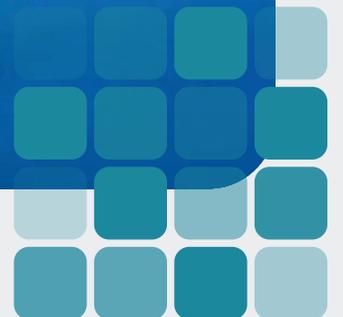


IRAN-IRAQ TRANSBOUNDARY WATER RELATIONS AND TURKEY



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Abstract

Iraq's inability to break the vicious circle of war, embargo, occupation and civil war that the country has been experiencing since 1980 is the main reason behind water shortages in Iraq today. On the other hand, water management practices implemented by Iran, another riparian of the basin, have played a significant role in increasing water shortage experienced by Iraq and in the subsequent emergence of problems that will disrupt the social order in coming years. These problems have become a serious national security issue, especially in the summer of 2018, with its social implications manifesting in Basra.

The effects of the dam and water storage structures built by the upper riparian states, which are among the causes of the water problem of Iraq in general, are too complex to be taken into consideration. Turkey, Syria, and Iran's attitudes as upper riparian states on transboundary waters differ greatly. As the agricultural activities, and thus irrigation activities, have decreased due to the Syrian civil war, it can be said that there is an increase in the Euphrates River flow.

The approach of the two riparian states neighbouring Iraq, Turkey and Iran, differ sharply. The origins of transboundary water issues between Turkey and Iraq can be traced back to 1965 when Turkey built the Keban Dam on the Euphrates River. During this period, Turkey promised to release 350 cubic meter per second of water in an attempt to keep its neighbours' water demands fulfilled. Turkey continued to maintain this approach during the construction of the Karakaya Dam on the Euphrates River, emphasising the consistency of its transboundary water policy. During the construction of other dams and hydroelectric power plants, built as a part of the GAP (Southeastern Anatolia Project) which was created as a big development plan, Turkey, again, pursued the same policy. Despite the water storage in 1991 triggered by the Atatürk Dam which started, Turkey remained faithful to its commitment outlined in the proto-

col signed with Syria in 1987, to release 500 cubic meter of water per second.

Over the course of the past five years, Iran has started building a complex network of dams on and around the river sources within its borders. The projects directly affect Iraq's main water source, the Tigris. Iran's projects have cut water flow to Iraq to a great extent, most notably during the summer of 2018. This situation continues to cause a great deal of damage to Iraq, which was already facing serious water problems.

When we compare the transboundary water policies of Iran and Turkey, we find that the former has substantially cut off river flow from its territory towards Iraq keeping large reserves of water within its borders. Turkey, however, does not follow similar transboundary water policies. Indeed, Turkey maintains high water levels within borders but also allows the flow to continue beyond its borders. Economic embargos placed on Iran following its "Islamic Revolution" of 1979, prompted the Iranian regime to focus on self-sufficient agricultural policies. This increased agricultural demands for irrigation, prompting the Iranian government to divert river flows away from the Iraqi borders through the construction of more dams triggering widespread water storages in Iraq.



Introduction

The 1990s saw the issue of transboundary waters brought to the forefront of international relations. The Euphrates-Tigris basin, as well as the Nile basin, the Jordan and Indus basins, were among the most problematic areas. When we talk about the Euphrates-Tigris basin, we think of the riparian countries: Turkey, Syria, and Iraq. All three countries suffer from water shortages in addition to enduring the consequences of global climate change. Furthermore, Syria and Iraq are in the midst of severe political crises. It is fair to assert that these two countries cannot overcome the political crisis in the short or medium terms. For this reason, it is crucial to keep in mind that these crises should always be kept in mind when analysing Iraq and Syria.

economic losses and environmental disasters due to the water shortage, especially the destruction of agricultural lands. At the same time, dust storms resulting from arid lands cause considerable damage to human and animal health and disrupt transportation and communication.

