WHITE PAPER:

WATER DIPLOMACY IN THE MIDDLE EAST

INWRDAM
WATER
DIPLOMACY

Contents

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Acknowledgment

This White Paper is based on research, analyses and interviews with key water diplomacy experts, including representatives of the Blue Peace Management Committee.

We would like to acknowledge the support of the key experts: Prof. Dr. Ahmet Mete Saatçı, Eng. Maysoon Zoubi, Dr. Hakam Al-Alami, Dr. Zeina Majdalani, Eng. Maha Rasheed Alzaidi, Prof. Dr. Elias Salameh and Prof. Dr. Nadheer Ansari.

This paper was funded by the Swiss Agency for Development and Cooperation (SDC) as part of the activities of the Blue Peace initiative in the Middle East (BPME).

Citation

This paper was prepared by the Inter-Islamic Network on Water Resources Development and Management (INWRDAM) and the Ministerial Standing Committee on Scientific and Technological Cooperation of the OIC (Organization of Islamic Cooperation) COMSTECH. Dr. Marwan Alraggad et al 2021

DISCLAIMER

1. Executive Summary

In the Middle East, as in other parts of the globe, there are existing and growing stress over transboundary water basins. In addition, disagreements within countries (e.g., inter-state, inter-basin, between end users/sectors) have reflected negatively on water supply. These basins suffer from serious challenges that must be addressed and solved, for this precious resource to be shared with equal benefits across communities, countries, and regions. Empowerment of local populations, refugees and their host communities as water citizens is essential to achieve equitable solutions.

Water citizenship is needed for confidence building and peace-making and is defined as the establishment of fair ownership and loyalty towards water sources and infrastructure, the wise use of water resources and the joining of efforts to achieve equitable access to water.*

The ongoing technical and political dialogue plays a pivotal role in enhancing water cooperation to address the existing challenges. Climate change is the main challenge in the region that needs to be tackled collaboratively to ensure effective and sustainable management of water.

Water Security is "the capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socioeconomic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability." **UN-WATER 2013**.

The very same water resources could, on the contrary, be used as a tool for common understanding and for building bridges, not barriers through introducing efficient joint water management practices that would promote peace, preserve rights of future generations, and sustain ecosystem sustainability.

In efforts to mitigate water-related stress and improve sustainable and efficient water management in the region, The Blue Peace Middle East Initiative was founded in 2011, with the vision of transforming water from a source of conflict into an instrument of cooperation and peace, by adopting Track II diplomacy*. Throughout the past decade, the Blue Peace Middle East Initiative has made numerous achievements, primarily:

- Global High-Level Panel on Water and Peace (GHLP), co-convened by 15 countries[1] from different parts of the world, functioned from 2015-2017 and presented its report "A Matter of Survival" with concrete recommendations to the United Nations in 2017.
- For the first time in history, the United Nations Security Council convened an open session on water, peace and security, addressed by the Secretary-General of the United Nations, Chairman of GHPL and President of SFG.
- In November 2018, the EU Council of Ministers adopted Council Conclusions on Water Diplomacy, based on the Blue Peace ideas and mentioned the GHLP report.
- Geneva Water Hub (GWH) was established in international Geneva to pursue the Blue Peace approach on a structured and sustained basis.
- Regional Blue Peace initiatives fostered intra-regional linkages between countries involved in conflicts in the Middle East, Central Asia and Africa.
- For the first time in history, a regional initiative for water cooperation in the Middle East was established by the countries in the region, with a key role played by the upper riparian country (Türkiye)as the coordination office of the initiative between 2019 and 2022, and building on a community of practice of more than 200 politicians, government officials and experts.

* Definition by INWRDAM 2019.

[1] Jordan was the only panel member from the region.

- The Economist Intelligence Unit launched the Blue Peace Index in 2019.[2]

More than 80% of the Middle East region is situated in transboundary basins[3]. Unfortunately, until this day, no basin-wide agreements exist in the region. However, there are numerous bilateral agreements, treaties and MOUs with regards to transboundary surface water that are summarized in Annex I of this report. On the other hand, transboundary groundwater management remains very limited with no formal agreements in place.[4]

Transboundary water cooperation faces many challenges in the region. There is a continuous increase in demand due to rapid population growth and urbanization including mass refugee flows. At the same time, water supply is expected to decrease due to the overuse of non-renewable water resources and to the changes in rainfall patterns due to climate change. If not addressed timely in a collaborative manner, such scenarios could lead to tension among riparian countries in the region.

In addition to the climate-related challenges, hydro-political challenges also pose a serious threat to the transboundary water management of the region. The persistent geopolitical instability in the region has and continues to impede water cooperation and allocation, which also exacerbates water-related risks and crisis. Consequently, causing adverse impacts on water supply, such as attacks on infrastructure and the weaponization of water which was witnessed in recent years.[5]

Moreover, the management and exchange of data between riparian countries remain limited. This is firstly due to the poor data systems in some countries, and secondly due to the lack of trust among the countries.

According to water diplomacy experts from the region, the recommended way forward is to build on the existing Blue Peace structure by adopting a hybrid approach of Track I*** and Track II diplomacy. This new approach is Track 1.5.

The existing structure of the Blue Peace initiative is a three-tier structure. Chaired by HRH Prince El Hassan bin Talal of Jordan, the top-tier Policy Advisory Committee is made up of influential regional political leaders. At the second tier, the Managing Committee works with support institutions to identify thematic areas of concern (TAC) and to set priorities in the field of water resources. Finally, in the third tier, the Coordination Office supports the Managing Committee in facilitating planned activities. The Coordination Office also works in close collaboration with the National Focal Points (NFP).

The current structure could be optimized in the future to include various specific arms (working groups) such as technical, economic, policy and media ones.

The White Paper presents the recently established first regionally owned mechanism the Blue Peace Middle East, which is formed by water experts from the region (see section 7).

This paper also highlights various recommendations in bridging the gap between riparian countries primarily by creating and utilizing confidence building tools that are crucial to achieving regional cooperation. Whether through mega joint projects, building infrastructure, youth engagement, or joint disaster risk reduction and response plans, the key to water diplomacy is through confidence building.

Additionally, an assessment and mapping of the current regional water situation is an important tool to increase the confidence of riparian countries. Lastly, creating a database of information and promoting the

** Track II – Track II diplomacy: Unofficial dialogues involving influential academic, religious, and NGO leaders and other civil society actors who can interact more freely than high-ranking officials.

[2] www.bluepeacemiddleeast.org.

[3] INWRDAM Shared basin Mapping 2019.

[4] (Inventory of Shared Water Resources in Western Asia, 2013).

*** Track I is the official and formal government to government cooperation via bilateral or multilateral agreements, official delegations and correspondence, and internationally recognized treaties.

[5] (The Middle East Blue Strike List, 2019)- full reference please (Strategic Foresight Group- Blue Peace Bulletin).

