

# Turkey's foreign policy orientation in the water context and the Orontes Basin

AYSEGUL KIBAROGLU AND VAKUR SUMER

## 1. Introduction

This chapter will basically aim at understanding, explaining and analyzing the foreign policy orientation of Turkey in the transboundary waters context. Turkey's state practices include a rich history of treaty practices, as well as political statements and actions which culminated in regional water governance trends displaying consensus, but in most cases disagreements. The chapter will analyze how harmonization with the European Union (EU) has had impacts on the transboundary water policy discourses and practices in Turkey, and how these changes have been reflected in the country's relations with its neighbors in the Middle East. The Orontes River Basin is presented as a case-study with its geographical features and hydro-political history. In this context, transboundary water politics in the Orontes will be examined with its entrenched complexities. The chapter will focus on the divergent views of Syria and Turkey over the Orontes, the cooperation initiatives taken in the last decade, specifically the proposed "Friendship Dam" project which came to a standstill after the civil war in Syria and consequent deterioration of relations between Turkey and Syria. The chapter will also briefly present the need for a reappraisal of the transboundary water management practices in the basin so that they would favor greater participation of stakeholders which have traditionally been excluded in the region, such as women.

## 2. Turkish foreign policy and water

Turkey's water policy aims at achieving a number of fundamental objectives, such as increasing agricultural production and food security; meeting the increasing demand for drinking water in rural and urban areas as well as in the industrial sector; decreasing dependency on imported energy sources; diminishing the regional, economic and social discrepancies in the country; and increasing the welfare of the society. Transboundary water policies have been formulated at the national level in conformity with these strategic objectives. According to the Turkish Ministry of Foreign Affairs, which carries the primary responsibility for formulation as well as implementation of transboundary water policy, Turkey's policy regarding the use of transboundary rivers is based on the following principles (Ministry of Forestry and Water Affairs, 2013):

- "Water is a basic human need.
- Transboundary rivers are elements of cooperation rather than a reason for conflict.
- Each riparian state of a transboundary river system has the sovereign right to make use of the water in its territory.
- Riparian states must make sure that their utilization of such waters does not give significant harm to others.
- Transboundary waters should be used in an equitable, reasonable and optimum manner.
- Equitable use does not mean the equal distribution of waters of a transboundary river among riparian states.
- The objective of transboundary water cooperation should be sharing the benefits of transboundary waters.
- Transboundary water disputes should be settled between the riparians and mediation attempts of third parties should not be supported.
- Transboundary water use and allocation should be conducted with a consideration of natural hydrological and meteorological conditions.

Accordingly, the risks of droughts should be shared between the co-riparians. Under such variable hydrological and climatic conditions, water sharing cannot be settled on the basis of fixed numbers or quantities.

- Turkey is ready to share its experiences, technology and human resources capacity with its neighbors in building hydroelectric power stations, dams and other water infrastructure including irrigation and drinking water systems.”

and for the Euphrates and Tigris Rivers in particular:

- “The two rivers constitute a single basin.
- The combined water potential of the Euphrates and the Tigris Rivers is, in the view of the Turkish authorities, sufficient to meet the needs of the three riparians provided that water is used in an efficient way and the benefit is maximized through new irrigation technologies and the principle of “more crop per drop” at basin level.
- The variable natural hydrological and meteorological conditions must be taken into account in the allocation of the waters of the Euphrates and the Tigris Rivers.
- The principle of sharing the benefits at basin level should be pursued.
- Turkey is ready to negotiate all aspects of the Euphrates and Tigris waters. In this context, as a token of goodwill, Turkey is providing data and information to the neighboring countries upon their request. Yet, data exchange should be carried out mutually and at the basin level.”

According to the Ministry of Forestry and Water Affairs, Turkey's transboundary water policy is furthermore formulated by taking into consideration the priorities of the country with respect to its economic and social development needs, as well as the framework of the accession negotiations with the European Union (EU) (Ministry of Forestry and Water Affairs, 2013).