Having historically fertile agricultural lands and abundant water resources, Iraq is facing severe problems due to the political turmoil it has been experiencing over the past forty years. Maintaining a minimum level of political stability is necessary to ensure that the facilities and infrastructure required for both domestic and agricultural and industrial use of water operate adequately. However, Iraq seems not only to be lacking this stability; it may not be able to achieve it in the foreseeable future. Political instability and vicious sectarianism have created

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Iraq's Water Crisis

Iraq's inability to break the vicious circle of war, embargo, occupation and civil war that the country has been experiencing since 1980 is the main reason behind water shortages in Iraq today. On the other hand, water management practices implemented by Iran, another riparian of the basin, have played a significant role in increasing water shortage experienced by Iraq and in the subsequent emergence of problems that will disrupt the social order in coming years. These problems have become a serious national security issue, especially in the summer of 2018, with its social implications manifesting in Basra.

The water crisis does not only inflict Southern Iraq; it affects the whole country including territory under the control of the Iraqi Kurdistan Regional Government (KRG), which had relatively abundant water resources. Iraq faces high

an inescapable cycle of violence which also contribute to Iraq's overall shortcomings with regards to its ongoing water crisis.

The Situation of the Upper Riparian States

Despite being one of the leading causes of the Iraqi water crisis, the impact left by the construction of dams and reservoirs by the upper riparian states are too complicated to be taken into consideration.

Turkey, Syria, and Iran's approaches as upper riparian states differ significantly. As the agricultural activities, and thus irrigation activities, have decreased due to the ongoing seven-year long Syrian civil war which increased water levels in the Euphrates River. Moreover, Syria had signed an agreement with Iraq in 1990 stipulating that Syria would allow 58 percent of the Eu-

phrates to flow from Turkey to Iraq uninterrupted. Due to these two reasons, Syria is not an active participant in Iraq's current water crisis.

The attitudes of the two other riparian states neighbouring Iraq, namely Turkey and Iran, differ sharply. The origin of transboundary water issues between Turkey and Iraq can be traced back to 1965 when Turkey built the Keban Dam on the Euphrates River. During this period, Turkey promised to release 350 cubic meter per second of water and did not ignore the need for water of its neighbours. Turkey continued with this policy during the construction of the Karakaya Dam on the Euphrates River. Turkey continually insisted on the consistency of its transboundary water policy. During the construction of other dams and hydroelectric power plants built as a part of the GAP (South-eastern Anatolia Project), designed to be a prominent development plan, Turkey again pursued the very same policy. The construction of the Atatürk Dam which started the water storage in 1991 also remained faithful to Turkey's vision, with an ongoing commitment to release 500 cubic meter per second of water to Syria according to a protocol signed by both countries in 1987.¹

There are no direct agreements between Iraq and Turkey on the utility of transboundary waters. The only arrangement between the two countries is dated back to 1946 and regulates information sharing on overflow.² Iraq has long viewed Tigris River as the more important of the two rivers in the Euphrates - Tigris basin which led Iraq to adopt a two-river policy, managing both streams separately. This policy stems from the fact that the Tigris River has a higher average current than the Euphrates and, that the Tigris, unlike the Euphrates, do not originate mostly from Turkey. The Tigris River carries 52 billion cubic meters of water compared to the Euphrates River's 35 billion cubic meters annual average. The Tigris river has a current of about 16 billion cubic meters in the Cizre Gauging Station immediately before leaving Turkey. After creating a boundary of 40 kilometres between Turkey and Syria, the river enters into the Iraqi territory and reaches a 52 billion cubic meter current in the Qurna Gauging Station in southern Baghdad as various river arms from Iran and Iraq join the main body emanating from Turkey.

Undoubtedly, the most critical factor in Iraq's water crisis is water management. The lack of adequate water storage structures resulting from the lack of proper topography and the failure to



effectively operate such facilities due to structural faults as seen in the Mosul Dam. Another major problem is wastewater which flows from agricultural irrigation, industrial and domestic waste back to rivers without any treatment. The discharge of approximately 500 thousand cubic meters of sewage a day to the main branches of the Euphrates and Tigris rivers and their tributaries makes the waters of these rivers unusable.³ Iraq's water-driven problems are thus increasing day by day. Moreover, Iran has started building a network of dams on the river arms and sources five years ago; this led to a complete or partial deviation of the Tigris River tributaries especially in the summer of 2018. This situation caused, and continues to create, a great deal of suffering in Iraq, which is already facing a severe water crisis.