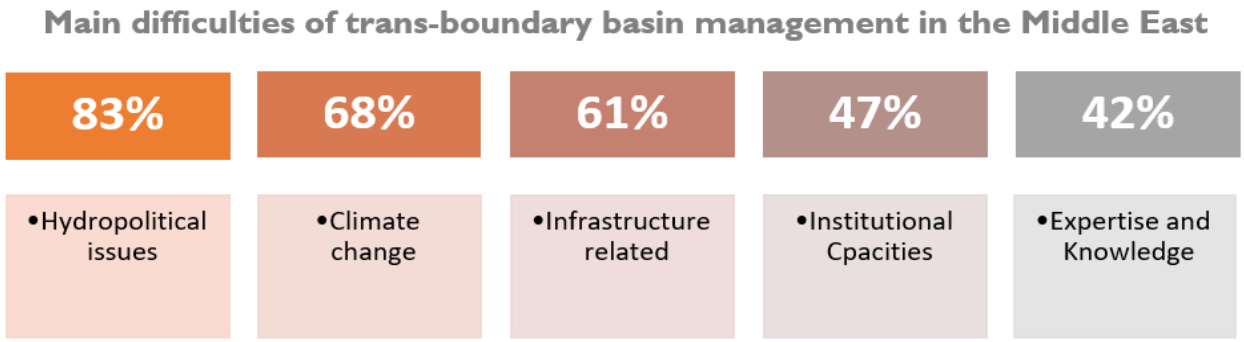
sharing of data among countries is highly recommended as a step towards achieving water peace. As the region emerges from a recent history of turbulence and conflict, cooperation and coordination among countries are needed to prevent the eruption of new crises over life's most valuable resource, water. The dialogue needs to include all relevant actors and stakeholders to have a holistic approach that leaves no one behind.

2. Introduction

This White Paper prepared by the Blue Peace Middle East Regional Mechanism, with the support of the Inter-Islamic Network on Water Resources Development and Management (INWRDAM)[6] and the Ministerial Standing Committee on Scientific and Technological Cooperation (COMSTECH) presents proposals for confidence building among Middle Eastern countries including Jordan, Iran, Iraq, Lebanon, Syria and Türkiye leading to improved regional collaboration over water resources. To write this paper, INWRDAM team first conducted a thorough literature review of the status of water diplomacy in the Middle East, followed by interviews with key experts and researchers from the Blue Peace community and regional water diplomacy experts.

A survey conducted by INWRDAM with its 19 member states highlighted hydro-political issues to be one of the leading causes of transboundary basin management challenges. Hydro-political issues; defined as "The ability of geopolitical institutions to manage transboundary water resources in a politically sustainable manner" [7]have been found by participants in INWRDAM's 2020 Symposium to be the most difficult transboundary challenge to manage in the Middle East.

Another leading challenge for all of the region is climate change and other pressing issues include under-developed or old infrastructure, institutional capacity gaps and limited regional experience. This paper focuses on the identification of collaboration opportunities as the basis for future basin-wide water diplomacy solutions.



Source: The INWRDAM Symposium with member states, February 2020, Amman. Values reflect percentages of sample surveyed.

"We have to move away from solutions that treat people as objects. Instead, we need to focus on solutions that empower people and make them part of the solution. Let us collaborate on water. It will be the first of many steps that will move my region, and regions across the world, from conflict to collaboration." **HRH Prince El Hassan Bin Talal 2014.**

[6] INWRDAM is an inter-governmental, autonomous organization operating under the umbrella of the Standing Committee on Scientific and Technological Cooperation (COMSTECH) of the Organization of the Islamic Cooperation. The Inter-Islamic Network on Water Resources Development and Management (INWRDAM) like all other International Organizations dealing with water, attaches utmost importance to efficient and effective development and management of water resources and cooperation. www.inwrdam.org.jo.

[7] Rai, Subash Prasad, et al. "Hydropolitics in transboundary water conflict and cooperation." River System Analysis and Management. Springer, Singapore, 2017. 353-368.

3. Water Security in the Middle East

Water scarcity in the Middle East has caused great challenges for communities as well as governments and strategic planners in the region. These challenges have been and continue to be exacerbated by rapid population growth, rapid urbanization, regional, political and security instability, human displacement, transboundary conflicts, climate change and currently the COVID19 virus.

The Middle East remains a hotspot of water challenges. In most Middle Eastern countries, groundwater withdrawals exceed their sustainable yield. Flood and drought risks are increasing and are likely to harm fragile populations disproportionately.

Most countries within the study area have shared surface and groundwater resources with high external water dependency[8]. This high reliance on external water resources is exacerbated by increasing water demand, adverse climate change effects and political instability, leading to potential water conflicts at different levels.

Poor sanitation management is another challenge with safe sanitation services ranging widely in the region, especially in rural areas and refugee communities. Sanitation presents a challenge and an opportunity for re-use of treated wastewater as a non-conventional water source for irrigation and industry[9].

Facts and Figures

- As of 2020, around 245 million people live in Iran, Türkiye, Iraq, Syria, Jordan and Lebanon.[A]
- Based on a study conducted by INWRDAM 2019, more than 80% of the study area is located in transboundary water (inc. aquifers) basins.
- More than 80% of available water resources in the region is used for irrigation.[B]
- 90% of the agricultural land in the Middle East is irrigated at a low efficiency of 52%.[B]
- External water dependency across the region is 31%. [B]
- Pollution from agriculture, seawater intrusion and domestic sources seriously affect water quality in the rivers of Iraq. [C]
- 14% of the population of Türkiye lives within the Tigris and Euphrates basins, while 89% of the population of Iraq lives within the two basins.[D]
- In its middle and lower reaches, the Orontes River is heavily polluted with untreated wastewater. This challenge is yet to be addressed at the basin level. [D]

The geopolitical situation in the Middle East is witnessing changes relevant to the adoption of renewable energy (e.g., hydropower, photovoltaic, hydroelectric energy storage). As the transition to a more decentralized and renewable energy economy takes hold, this will lead to changes in the geopolitical equation that can lead to potential cooperation opportunities, especially related to water-energy-food nexus cooperation.

Political and security unrest is a key issue in Middle Eastern countries. Syria with ongoing armed conflict since 2011 has impacted the country, the region, Europe and has caused a massive influx of refugees mainly in Türkiye, Lebanon and Jordan. Millions of refugees have fled the country, adding an extra challenge and stress on water in the hosting countries. Instability in Iraq has undermined government efforts in the reconstruction of water and sanitation infrastructure. Political instability hindered financing and investment in developing water infrastructure in Lebanon. Regional conflict has also shifted the focus of

[A] Worldmeter.info.
[B] SESRIC 2018.
[C] INWRDAM Symposium 2020.
[D] (ESCWA, BGR , 2013).
[8] www.sesric.org.
[9] INWRDAM has found contradicting data about this topic and recommends further investigation of the topic.

the countries toward external issues rather than internal ones, in particular water, food, Environment and energy.