Water has become an issue in Turkish foreign policy in the 1980s with the planning and building of a series of large-scale dams and giant irrigation projects in the Euphrates-Tigris River Basin within the context of the Southeastern Anatolia Development Project, also known as the GAP project, with a view to achieving social and economic development in the country. History and geography, the main factors that determine a country's foreign policy, have played a key role in the formulation of the transboundary water policy. In this context, since the first years of the Republic the state of affairs in the relations with the neighboring states has determined the main framework for transboundary water policy. On the other hand, the Cold War period,

# Turkey's foreign policy orientation in the water context and the Orontes Basin

AYSEGUL KIBAROGLU AND VAKUR SUMER

## 1. Introduction

This chapter will basically aim at understanding, explaining and analyzing the foreign policy orientation of Turkey in the transboundary waters context. Turkey's state practices include a rich history of treaty practices, as well as political statements and actions which culminated in regional water governance trends displaying consensus, but in most cases disagreements. The chapter will analyze how harmonization with the European Union (EU) has had impacts on the transboundary water policy discourses and practices in Turkey, and how these changes have been reflected in the country's relations with its neighbors in the Middle East. The Orontes River Basin is presented as a case-study with its geographical features and hydro-political history. In this context, transboundary water politics in the Orontes will be examined with its entrenched complexities. The chapter will focus on the divergent views of Syria and Turkey over the Orontes, the cooperation initiatives taken in the last decade, specifically the proposed "Friendship Dam" project which came to a standstill after the civil war in Syria and consequent deterioration of relations between Turkey and Syria. The chapter will also briefly present the need for a reappraisal of the transboundary water management practices in the basin so that they would favor greater participation of stakeholders which have traditionally been excluded in the region, such as women.

## 2. Turkish foreign policy and water

Turkey's water policy aims at achieving a number of fundamental objectives, such as increasing agricultural production and food security; meeting the increasing demand for drinking water in rural and urban areas as well as in the industrial sector; decreasing dependency on imported energy sources; diminishing the regional, economic and social discrepancies in the country; and increasing the welfare of the society. Transboundary water policies have been formulated at the national level in conformity with these strategic objectives. According to the Turkish Ministry of Foreign Affairs, which carries the primary responsibility for formulation as well as implementation of transboundary water policy, Turkey's policy regarding the use of transboundary rivers is based on the following principles (Ministry of Forestry and Water Affairs, 2013):

- "Water is a basic human need.
- Transboundary rivers are elements of cooperation rather than a reason for conflict.
- Each riparian state of a transboundary river system has the sovereign right to make use of the water in its territory.
- Riparian states must make sure that their utilization of such waters does not give significant harm to others.
- Transboundary waters should be used in an equitable, reasonable and optimum manner.
- Equitable use does not mean the equal distribution of waters of a transboundary river among riparian states.
- The objective of transboundary water cooperation should be sharing the benefits of transboundary waters.
- Transboundary water disputes should be settled between the riparians and mediation attempts of third parties should not be supported.
- Transboundary water use and allocation should be conducted with a consideration of natural hydrological and meteorological conditions.

Accordingly, the risks of droughts should be shared between the co-riparians. Under such variable hydrological and climatic conditions, water sharing cannot be settled on the basis of fixed numbers or quantities.

- Turkey is ready to share its experiences, technology and human resources capacity with its neighbors in building hydroelectric power stations, dams and other water infrastructure including irrigation and drinking water systems.”

and for the Euphrates and Tigris Rivers in particular:

- “The two rivers constitute a single basin.
- The combined water potential of the Euphrates and the Tigris Rivers is, in the view of the Turkish authorities, sufficient to meet the needs of the three riparians provided that water is used in an efficient way and the benefit is maximized through new irrigation technologies and the principle of “more crop per drop” at basin level.
- The variable natural hydrological and meteorological conditions must be taken into account in the allocation of the waters of the Euphrates and the Tigris Rivers.
- The principle of sharing the benefits at basin level should be pursued.
- Turkey is ready to negotiate all aspects of the Euphrates and Tigris waters. In this context, as a token of goodwill, Turkey is providing data and information to the neighboring countries upon their request. Yet, data exchange should be carried out mutually and at the basin level.”

According to the Ministry of Forestry and Water Affairs, Turkey's transboundary water policy is furthermore formulated by taking into consideration the priorities of the country with respect to its economic and social development needs, as well as the framework of the accession negotiations with the European Union (EU) (Ministry of Forestry and Water Affairs, 2013).

Water has become an issue in Turkish foreign policy in the 1980s with the planning and building of a series of large-scale dams and giant irrigation projects in the Euphrates-Tigris River Basin within the context of the Southeastern Anatolia Development Project, also known as the GAP project, with a view to achieving social and economic development in the country. History and geography, the main factors that determine a country's foreign policy, have played a key role in the formulation of the transboundary water policy. In this context, since the first years of the Republic the state of affairs in the relations with the neighboring states has determined the main framework for transboundary water policy. On the other hand, the Cold War period,

which influenced Turkey's regional and bilateral relations with its neighbors, has also directly affected its transboundary water policies. In that period, the damaging impact of the Cold War has played a negative role in failing to develop fruitful relations with Syria, Iraq and Bulgaria over the waters of the Orontes, Euphrates-Tigris, and Meric/Maritsa Rivers, respectively.

