to the risk of some neighbouring countries usurping Iraq's water resources as a means of imposing their political hegemony. Neighbouring countries in the region that share in Iraq's water resources have played a major part in the severe drought crisis experienced by the country.

Increasing demand for water in Iraq

The water flow from the Turkish sources of the Tigris and Euphrates rivers have registered a marked decrease over the past 10 years; reaching 7 billion and 660 million cubic meters compared with 20 billion and 930 million cubic meters per second, which Iraq enjoyed annually until the early 1990s.

Some point out that the most important reason for this is Iraq's population growth a]which has trebled over the last four decades - from about 10 million in 1980 to almost 37.5 million in 2016 – making Iraq's current population growth rate about 15 %, which is one of the highest in the world.

With the population growth in Iraq as it is and with the corresponding increase in demand for food, the previous government formulated agricultural policies aimed at achieving self-sufficiency in food. Consequently, the agricultural sector became the largest consumer of water. It is clear to us that there are three main reasons - interrelated and interdependent - leading to increased demand for water:

- First: an increase in the population.

- Second: development needs.

- Third: excessive over-consumption of water.

The different dimensions of Iraq's water crisis

According to hydrologists, the scarcity of water experienced by Iraq led it to use a vital part of its water reserves from its dams and reservoirs to meet demand, whose quantities have witnessed a decline in recent years; and at the same time, recorded a large deficit in the quantities of water stored. Iraq's Minister of Water Resources, Hassan al-Janabi, in an interview a few months ago, referred to charts, latr published by news outlets, which indicate that water flows during the period from November 2016 to October 2017 had decreased significantly compared to previous years.[1]

One of the main reasons for the current water scarcity is Turkey's construction of water systems on the Tigris and Euphrates rivers,

1. Minister of Water Resources reveals a crisis in Iraq's water reserves.

including the massive GAP project - revival of southeastern Anatolia region - which has led to a significant reduction in the amount of water in the two rivers. The Turks have executed their projects with total impunity and without regard to established principles for the sharing of available water resources. Observers of Turkish affairs, believe Turkey's damage to Iraq is greater than that of Iran and Syria combined. Turkey started work on the GAP project, which consists of 22 dams and 19 hydropower plants, and other sundry projects in agriculture, industry, transport, irrigation and communications. GAP is considered, in terms of area and capacity, as the largest project in the world. The project covers nine Turkish provinces and once finished, will irrigate an area of land of approximately 1.8 million hectares, or about 19% of all irrigated land.[2] One of the most important dams of this project is the Ataturk Dam, which opened in July 1992 and is located on the Euphrates River. Turkey believes that its water resources will provide it with a national wealth equivalent to that of the oil producing countries in the region. This is what former Turkish President Suleiman Demirel said at the opening ceremony of the Ataturk Dam: "The waters of the Euphrates and Tigris are Turkish, and the sources of this water are Turkish resources."[3]

2. The South-eastern Anatolia Project (GAP).
3. The water crisis in Iraq is a result of internal mismanagement and a Turkish desire to dominate the region.

Strategies addressing the threats and management of water resource scarcity in Iraq:

Several strategic ideas can be put forward to address the above challenges; which may be summarised as follows:

1 - Transport of water surplus: The idea is to pump water surplus from one country or several countries through large pipelines.

2 - Artificial cloud precipitation: using modern techniques of cloud seeding, previously employed in Iraq, in order to try to increase the amount of rainfall.

3. Transportation of an iceberg: This technique is advanced and very expensive.

It is also possible to deploy a range of scenarios premised on practical and realistic solutions from the development arena, some of which are sponsored by the World Bank. Amongst the most important of these scenarios are:

• Achieving a comprehensive water resources development strategy for Iraq.

• Accelerating the connection of water supply networks to neighbouring countries, similar to the electricity network connections, and the Iraq-Iran gas pipeline project.

• Working on strategic projects for the development of water

treatment, desalination, transportation and repatriation technologies.

• Establishing joint agricultural projects (Iraqi-Turkish-Iranian) on Iraqi soil, and irrigating them with Turkish-Iranian water. Eventually, the two sides share the profits according to an agreed legal framework.