4. Overview of Blue Peace

4.1. Concept of Blue Peace

Amidst the desperate situation of water resource scarcity in the region and the unresolved disagreements among riparian countries, there is a pressing need for a movement to mitigate conflict and alter the momentum of the crisis towards peacemaking and collaboration; these are the founding principles of the Blue Peace Middle East Initiative.

- The Blue Peace Middle East Initiative works to transform water from a source of crisis into a catalyst for socioeconomic development, cooperation and peace in the region.
- Youth play a critical role in the Blue Peace movement by using their voice to advocate for water and peace at every level—from local communities to the world stage.

The Blue Peace Middle East Initiative[10] – a partnership between the Swiss Federal Department of Foreign Affairs (FDFA), Swedish International Development Cooperation Agency (SIDA) and the Strategic Foresight Group (SFG) – was set up in 2011 to work towards regional recognition of water resources as a potential source of socioeconomic development and peace. In efforts to increase the regional ownership and sustainability of the initiative, the decision was made in 2018 to transfer the management of the Blue Peace from SFG to a regional network of water institutes and stakeholders. As a result, the Blue Peace Initiative today is governed by collective leadership with representatives from Jordan, Lebanon, Iraq, Türkiye and, to a limited degree Iran and Syria which is not represented in this initiative because of the war. The secretariat is ensured on a rotation basis and is currently held at the coordination office of the Turkish Water Institute (SUEN).[11] The Blue Peace Initiative serves two purposes; reducing or averting conflicts related to water, and providing opportunities for further cooperation among countries, sectors and communities by using water as an entry point to encourage broader dialogue and increase mutual trust. Ideally, the initiative aims to promote water as an instrument for peace rather than for conflict. Once recognized, water-related tensions are expected to be reduced, and water would be shared more equitably.

4.2. Approach and First Steps

When discussing water diplomacy, prominent diplomatic approaches are to be recognized: the traditional transboundary water approach known as the Track I approach, and the unofficial diplomatic approach known as the Track II approach. Track I is the official and formal government to government cooperation via bilateral or multilateral agreements, official delegations and correspondence and internationally recognized treaties. The latter – Track II – is the unofficial and informal interaction and collaboration between members of adversary groups or nations such as NGOs, research institutes, private sector, think tanks, etc. Since the founding of the Blue Peace Initiative, the approach undertaken has been predominantly Track II-oriented. However, this has shifted slightly by the establishment of the Policy Advisory Committee (PAC) in 2018, which included influential public figures from each of the member countries.[12]

4.3. Success Stories

Since its establishment, the Blue Peace Initiative has achieved significant milestones and achievements in the field of water diplomacy and transboundary water management. Among the most prominent success stories is the Global High-Level Panel on Water and Peace (GHLP), which was co-convened by 15 countries in different parts of the world, functioned from 2015-2017, and presented its report with concrete recommendations to the United Nations in 2017. The Geneva Water Hub (GWH) was also

[10] https://www.thebluepeace.org.
[11] (Blue Peace Middle East Programme - Factsheet).
[12] (Regional Platform for Water Cooperation - Factsheet).

established with the aim of pursuing the Blue Peace approach on a structured and sustained basis. Moreover, the field trips to the Rhine and Mekong rivers were of added value to the stakeholders of the different countries.

The Blue Peace Initiative was the first of its kind in the Middle East region to establish a platform for regional transboundary water dialogue among riparian countries. The initiative managed to maintain discourse between riparian countries despite the high instability in the region. Moreover, the initiative has led to numerous achievements, such as the establishment of a structured regional mechanism. Finally, the initiative has embarked on multiple projects, including the Improving Irrigation Water Use Efficiency Project, the Media Lab Project, the Yarmouk Futures Program and the Innovating Water and Sanitation Solutions Project. Several of these projects aim at supporting youth entrepreneurship working in the sector of water and sanitation in the region.

5. Regional Dynamics and Agreements

Long-standing political instability in the region has hampered successful basin-wide cooperation. Although some bilateral agreements exist that focus on water allocation and emphasize on infrastructure development and use, there are no agreements or treaties that address an entire water basin or aquifer. Moreover, there are no signed agreements with regards to the quality of transboundary water in the region. The only type of cooperation observed in the region is the bilateral cooperation between riparian countries through technical committees and projects. But it is worth mentioning that Türkiye inked MOUs regarding water quality with Iraq and Syria in 2009.

Regional Facts

- Cooperation over shared water exists but is never basin-wide.
- There are no agreements on shared groundwater resources in the region except the case of Disi aquifer between Jordan and Saudi Arabia.
- Efficient allocation among riparian countries requires negotiations on the total available water resources of each riparian based on agreed data.
- Water sources have been weaponized in the region (e.g., ISIS threatening to destroy the Mosul Dam).

Tigris-Euphrates Basin

The Tigris-Euphrates basin has witnessed the highest amount of agreements in the region, which is predictable due to its area, water flow and the reliance of riparian countries on it for agriculture, domestic and hydropower uses. The first recorded transboundary water cooperation between Iraq and Türkiye was in 1946 in the annexed protocols of the Treaty of Friendship and Neighborly Relations.

Moreover, two bilateral agreements concluded since the 1980s regarding the Euphrates River play a vital role in the allocation of water quantities. In 1987, Syria and Türkiye signed the impermanent Protocol on matters pertaining to economic cooperation. Article 6 of the Protocol reads as follows: during the filling, up period of the Ataturk Dam reservoir and until the final allocation of the waters of the Euphrates among the three riparian countries the Turkish side undertakes to release a yearly average of more than 500 m^3/s at the Turkish-Syrian border and in cases where monthly flow falls below the level of 500 m^3/s, the Turkish side agrees to make up the difference during the following month.

In the second agreement in 1990, Syria and Iraq agreed to allocate 42% of the Euphrates water measured at the Syrian-Turkish border to Syria and the remaining 58% to Iraq.[13]

[13] (ESCWA, BGR , 2013).

The 2002 agreement between Syria and Iraq, allowed Syria to establish a pumping station on the Syrian side of the Tigris. After Türkiye and Syria signed an MoU in 2009, Syria launched the project, which aims to establish a pumping station in the territories of Syrian Arab Republic to withdraw 1,250 MCM annually from the Syrian part of the Tigris River. There is no basin-wide agreement in the Euphrates-Tigris Basin that includes the all riparians. However, the three primary riparians (Türkiye, Syria, Iraq) did form a trilateral forum in 1983 called the Joint Technical Committee (JTC). Nevertheless, due to the regional instability the committee paused in 1992 after 16 meetings. On 22 March 2007, on an occasion to inaugurate an international conference in Antalya, Türkiye, the Turkish Energy and Natural Resources Minister invited the Syrian Minister of Irrigation and Iraqi Water Resources Minister to discuss how to set up a cooperative framework to deal with regional water issues. The ministers decided that periodic meetings of the JTC, held between 1982 and 1992 before being suspended, would be reconvened. Hence, a series of JTC meetings were conducted since then. The first one was convened in Syria on May 7-11, 2007, followed by a tripartite ministers meeting on January 10-11, 2008 in Syria. At another JTC meeting on February 24-25, 2009 in Istanbul, officials decided that they would share data (current and historical) regarding meteorological patterns and water quality in the Tigris and Euphrates rivers. Another JTC meeting took place in Syria in 2009.