Events that took place in 2011 shed light on how Iran approached the transboundary water relations with Iraq. Iraq had to build a nearly 40-kilometre barrier to its border with Iran in the

territory, is well known. Almost half of the water of the Karun River, rising in Iran and subsequently flowing to Shatt al-Arab River (where the Euphrates and the Tigris Rivers meet), has been artificially redirected towards the inner provinces, and this led to several social manifestations in the Khuzestan Province.⁵ Considering the sectoral allocation of water in Iran, agriculture takes the lead with 93 percent. However, considering that the water used in agriculture is around 70 percent of the average world consumption, it should be noted that Iran's consumption is quite high. With agriculture claiming a share of approximately 10 percent of Iran's country's GDP⁶, it is necessary to conclude that a political preference in Iran supports agriculture. It is fair to reason that this preference found its roots to the 1979 Iran Islamic Revolution. Population growth and self-sufficiency in agriculture were the two main priority areas after the regime change which is called Islamic Revolution in Iran. Although agricultural development emerged as a national pri-

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Basra province. This barrier aimed to prevent arms, drugs and human trafficking, and, on the other hand, to block the transfer of agricultural and industrial wastewater from Iran to Iraq. These dirty and salty waters, uncontrollably flowing from Iran to Iraq, caused irreversible destruction in agrarian areas and many farmers had to leave their land and migrate to Basra city centre.⁴

This situation led to complications not only within Iraq but also to Iran's relations with Iraq. The deep discontent in the western parts of Iran, because of inter-basin water transfer from water-rich western provinces deep into Iranian ter-

riority after the revolution, this project encountered some difficulties. The war against Iraq, which coincided with the early years of the revolution, in addition to the sudden decline in oil prices severely challenged the Iranian economic hampering the realisation of the new regime's agricultural plans. The extraordinary human and financial burden of the war against Iraq prevented the planning and implementation of any substantial agrarian policies in the early days of the new administration.⁷

Today, however, Iran seems to have refocused on the issue of agricultural irrigation to meet the needs of its notably big population.

In 1990, 24.6 million out of 56 million Iranians lived in rural areas while 31.7 million resided in urban areas. By 2017, Iran's population grew to over 81 million. In Iran, the agricultural community appears to have decreased both in real and relative terms. While the number of people living in rural areas fell to 20.8 million in 2017, the urban population ballooned reaching 60.5 million.⁸ Such a significant increase in the urban population immediately increased the pressure on agricultural areas, and irrigated agriculture

around 18 million, reached 37.5 million by 2017. In Iraq approximately 5.3 million people lived in rural areas in 1990 while the remaining 12.2 million people lived in urban areas; today the rural and urban populations have reached 11.4 million and 26.3 million respectively. Resolving issues that result from such high population growth, such as increased demands for nutrition and housing, is becoming almost an impossible task for a country in which the political turmoil is a daily reality.

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comes to the forefront. The biocapacity used in the farming sector in Iran is higher than the self-renewal rate; this means that agricultural areas will be insufficient for agricultural production in the medium and long-term due to over farming.

Iraq's population has also increased at a high rate since 1990. The total population, which was

Iran has redirected the water resources in its western provinces away from its western borders to meet both the agricultural and urban water needs in the east. News about similar projects is frequent, especially during the summer months. This problem puts the Iraqi central administration and the KRG in a tight spot.⁹ 22 percent of Iran's water resources are cross-border. These



waters originating from the Zagros Mountains and join the Tigris River in Iraq. The most substantial of these resources (from North to South) are Little Zab, Diyala, Karkeh and Karun Rivers, respectively. Apart from these, there are also many small branches joining these streams. The Alvand River, which is one of these branches and joins the Diyala River, has been interrupted by Iran in the summer of 2018. Due to these interruptions, which start in June and continue

during the summer, which is one of the branches of the Tigris River and originates within its borders.¹⁰ Iran is about to put into practice the same policy in the Diyala River. Together with the Daryan Dam built on the part of Diyala River in Iran's Kermanshah Province, it aims both to produce hydroelectric power and to meet irrigation water need. However, since it is planned to transfer the irrigation water out of the basin, it is estimated that the current, which is already low,

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until October every year, serious problems arise in agricultural areas in the Khanaqin district of Diyala.