Nevertheless, since the early years of the Republic, Turkey has adopted a foreign policy of developing institutional structures with its neighbors by conducting negotiations, signing treaties and establishing temporary or permanent technical committees, using the instruments of diplomacy and international law. For instance, the Arpacay Dam jointly constructed with Armenia, the 1987 Protocol signed with Syria as an (interim) agreement for sharing the waters of the Euphrates River and a series of protocols and agreements signed with Bulgaria – all of which were in the “enemy” camp during the Cold War period – bear witness to Turkey's determination to adopt a peaceful approach in the disputes with its neighbors over the transboundary water resources as envisaged in the United Nations Charter as well as in customary law.

The geographical characteristics of Turkey have played a key role in defining its transboundary water policy. In Turkey, the tributaries of the Meric/Maritsa, Coruh, Orontes, Euphrates-Tigris and Aras Rivers are classified as transboundary waters or waters which constitute boundaries.<sup>1</sup> The drainage basins of these rivers have a total extension of 256,000 km<sup>2</sup>, representing one third of Turkey's total surface area. The average water potential of these rivers inside Turkey is 70 billion cubic meters per year, which is equivalent to 30% of the overall water potential of the country. Turkey occupies the upstream position on the Euphrates-Tigris, Coruh and Aras Rivers, and the downstream position on the Meric/Maritsa and Orontes Rivers. It has land borders of 2,753 km length with its neighbors, namely Greece, Bulgaria, Georgia, Armenia, Azerbaijan, Iran, Iraq and Syria, and the above-mentioned rivers represent 22% of these borders. Transboundary rivers constitute 30% of Turkey's fresh water resources.

---

<sup>1</sup> Rivers that originate from the territory of a sovereign country and flow into the territory of other countries by crossing the borders are categorized as transboundary rivers, whereas rivers that flow along the borders of two or more countries and thus constitute the border between these countries are categorized as international rivers.

Moreover, Turkey's arable and irrigable lands are located in these river basins, for instance the Euphrates-Tigris River Basin covers 20% of Turkey's irrigable lands. Hence, taking into consideration the conditions of the urban and rural population in these basins as well as the population growth and the increasing living standards, geographical factors clearly stand out in the formulation of the transboundary water policies.

### *2.1 Institutional development in transboundary water policy-making*

The fundamental foreign policy principles regarding transboundary water resources have been established and bureaucratically institutionalized in Turkey - especially since the 1980s - within the framework of the conditions shaped by the physical as well as human geography under the influence of the global, regional and bilateral relations that evolved in the second half of the 20<sup>th</sup> century. In addition to the direct role played by considerations of national political and economic interests, the formulation of these principles was influenced by international water law and international politics.

With the increasing impact of the GAP (Southeastern Anatolia Project) in the international arena, a bureaucratic structure has evolved since the 1980s where the principles and policies with regard to the transboundary waters have been determined. A department in charge of regional and transboundary waters which is responsible for issues pertaining to energy, water and the environment has been formed within the Ministry of Foreign Affairs, under the Directorate General. Moreover, relevant state institutions, providing ample technical information, such as the status of water resources in terms of quality and quantity, as well as institutions responsible for the development, management and preservation of water resources are expected to work in conjunction with the Foreign Ministry in the formulation of the fundamental principles of foreign (water) policy. First and foremost among these institutions is the State Hydraulic Works (Turkish acronym, DSI), which is responsible for the development and administration of Turkey's water resources since 1954.

The DSI has accomplished a series of projects for energy, drinking water, irrigation, flood control and drought management especially in the GAP region. Its mandate included the collection of data pertaining to the quality and the quantity of the surface and groundwater resources in 25 river basins

in Turkey, as well as the planning, implementation and management of the projects aiming at meeting the water demand for drinking usage, and for use in agriculture, industry, energy and related sectors. As such, it has provided important inputs to the Ministry of Foreign Affairs in the formulation of the principles of transboundary water policy, despite the fact that its tasks have recently been partially taken over by the private sector, stakeholders (irrigation associations) and other state institutions.