Iraq and Iran[14] signed the 1975 Algiers Agreement to settle any border disputes and conflicts, including the Shatt al-Arab. The agreement was intended to end the disagreement between Iraq and Iran over their borders on the Shatt al-Arab waterway. 1980, Iraq abrogated the treaty, but under international law, one nation cannot unilaterally withdraw from a previously ratified treaty, and the treaty did not include a clause providing for unilateral withdrawal.

According to The Blue Peace Index, transboundary collaboration score of the Tigris/Euphrates Basin is 25% [15]. This low score urges the need to diversify tools and solutions toward sustainable and shared water resources management.

The Yarmouk Basin

The Yarmouk is the major tributary to the Jordan River Basin, which is shared by five riparian countries (Jordan, Syria, Lebanon, Palestine and Israel). The Yarmouk River is forming the border between Syria and Jordan. Historic annual flow was estimated at 450-500 MCM. Currently, flows vary between 83-99 MCM. Estimates referring to Syria withdraw approximately 335 MCM/y from the Yarmouk tributary basin, of which approximately 170 MCM/y is groundwater pumped from thousands of licensed and unlicensed wells, and roughly 165 MCM /y is surface water stored behind 32 dams. Estimates by the Jordan Valley Authority (JVA) and the Ministry of Water and Irrigation are approximately 98 MCM/y drawn directly from the Yarmouk – about 32MCM/y of which is groundwater pumped from over 200 wells – and the flows that are diverted into the King Abdullah Canal. Israel is estimated to use approximately 56 MCM /y of Yarmouk flows, counting the 35 MCM/y used directly from the Yarmouk [16]

In 1953, Jordan and Syria signed an agreement on the use of the Yarmouk River, which outlined the construction of a dam to provide irrigation water to Jordan and electrical power to both countries. The agreement did not specify quantity shares and merely stated that Syria has the right to all the upstream water of the dam, excluding the water required to feed the planned dam. Further detail development and allocation have been discussed in a unified plan known as the Johnston Plan in 1956. However, due to the regional instability, the construction of the planned dam and hydropower plant did not take place.

[14] Iran is another upstream country in Tigris River.
[15] The Blue Peace Index assesses management of shared water resources across five pillars: Policy & legal frameworks, Institutional arrangements & participation, Water management instruments, Infrastructure & financing, and Cooperation (bluepeaceindex.eiu.com) .
[16] www.jva.gov.jo.

In 1987, Jordan and Syria renewed the 1953 Agreement for the Utilization of the Yarmouk River, in which they agreed to build the Unity Dam jointly, today known as the Wahdah Dam. An annex to the 1987 agreement provides a list of 25 constructed and planned dams in Syria. Together, the listed dams have a potential maximum storage capacity of 155 MCM. Most of the dams mentioned in the agreement have been completed, and additional structures have been built on northern tributaries of the Yarmouk River, amounting to a total of 38 dams. This brings the current total dam capacity in the Syrian part of the Jordan River Basin to an estimated 117 MCM, excluding the Wahdah Dam. Fifteen of the 38 dams have a capacity of 5 MCM or above. The absence of official data from Syria on the amount of water diverted from the Yarmouk has left much room for speculation over the years. A review of sources from the 1990s estimated a total withdrawal of 90-250 MCM/yr. The 1987 agreement between Jordan and Syria on the construction of a high dam on the Yarmouk River (Wahdah Dam) does not give a specific water allocation to Syria. Still, the amount that Syria was diverting at the time was estimated at 170 MCM/yr. For the period 1999-2009, total annual water use in the Syrian part of the Yarmouk Basin (including surface and groundwater) was estimated at an average of 453 MCM.[17]

The Orontes Basin

Known as Assi River, it is shared between Lebanon, Syria and Türkiye with an annual flow of 1.2 BCM and used mainly for irrigation.

Similar to all shared basins in the region, there are no basin-wide agreements in place for the Orontes River Basin. However, there are two bilateral agreements between Lebanon–Syria and Syria–Türkiye. With continuous disputes between Türkiye and Syria involving their multiple transboundary water resources, political cooperation between the countries improved considerably between 2006 and 2010. In 2009, the countries agreed to focus their cooperation on water quality, construction of pumping stations, construction of joint dams and the development of joint water policies. Hence, an MOU was signed addressing the construction of a joint friendship dam. [18]

Formal cooperation between Syria and Lebanon started in 1972 when the countries signed a bilateral agreement concerning water use in the river basin. However, this agreement never came into force due to the political situation in the two countries.[19]

Prior to the eruption of the Syrian crisis in March 2011, Turkish-Syrian ties had improved, as evidenced by the number of agreements the two countries signed and joint projects, they initiated between 2006 and 2009. Before this rapprochement, however, Türkiye and Syria had disagreed about various aspects of water use in the Orontes Basin. Often these disputes were influenced by the two countries' positions on the Euphrates River.

Syrian-Turkish dialogue improved in the 1990s and resulted in an economic rapprochement in the form of a 2004 free trade agreement, which also defined and recognized state boundaries. Cooperative ties between Lebanon and Syria over the Orontes are strong. A special joint committee for the Orontes River was created under the Lebanese-Syrian Joint Committee for Shared Water, which is the central entity through which both countries cooperate over issues related to shared water resources. The membership of the Orontes River Joint Committee is drawn from both countries. The Committee comprises two sub-committees. The River Protection and Environmental Preservation Sub-Committee is responsible for coordinating and supervising issues related to river hydrology, river pollution and river infringements. [20]

[17] Ibid
[18] Ibid
[19] 62. Sofer, 1999.
[20] Ibid

Appendix I outlines the various agreements signed by riparian countries sharing different river basins. The Euphrates and Tigris River basins have the most signed agreements due to their size and large number of riparian countries. Additionally, it can be noticed that in the last decade little progress has been made in creating more agreements and cooperating, likely due to the turbulent time that the region has witnessed.

Nahr el Kabir:

Nahr El Kabir represents a natural border between northern Syria and Lebanon. The river maintains around 377 MCM of flow yearly with 3 dams storing 75 MCM. The river basin is populated with 530000 inhabitants and contains 23000 ha of irrigated areas. Syria in the upstream occupies 85% of the basin where most of its natural seasonal flow is generated due to relatively high rainfall rates and the geographical extension.[23]

Environmental degradation is a major challenge in the basin as the river is severely polluted by the discharge of untreated wastewater and illegal solid waste disposal. Low irrigation efficiency and lack of sustainable irrigation practices have led to many environmental issues such as over-irrigation and pollution by agrochemicals.[21]

To date, there are no dams on the river in the Lebanese lands while Syria constructed three dams on the river since the 1980s. The dams irrigate the Bqaiaa plain and the coastal region. Also, Syria constructed a pumping station on the river at Ain Alfarash pumping more than 7 MCM of river water to irrigate 320 ha in the Bqaiaa plain and to fill Tell Hosh dam through a diversion canal.[23]

In 2002 and following 8 years of negotiations, the two countries agreed to share the water of the river through the construction of a multi-purpose dam with a storage capacity of 70 MCM. According to the agreement, water allocation follows the share of each country in the catchment area that drains to the dam location near Noura al Tahta. The dam is still not constructed and will be a model for bilateral cooperation in the region when accomplished.