These problems include the risk of desertification as well as the loss of agricultural production. Iran also cuts off the Little Zab River

will decrease further. The water to be transferred from the Daryan Dam is planned to be transported to agricultural areas in southeast Iran for irrigation purposes through a 47 km-tunnel called Navsut.¹¹ Again with the Garan Dam on the Diyala River, Iran plans to irrigate 10,450



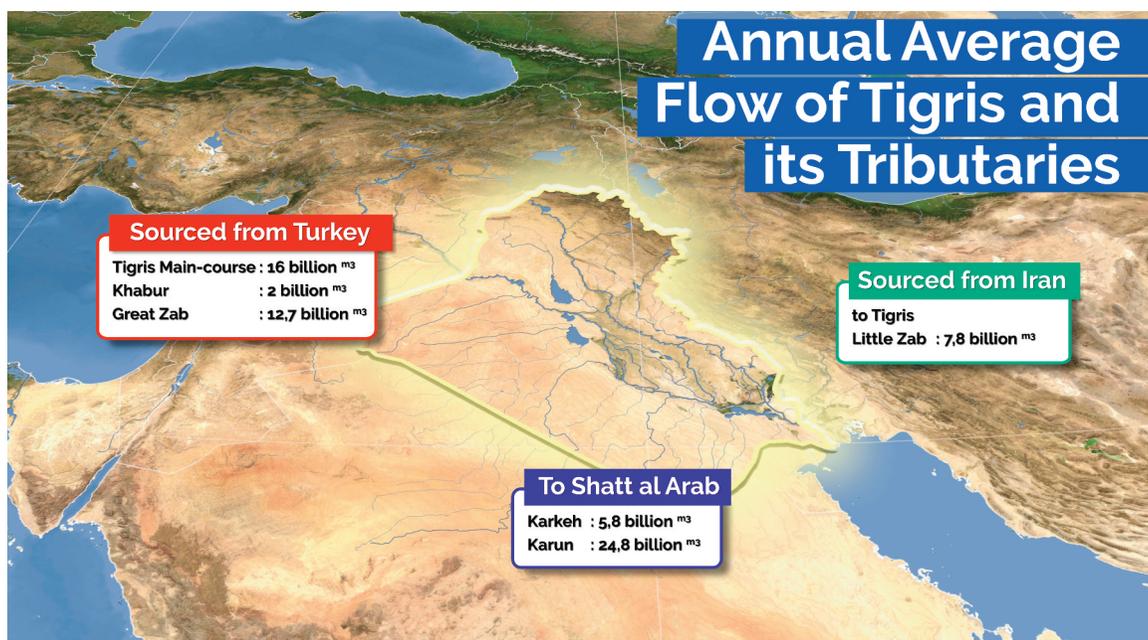
hectares of land. According to calculations, Iran will withdraw approximately 156 million cubic meters from the river. Despite the fact that this amount is a relatively modest figure of 15 thousand cubic meters. It is safe to presume that this figure will likely increase considering climate conditions and the consumption of more water per hectare. With these two dams will reduce the current of the Diyala River by 75 percent, thus the capacity of the Darbandikhan and Hamrin Dams in Iraq supplying hydroelectricity and irrigation water will be eliminated to a great extent. Which, in turn, means that with less water released from the Darbandikhan Dam, which is under KRG control, new problems between the central Iraqi administration and KRG can emerge.