Conclusions

• Iraq's development essentially depends on water, very much like any other country in the world. As a result, many countries in the region have begun to address the problem of water scarcity by injecting investment into infrastructure projects, which have shown dramatic improvements in the supply of water; and with three quarters of the population of the countries in the MENA region, which have taken out loans from the World Bank, now having access to clean water and adequate sanitation services. Despite the irregularity of services in most of these countries, a number of them have built dams and storage systems for groundwater by investing heavily in the expansion of their irrigation systems.

• The consequences of Turkey's hydro-projects not only overwhelm the river waters that flow into Iraq, but also occupy front stage in the relations between the two countries. Consequently, Iraq has always been compelled to seek ways to improve its relations with Turkey and to sign economic agreements which mostly benefit Turkey's needs.

• The Tigris and Euphrates are considered as the two most important rivers in the Middle East, with a large surplus of water. However, as a result of current developments in the region and more particularly at the hands of the Turks, these rivers are facing serious degradation. Iraq and a few other of Turkey's neighbouring countries are facing a severe water crisis, which could ignite into major conflicts in the not too distant future.

• Iraq is facing an escalating water crisis due to a drop in the water levels of the Tigris and Euphrates rivers, which originate from Turkey. This has had a negative impact on Iraqi agriculture and has led to the importation of most the country's agricultural needs from abroad. This poses a threat to food security, and results in an increase in the areas under desertification and salinity, and in other parts of the country, the total absence of agriculture.

Epilogue

In recent months, warnings have been sounded about climatic changes that will shake the world in the coming decades. The Middle East is at the forefront of the most affected regions, with Iraq, naturally, being one of the most harmed countries in the unfolding crisis. Add to this, the escalating water crisis because of the drop in the water levels of the Tigris and Euphrates rivers, which Iraq relies on to meet its basic needs. The sources of both rivers lie outside Iraq's territory, and both rivers flow inside Turkish and Syrian territories over large

distances.

The sharing of water between the three countries (Iraq, Syria and Turkey) has been the subject of international treaties and protocols since 1920 - following Iraq and Syria's exit from the Ottoman Empire – including the "Lausanne Peace Treaty" signed between Turkey and the allies on 24 July 1923. It was a multiparty treaty signed by, amongst other countries, Britain, France, and Italy, and constituted 143 articles, spread over 17 documents, and included a convention, a charter, a declaration and an annex. The treaty also regulated the use of Turkish waterways and set forth traffic and navigation rules for times of peace and at times of war. Article 109 of the Treaty states: [4]

Article 109

In default of any provisions to the contrary, when as the result of the fixing of a new frontier the hydraulic system (canalisation, inundation, irrigation, drainage or similar matters) in a State is dependent on works executed within the territory of another State, or when use is made on the territory of a State in virtue of pre-war usage, of water or hydraulic power, the source of which is on the territory of another State, an agreement shall be made between the States concerned to safeguard the interests and rights acquired by each of them.

Failing an agreement, the matter shall be regulated by arbitration.

4. The paradox of water and desertification

However, the Turkish side continued to renege on all its agreements and built 22 dams as part of the giant GAP project.

Here, it needs to be said that any solutions or remedies to the water crisis in Iraq that are not based on a clear strategy, will be of no use at all, since the water crisis was born of both external and internal factors and policies. External factors include climate change, global warming, low rainfall, and the poor management of the Tigris and Euphrates rivers by the upstream countries who control the water resources. As for the internal factors, they include the lack of dams, lakes and groundwater storage.

References

1 - Rudaw News: Minister of Water Resources reveals a crisis in Iraq's water supply.

http //: www.rudaw.net/english/middleeast/iraq2411201715/

2 - NRT News: The water crisis in Iraq is a result of internal mismanagement and a Turkish desire to dominate the region

http://www.nrttv.com/Ar/Detail.aspx?Jimare=64555

3. The Southeastern Anatolia Project (GAP)

http://www.gap.gov.tr/en/what-is-gap-page-1.html

4- The Crisis of the Tigris and Euphrates Basins and the paradox of water and desertification, Sahib Al-Rubaie, Distribution House, Telas-Damascus, Al Saqi Books - London, 1999.