6. Challenges

6.1. Water Management

For a long time, conventional water management in the region was based on the concept of common-pool resources, which always led to win-lose situations. Powerful water users win and control the water resource, while weaker users lose their rights to a safe water supply.

The Mutual Gains negotiation concept has challenged this win-lose situation. Reaching a situation of an all-gain condition requires better communication and collaboration which would provide technical and management solutions by building bridges, not dams.

Several constraints hamper water management in the region. Most of these challenges are institutional, technical, socioeconomic and cultural. In the region, governments have implemented large-scale schemes and the installation of water-supply systems, rather than their maintenance and sustainability. Following the increasing water demand, governments find themselves tied by limited financial and technical resources, inappropriate or expensive institutional structures and poor legislative support.

[21] D (ESCWA, BGR , 2013).

Sectorial challenges are present in main water users, such as the agricultural sector. Low irrigation efficiency and contamination due to industrial and urban activities, have significantly affected sustainable water management. The greatest challenge is to design and implement low-cost and innovative technologies for improving water management.

Despite the massive water challenges in the Middle East region, success stories are found all around the region. Türkiye recorded a great success in water resources management for domestic use, irrigation, hydropower generation and flood control. In Jordan, a success story in the use of non-conventional water resource as treated wastewater.

6.2. Climate Change Related Challenges

Climate Change presents many challenges to transboundary water management, water dialogue and diplomacy, as it poses a serious and observable risk to water resources in the Middle East. Studies show that precipitation rates are projected to decline over the coming decades, which would decrease the available surface water as well as groundwater resources. Furthermore, extreme weather events are also expected to increase in intensity and frequency, damaging agricultural lands and infrastructure. The multi-dimensional consequences of such events will be reflected primarily in water and food security. Consequently, this can have a severe socioeconomic effect on the livelihood and wellbeing of vulnerable groups such as small farmers and low-income communities. Such scenarios could act as a catalyst in aggravating shared water conflicts in the region if not addressed in a joint and collaborative manner. Climate change will not only physically impact water resources, but it will also contribute to the creation of 'climate-refugees' which would add more stress on the social and political situation in the region.

- By 2040, the agricultural water demand of the Middle East is estimated to increase by a further 18% due to climate change (higher evaporation) and population growth (FAO.com)
- The yield of rain-fed agriculture in the Middle East will be reduced by 10-15% in 2040 due to climate change (FAO.com).

6.3. Hydro-Political Challenges

Since early history, the oldest human civilizations arose on the banks of the majestic rivers of the Middle East with ancient paths carving their everlasting existence in this rugged and arid land with virtually a parallel course of necessity to human civilization. Rivers have stood witness to ancient societies, their rise and fall, their struggles and overcoming adversities. Since that time, water was a subject for cooperation among communities of shared river basins.

Historically, agreements, treaties and charters on transboundary waters date back as far as 2500 BC, when the two Sumerian city-states of Lagash and Umma crafted an agreement ending a water dispute along the Tigris River.

The nature of disputes over transboundary waters in the Middle East are either silenced conflicts or conflicts based on perceived unfair use of water resources. There are challenges over the efficient use of transboundary waters in the Middle East which could potentially result in tensions within and between countries. Moreover, armed conflicts in the region are exacerbating the-water related tensions.

- Since the early 20th century, numerous attempts to foster cooperation between basin riparian countries have been hampered by the regional political conflicts which continue to stand in the way of any basin-wide agreement on water.
- The Middle East shared basins are unique due to social and political unrest in the region, leading to the misuse of water resources (e.g., weaponization of water, mismanagement).

These tensions are severely aggravated by the impacts of climate change affecting everyone in the region. Joint water challenges among users in the region are sometimes utilized as a nuclei to find common grounds and build confidence. In the end, the people who will suffer most from any tension in the face of a changing climate are impoverished and vulnerable communities in rural and deltaic areas of the shared basins across the region, especially downstream.

As an example, in the last few decades, notable events happened across the Tigris/Euphrates basin, which had adverse impacts on the water supply and infrastructure. Due to the political unrest and armed conflicts in the region, many water infrastructure like dams, water pipelines and wastewater treatment plants were destroyed, surface water is being polluted and wells have been over exploited.

The weaponization of water is not new to the region, as was the case when the Iraqi government responded to the Marsh Arabs Rebellion in the early 1990s in the south by systematically diverting the waters of the Euphrates and Tigris away from the marshlands causing deterioration of this fragile ecosystem. In 2003, UNEP started a project of rehydration of the marshlands, which was evaluated with success in 2020[22]. Moreover, political unrest and regional wars in Lebanon, Iraq and Syria adversely affected water resources by destroying vital water infrastructure facilities such as dams, barrages, wastewater treatment plants, water supply channels, sewage systems and irrigation infrastructure. These operations also caused the pollution and loss of vital freshwater sources, thus affecting the livelihoods of the local inhabitants.

During the terror reign of Daesh (ISIS) in Syria and Iraq, ISIS has used water as an instrument of violence by deliberately flooding towns, polluting water bodies and ruining local economies by disrupting electricity generation and agricultural activities.

Hydro-political challenges may also include inter-state, inter-basin and inter-industry/user issues within countries, which may lead to poor water citizenship. In Jordan, for example, pumping Azraq Basin water to Amman has led to social unrest leading the local community to over pump and deplete available underground water sources. Another example is the tension created between generations due to current over-drawing of available water sources.

6.4. Data Availability, Management and Related Governance Challenges

Water-related data in the Middle East, especially across river basins, is not fully available, poorly managed and is rarely shared. The struggles to collaborate on data collection and management has led to poor sustainable management of transboundary water. Countries in the region have varying capacities with regards to data collection, monitoring and analysis. For example, countries that suffer from political and governance instability often face difficulty in gathering data and creating reliable information records or systems. Therefore, data sharing with neighboring countries becomes a challenging task. Secondly, due to hydro-politics in the region, lack of trust is prevalent.

- The scarcity of accurate data and lack of data exchange protocols hamper joint water resources management.
- As per the Blue Peace Index, there are no inter-governmental data sharing protocols across the region.

In order to achieve water governance, actors are required to engage and share data across policy domains, governance levels and public, private and civic spheres[23]. In Addition, limited data sharing and understanding of the interdependencies may hinder water-energy-food (WEF) nexus tools[26].