It is clear that Iran has experienced a severe problem with the mismanagement of its water resources. This problem leads to troubles not only in neighbouring Iraq but also within its territory. The environmental problems resulted from the continuous shrinkage of Lake Urmia since the 1980s have attracted the attention of the whole world. The catastrophe the Aral Lake experienced in Central Asia was also experienced by the late Urmia in Iran. The dust on the

lake floor, which has come to light along with the shrinkage of the lake, creates environmental problems in the region, especially Iran. The Silveh Dam, built on the Lavin River - a branch of the Little Zab, to supply water to Lake Urmia and to support the irrigated agriculture in the basin of Lake Urmia where too much water has been drawn in to increase agricultural production. This dam transfers the water to the Lake Urmia basin through a canal. As can be seen from this and earlier examples, Iran has essentially made water transfer between basins, which is often the last resort option, in the water management policies.

Many consider Turkey the origin and cause of Iraq's water crisis. However, when we look at Turkey's policies and practices upon transboundary waters, we find that it mainly focuses on a number of key issues, principally the equitable, reasonable and optimum utilization of transboundary waters. Moreover, avoiding any serious harm to other riparian countries is one of the main lines of Turkey's policies.¹²

Annually 16.240 million cubic meters of water passing through the Turkey-Iraq border in Cizre, the total average flow of the river for



Population Chart

	Iraq Urban/Rural Total	Iran Urban/Rural Total
1990 (million people)	12,2/5,3 18	31,7 /24,6 56
2017 (million people)	26,3/11,4 37,5	60,5 /20,8 81

many years is around 52,000 million cubic meters. Turkey plans to use small amount of 5,500 million cubic meters. These figures show that Iraq controls Tigris River more than Turkey.

With this regards, Ilisu Dam which was constructed by Turkey on Tigris River which is often vocalized that it will cause problems in Iraq. One must examine the claim that the Ilisu Dam accentuated Iraq's water crisis further. The Ilisu Dam is a dam built to produce hydroelectric power and does not serve the purposes of water consumption in other words agricultural irrigation. In this context, it is necessary to point out that the dam will provide benefit to Iraq, not harm it. Considering the Tigris River, there is a significant decrease in its normal flow in the summer months when the water is most needed.

The Ilisu Dam, will regulate the flow and supply Iraq with large amounts of water during the summer months. The Cizre Dam to be constructed within the scope of the GAP will serve both irrigation and hydropower needs. After satisfying Turkish hydroelectric needs, approximately 47 billion cubic meters of water will be available to Iraq. This large amount of water, in theory, can irrigate 3,628,000 hectares of land with a water consumption rate of 13 thousand cubic meters per hectare, or 4,716,500 hectares with a water consumption rate of 10 thousand cubic meters per hectare.¹³ These figures are entirely reasonable considering that 16 billion cubic meters out of a total of 50 billion cubic meters already fall within Turkish borders. This amount is also consistent with the policy Turkey has openly declared.

Evaluation

When we compare the transboundary waters policies of Turkey and Iran, the latter is seen to cut off most waters from flowing to Iraq and direct towards the central Iranian provinces. However, Turkey has no such policies. On the other hand, Iran's exposure to embargoes as a result of the problems with the United States has prompted that country's decision-makers to focus on their policies of self-sufficiency, especially in the agricultural area. The aforementioned brings about more emphasis on agricultural irrigation and the construction of water storage and deviation structures on the waters flowing to its neighbour, Iraq.

Iran's policy to divert transboundary waters that reaches Iraq, to inner parts of Iran, is also interpreted as to make pressure to a possible anti-Iran government in Iraq.¹⁴ These claims however are not supported by enough substanti-

ating facts, it is important to note however that this kind of policy could be a part of Iran's policy towards Iraq at least in the future.

The events that took place in the summer of 2018 have revealed the differences in Turkish and Iranian policies on transboundary waters. While the water storage process in the Ilisu Dam was set to begin in June, the process got delayed following an Iraqi request.¹⁵ In compliance with its principle to not cause significant harm its neighbouring countries on water issues, Turkey agreed. Turkey postponed its initial plans to begin the water storage process to help Iraq to overcome water shortages in the summer of 2018. During the same time, Iran almost wholly cut off waters flowing into Iraq and joining the Tigris River and did not take Iraq's crisis into account. Hence putting Turkish and Iranian policies regarding water crises in Iraq on the same footing is a severe miscalculation.

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