[22] https://reliefweb.int/sites/reliefweb.int/files/resources/REACH_IRQ_Factsheet_Land_Cover_Change_Analysis_Mesopotamian_Marshes.pdf

[23] Stein, Christian, and Lena J. Jaspersen. "A relational framework for investigating nexus governance." *The Geographical Journal* 185.4 (2019): 377-390.

Therefore, countries are either hesitant to share information or are not fully transparent and hence not able to achieve nexus governance. The absence of joint monitoring, reliable data gathering and transparent sharing of information further complicate the situation. The main points of dispute are with regards to the quantity and quality of transboundary water.

6.5. Monitoring and Evaluation of Existing Agreements and absence of Basin-Wide Agreements.

Although there are several agreements among riparian countries, there has been a clear gap in the monitoring and evaluation component of such agreements. For example, the onset of civil wars and conflicts in many Middle Eastern countries shifted the focus of governments towards internal challenges leading to de-prioritization of external ones. Therefore, many agreements related to transboundary water allocation have been difficult to evaluate.

6.5 Water Quality

Over the past few decades, dramatic deterioration of water quality has been recorded across the region. This deterioration has been caused by several factors, including improper wastewater discharge, irrigation return flows, industrial development, saltwater intrusion caused by over pumping and climate change. This challenge is further complicated by the absence of joint monitoring programs and agreed to standard operating procedures (SOPs).

Recently the COVID19 crises raised many concerns about transmitting the disease through sewage networks, especially for operators of wastewater utilities. WHO released its factsheet, stating that "infectious SARS-CoV-2 has not been detected in untreated or treated sewage"24. Many studies detected RNA fragments of SARS-CoV-2 (inactive virus) in untreated sewage and sludge in a number of countries around the world which shows an opportunity to use wastewater as a tool for COVID19 surveillance.

7. Bridging the Gap between Challenges and Opportunities

Blue Peace in the Middle East is focusing on contributing to sustainable water resources management in the region ultimately contributing to peaceful societies through integrated political and technical dialogues, substantiated through concrete regional projects, data collection and capacity building programs. It combines hydro-politics with hands-on technical expertise.

The Blue Peace Community in the Middle East is a soft infrastructure for dialogue. The long-term objective for enabling water cooperation in the Middle East is to create an institutional cooperation mechanism for the sustainable management of water resources. So far, the initiative has consisted of different studies such as field visits to various transboundary basins all around the world and workshops, etc. which are significant efforts to find solutions to the three main challenges for sustainable water management in the region:

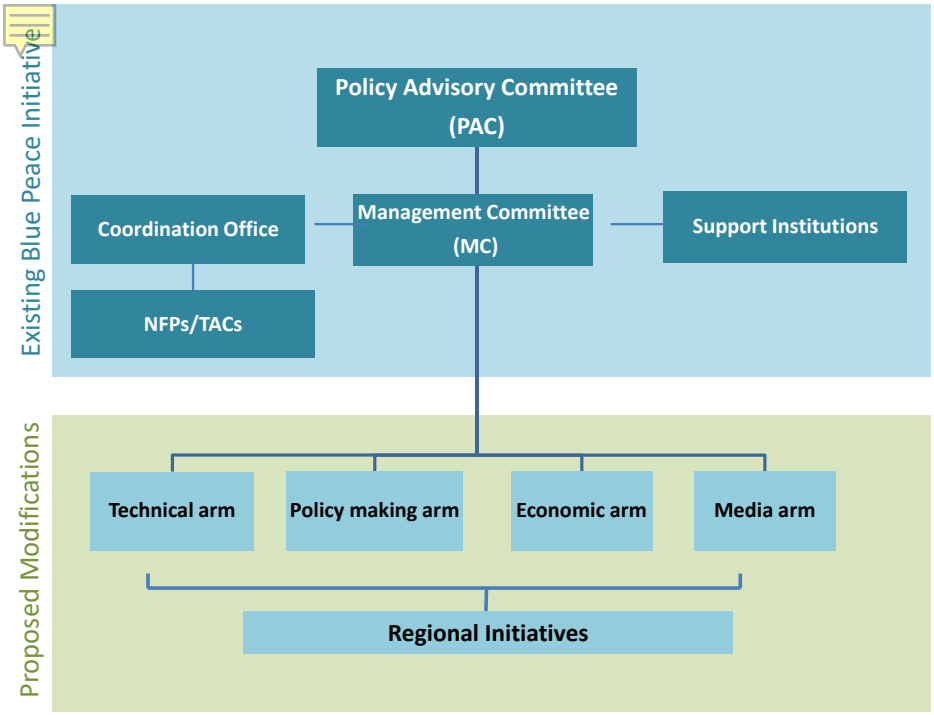
- Closing the knowledge gap with regard to reliable data on water resources,
- Enhancing capacity building and confidence building,
- Developing dialogue among partner countries.

[24] WHO: Water, sanitation, hygiene, and waste management for SARS-CoV-2, the virus that causes COVID-19, 2020

A recent significant step was made by setting up a new structured and dynamic network of prominent institutions from partner countries in the region called the Blue Peace Regional Mechanism.

The new approach that entered into function in 2019 consists of institutional leaders from the region taking over the governance of the Blue Peace in the Middle East.

The existing structure of the Blue Peace Initiative is a three-tier structure. Chaired by HRH Prince El Hassan bin Talal of Jordan, the top-tier Policy Advisory Committee is made up of influential regional political leaders. Below it, the Managing Committee works with support institutions to identify thematic areas of concern (TAC) and to set priorities in the field of water resources. Finally, in the third tier, the Coordination Office supports the Managing Committee in facilitating planned activities. The Coordination Office also works in close collaboration with the National Focal Points (NFP). The current structure could be optimized in the future to include various specific arms such as technical, economic, policy and media ones.



8. Opportunities, Recommendations and Conclusions

Despite all the challenges in addressing transboundary water management and achieving regional prosperity, there seems to be light at the end of the tunnel, according to experts in the region. The newly established Blue Peace regionally-owned mechanism focuses on capitalizing on current cooperation activities and working on strengthening them, in addition to shedding light on new opportunities of regional cooperation. The regional mechanism should also leverage water citizenship as a means for community engagement and cross-country confidence building and peace-making and to provide tools for basin-wide integrated water resources management practices.

This White Paper presents 13 recommendations for the region to enhance water security for all:

1. Need of holistic analysis of the current status quo and evaluation of cost of no cooperation:

There needs to be a thorough and holistic analysis of the current status quo in relation to water of each riparian country. The scope of the analysis needs to include the history of water-related

cooperation in the forms of Track I and Track II diplomatic activities, mapping and analysis of previous and current bilateral and multilateral water-related agreements and treaties between member countries and conformity to international conventions.

The studies need to also focus on the cost of no cooperation, joint risk management and sustainable water management through a cross-cutting interdisciplinary lens to analyze the overall strategies and policies towards water resources.

2. Regional databases as decision support tools, and IWRM support mechanisms:

As appropriate creation of regional databases that are accessible to riparian countries and updated frequently to include the above analysis. These will be managed by technical arms and used as decision support tools, and IWRM support mechanisms. Open data should not be expensive or institutionally exclusive to enable researchers and policy makers to have the necessary information to make decisions where specific data is unavailable.

3. Joint disaster risk reduction (DRR) for resilience and confidence building:

The recent crisis of COVID19 has made it clear that the region is never immune to disasters. Therefore, disaster risk reduction programs should not only be implemented on a national scale but should be considered as an opportunity for collaboration amongst riparian countries in developing joint disaster response plans and programs. This is especially prominent in water quality related disasters, where all riparian countries would be disadvantaged. Studies should also be conducted with regards to the water risks hotspots and their resilience to such disasters, exploring areas of potential agreements and collaboration.

4. Mapping and analyses of the 3G's (geography, geology and geophysics) for sustainability:

Our understanding of the geography, geology and geophysics of these transboundary basins is the key to finding solutions that ensure sustainable development and welfare in access to natural resources and the efficiency of their use. A prime example on the importance of geology in this domain is the location of the Middle East with its tectonics and formations and relatively high seismic activity that may affect the stability of mega water structures.

5. Human development and capacity building:

Technical and engineering solutions exist and are available. Still, their use will not be rewarding without comprehensive thinking, and we cannot make a difference if our conversations are one-sided. These solutions cannot work without considerations of human development and capacity building and without the potential of providing social wellbeing that deepen the belonging of populations who share basins and can be participants in solving the problem rather than being viewed as part of the problem.

6. Assessing and quantifying the value of cooperation and the cost of doing nothing:

Hydro-political tensions must be eased to pave the way towards peaceful sustainable water management. Mismanagement could lead to political tensions and pernicious impacts on local communities and stability in the region. Therefore, it is crucial to assess and quantify the value of cooperation, the cost of doing nothing and the potential impact on the socioeconomic and political stability of the region. Modelling such scenarios with numbers can help present policy makers with clear benefits of transboundary water cooperation and conflict mitigation tools. Such studies would require a comprehensive regional advocacy plan prior to commencement.

7. Regional projects as a tool of confidence building:

Identifying, studying, proposing and promoting regional projects and areas of cooperation that have significant mutual economic and social benefits to each party. Such projects and initiatives may include water-energy-food-ecosystem nexus projects, infrastructure projects, non-conventional water use or capacity building initiatives through academic exchange programs. Such initiatives will increase the rate of cooperation and constructive dialogue in the region, thus building confidence and trust. Furthermore, regional megaprojects should also be considered, such as desalination, large-scale water conveyance structures, cross-border renewable energy generation and large-scale irrigation efficiency initiatives. Megaprojects would require high levels of trust among country partners to commence. However, once initiated, they would act as a long-lasting bond between countries and a cause for continuous cooperation and collaboration.

8. Opportunities through Water-Food-Energy-Ecosystem (WEFE) nexus:

There is a regional consensus that the Water-Food-Energy-Ecosystem (WEFE) nexus approach has the potential to increase cooperation between countries. Exploring WEFE nexus and other interdisciplinary approaches would present many promising opportunities in building trust and confidence among BPME member countries; hence, acting as a catalyst for social wellbeing, sustainable resource management and a tool for peace. In addition, there is a demand for a better understanding and analyses of how different stakeholders navigate the inter-organizational networks constituting a WEFE nexus.

9.Climate change adaptation:

Climate change vulnerability must be addressed as a serious threat that puts the lives of many at risk. Therefore, adaptation methods must be mainstreamed, and the resilience of communities must be built on a regional level. Once member states recognize the extent of the impact that climate change will have on their socioeconomic status, steps in the required direction may be taken. Therefore, an opportunity presents itself for countries to collaboratively develop region-specific climate change models, building trust and increasing harmony in the region, while also building a more robust understanding of the impact of climate change on the respective countries.

10. SDGs for confidence building:

To monitor regional development, following / applying the framework of the SDGs are essential. Within this framework set by the UN SDGs it is possible to increase confidence among countries and contribute to trust building

11. Public-Private-Partnership (PPP):

Promoting shared responsibility through public-private partnership and inclusive solutions that leave no one behind.

12. Dialogue for integration of solutions:

Our reading of maps with their natural and human dimensions shows that every country or geographical area is distinguished by the presence of certain resources and skills, and therefore access to integration leading to water and food security depends on our ability to dialogue adhere the other, and this certainly can come with the presence of initiatives working to manage this dialogue and find tools and knowledge converting data into policies.

13. Fundraising:

Creating regional investment funds and blended finance mechanisms to support project bankability.

Appendix 1: Transboundary Eater Agreements in the Middle East

Euphrates River

Year	Name	Significance	Signatories
1921	Ankara Treaty	Article 12: the waters of Kuweik shall be shared between the ciy of Aleppo and the district to the north remaining Turkish in a such way as to give equitable satisfaction to the two parties. The city of Alleppo may also organize, at its own expense, a water-supply from the Euphrates in Turkish territory in order to meet the requirements of the district.	France (Syria), Türkiye
1946	Treaty of Friendship and Good Neighborly Relations	Protocol 1: The protocol provides a framework for the two parties to deal with their respective interests along the river system. It emphasized mainly the urgency of building up flood control works on the Euphrates and Tigris rivers and underlined the positive impact of storage facilities to be sited in the Turkish territory. 1946 Treaty of Friendship and Good Neighborliness between Iraq and Türkiye, the parties agreed that the Euphrates and the Tigris rivers should be regulated: "Iraq agreed to contribute to the expenses of the installations aimed to regulate water, if it also aimed for (sic) the benefit of Iraq."	Iraq, Türkiye
1980	Protocol for Technical and Economic Cooperation	The protocol mandates establishment of a joint technical committee to study the issue of regional waters – particularly the Euphrates and Tigris rivers.	Iraq, Türkiye (Syria signed in 1983)
1987	The Protocol on Matters Pertaining to Economic Cooperation	Article 6 of the Protocol: During the filling up period of the Ataturk Dam reservoir and until the final allocation of the waters of the Euphrates among the three riparians countries the Turkish side undertakes to release a yearly average of more than 500 m^3/s at the Turkish-Syrian border and in cases where monthly flow falls below the level of 500 m^3/s, the Turkish side agrees to make up the difference during the following month.	Syria, Türkiye
1990	Water-Sharing Agreement	Agreement on water allocation between Iraq and Syria, which divides the flow of the Euphrates at the Syrian-Turkish border according to a 42% to 58% ratio.	Iraq, Syria
2001	Joint Communiqué	Under this agreement, the Regional Development Administration of the Southeastern Anatolia Project (GAP RDA) in Türkiye and the General Organization for Land Development at the Syrian Ministry of Irrigation are to conduct joint projects and programs.	Syria, Türkiye
2008	Declaration on the Establishment of the High-Level Strategic Cooperation Council	The mechanism of joint meetings between the Iraqi and Turkish cabinets also includes communication over the issue of shared water.	Iraq, Türkiye
2009	Joint Statement of the First Meeting of the High-Level Strategic Cooperation Council Between the Syrian Arab Republic and the Republic of Türkiye, Türkiye	• Memorandum of Understanding in the Fields of Meteorology and Meteorological Researches Between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic. • Cooperation Agreement in the Field of Environment Protection Between the Ministry of State for Environment Affairs in the Syrian Arab Republic and The Ministry of Environment and Forests of the Republic of Türkiye. • The MoU between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic in the Field of Remediation of Water Quality. • The Memorandum of Understanding between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic in the Field of Efficient Utilization of Water Resources and Combating of Drought. • The Memorandum of Understanding Between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic on Establishment of a Pumping Station in the	Syria, Türkiye

		Territories of Syrian Arab Republic for Water Withdrawal from the Tigris River. • The Memorandum of Understanding Between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic for the Construction of a Joint Dam on the Orontes River Under the Name "Friendship Dam.	
2008	Joint Political Declaration on The Establishment of The High-Level Strategic Cooperation Council Between Governments Of The Republic Of Türkiye And The Republic Of Iraq	• Encouraging cooperation in the field of water resources and agriculture to assist Iraq in meeting its agricultural needs and water requirements including irrigation by taking into account Türkiye's agricultural needs and water requirements to provide such assistance.	Iraq, Türkiye
2014	MOU	MoU in the field of water between the ministry of forestry and water affairs of the Republic of Türkiye and the Ministry of Water Resources of the Republic of Iraq – came into force on September 2021.	Türkiye- Iraq

Tigris River

Year	Name	Significance	Signatories
1930	Turko-French Protocol (on Commission of Delimitation)	The Final Delimitation Protocol states that the border between the two countries is to follow the thalweg principle, establishing the border in the middle of the Tigris, regardless of shifts in the river's course.	France (Syria), Türkiye
1946	Treaty of Friendship and Good Neighborly Relations	The protocol provides a framework for the two parties to deal with their respective interests along the river system. It emphasized mainly the urgency of building up flood control works on the Euphrates and Tigris rivers and underlined the positive impact of storage facilities to be sited in the Turkish territory. 1946 Treaty of Friendship and Good Neighborliness between Iraq and Türkiye, the parties agreed that the Euphrates and the Tigris rivers should be regulated: "Iraq agreed to contribute to the expenses of the installations aimed to regulate water, if it also aimed for (sic) the benefit of Iraq."	Iraq, Türkiye.
1980	Protocol for Technical and Economic Cooperation	The protocol mandates establishment of a joint technical committee to study the issue of regional waters – particularly the Euphrates and Tigris rivers.	Iraq, Türkiye (Syria signed in 1983.
2002	Agreement on the Creation of a Pumping Station in Syria on the Tigris	The agreement governs the establishment of a Syrian pumping station on the Tigris River. It also specifies project area and volume of water extracted.	Iraq, Syria.
2009	Joint Statement of the First Meeting of the High-Level Strategic Cooperation Council Between the Syrian Arab Republic and the Republic of Türkiye Republic and the Republic of Türkiye,	Memorandum of Understanding in the Fields of Meteorology and Meteorological Researches Between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic Cooperation Agreement in the Field of Environment Protection Between the Ministry of State for Environment Affairs in the Syrian Arab Republic and The Ministry of Environment and Forests of the Republic of Türkiye. The MoU between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic in the Field of Remediation of Water Quality. The Memorandum of Understanding between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic in the Field of Efficient Utilization of Water Resources and Combating of Drought. The Memorandum of Understanding Between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic on Establishment of a Pumping Station in the Territories of Syrian Arab Republic for Water Withdrawal From the Tigris River. The Memorandum of Understanding Between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic for the Construction of a Joint Dam on the Orontes River Under the Name "Friendship Dam	Syria, Türkiye.
2008	Joint Political Declaration on The Establishment of The High-Level Strategic Cooperation Council Between Governments of the Republic of Türkiye And the Republic of Iraq.	Encouraging cooperation in the field of water resources and agriculture to assist Iraq in meeting its agricultural needs and water requirements including irrigation by taking into account Türkiye's agricultural needs and water requirements to provide such assistance.	Iraq, Türkiye.

2014	MOU	MoU in the field of water between the Ministry of Forestry and Water Affairs of the Republic of Türkiye and the Ministry of Water Resources of the Republic of Iraq – came into force on September 2021.	Türkiye- Iraq.

Orontes River

Year	Name	Significance	Signatories
1939	Final Protocol to Determine the Syria-Hatay Border Delimitation.	The protocol specifies where the waters of the Orontes, Karasu and Afrin rivers constitute the border between Syria and Türkiye.	Syria, Türkiye.
1972	Agreement on Water Use.	First bilateral agreement on water use in the Orontes Basin.	Lebanon, Syria.
1991	Fraternity, Cooperation and Coordination Treaty.	The treaty provides the formal basis for cooperation between the two countries in the domain of water and other sectors. Several joint entities were established, including the Lebanese-Syrian Joint Committee for Shared Water.	Lebanon, Syria.
1994	Agreement on the Distribution of the Orontes River Water Originating in Lebanese Territory.	The agreement states that the signatories consider the water resources of the Orontes as common waters. It specifies that, based on an annual discharge rate of approximately 400 MCM, Lebanon is to receive 80 MCM with the remainder allocated to Syria.	Lebanon, Syria.
1997	Annex to the Agreement on the Distribution of Orontes River Water Originating in Lebanese Territory.	The annex identifies four sub-basins and a main spring, which are to be excluded from Lebanon's annual share as agreed in the 1994 agreement.	Lebanon, Syria.
2001	Amendment to the Agreement on the Distribution of Orontes River Water Originating in Lebanese Territory.	This amendment allows Lebanon to establish infrastructures on the river.	Lebanon, Syria.
2009	Joint Statement of the First Meeting of the High-Level Strategic Cooperation Council Between the Syrian Arab Republic and the Republic of Türkiye Republic and the Republic of Türkiye,	• Memorandum of Understanding in the Fields of Meteorology and Meteorological Researches Between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic • Cooperation Agreement in the Field of Environment Protection Between the Ministry of State for Environment Affairs in the Syrian Arab Republic and The Ministry of Environment and Forests of the Republic of Türkiye • The MoU between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic in the Field of Remediation of Water • Quality. The Memorandum of Understanding between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic in the Field of Efficient Utilization of Water Resources and Combating of Drought • The Memorandum of Understanding Between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic on Establishment of a Pumping Station in the Territories of Syrian Arab Republic for Water Withdrawal from the Tigris River. • The Memorandum of Understanding Between the Government of the Republic of Türkiye and the Government of the Syrian Arab Republic for the Construction of a Joint Dam on the Orontes River Under the Name "Friendship Dam Türkiye.	Syria, Türkiye.