On the other hand, a development agency, namely the Southeastern Anatolia Project Regional Development Administration (GAP RDA), which is responsible for the coordination and for the effective and equitable implementation of socio-economic development projects in the GAP region, initiated transboundary cooperation in the field of water based development, which paved the way for new openings in transboundary water policy. Hence, in 2001, a Joint Communiqué was signed between the GAP RDA under the Prime Ministry of Turkey and the General Organization for Land Development (GOLD) under the Syrian Ministry of Irrigation.<sup>2</sup> The GAP RDA-GOLD cooperation is based on the common understanding of the sustainable use of the region's land and water resources through joint rural development and environmental protection projects, joint training programs, exchanges of experts and technology and study missions. In the course of 2001 and 2002, Syrian and Turkish delegations visited each other's development project sites. During these contacts the two sides had opportunities to exchange experience of positive and negative impacts of water and land resource development projects dating back several decades. Once again, the water issue was relegated to the technical level, as in the 1960s, and left to intergovernmental networks composed of technocrats. However, unlike the technical negotiations in the 1960s, the GAP-GOLD dialogue covered such disparate issues as urban and rural water quality management, rural development, participatory irrigation management and agricultural research. Even though the dialogue between these two leading institutions has

---

<sup>2</sup> A joint Communiqué between the Republic of Turkey, Prime Ministry, Southeastern Anatolia Project Regional Development Administration (GAP) and the Arab Republic of Syria, Ministry of Irrigation, General Organization for Land Development, 23 August 2001, Ankara, Turkey (file in possession of the authors).

not resulted in concrete project implementation or regular exchange programs, it has served as a semi-formal consultation mechanism and paved the way for initiatives taken by other government departments and agencies in 2008 and 2009 with the similar objective of solving transboundary water problems within a broader framework of political, economic and social development.

Turkey's water policies towards its neighbors, namely Europe, the Middle East and the Caucasus, and its regional role have been changing considerably. Among these, evolving relations with the European Union (EU) within the framework of ongoing accession negotiations have significantly transformed the Turkish water sector. The goal of EU accession implies that Turkey is obliged to adopt and implement the entire body of European Environmental Law, covering many far reaching legal requirements (for example, the Water Framework Directive with significant implications for the member states' international water cooperation) as well as a couple of international environmental agreements where the EU is the contracting party. In the EU-Turkey accession partnership, the transboundary water issue has already been identified as a priority issue in a series of *Progress Reports* issued by the European Commission. In this perspective, Turkey has adopted a number of laws and by-laws on environmental protection and water quality management in the domestic, agricultural and industrial sectors since the mid-2000s. This legal reorientation has been basically guided by the European Union's water legislation within the framework of the accession process.

Hence, since the beginning of Turkey's candidacy for EU membership in the early 2000s, the Ministry of the Environment and Forestry (MoEF)<sup>3</sup> has taken initiatives to pass the necessary legislation with a view to striking a balance between the use and the protection of water resources, thus contributing to the formulation of transboundary water policies. The new approaches developed by the Ministry of the Environment and Forestry within the framework of the relations with the European Union have played a key role in the Memoranda of Understandings (MoU) signed with Syria and Iraq in 2009 regarding the use, development and protection of water resources (Kibaroglu and Scheumann, 2013).

---

<sup>3</sup> In June 2011, the MoEF was reorganised taking the name of Ministry of Forestry and Water Affairs. See: <http://www.ormansu.gov.tr>.

The concepts used in these MoUs, such as “river basin level water management”, “establishing emission standards”, “polluter-pays” and “cost-recovery principles” reflect the terminology employed in the EU Water Framework Directive (2000), the legal document constituting the basis for the EU water policies. Therefore, the MoEF staff in particular vigorously sustained these protocols because they felt that these would be useful in supporting the implementation and extension of the new water legislation in Turkey in the transposition process of the EU water legislation<sup>4</sup>. The EU’s water management approach which is formulated at the “river basin level” in its Water Framework Directive of 2000 will not only be applied in Turkey’s national river basins but also in its transboundary river basins such as the Euphrates-Tigris and Orontes. Moreover, common standards for measuring water quantity (gauging) and monitoring transboundary water quality are among MoEF’s main objectives in its cooperation with Syria and Iraq. In this context, one of the main aims of the Turkish bureaucracy has been to establish environmental quality standards and to implement the polluter-pays and cost-recovery principles at transboundary level, as stipulated in the relevant MoU<sup>5</sup>.

In the same manner, relevant ministries directly responsible for the technical aspects of the issue have been involved in the formulation of transboundary water policies, in addition to the Ministry of Foreign Affairs, one of the primary actors in the country’s policy-making. This is a dramatically different approach than the one adopted in the negotiations pursued with Syria and Iraq in the Euphrates-Tigris River Basin since the 1980s. Unlike the agenda of the diplomatic negotiations in the past, this approach focuses on the use and management of the water resources without necessarily mentioning the sharing and allocation of water resources.

---

<sup>4</sup> Since the mid 2000s Turkey adopted a number of laws and by-laws on environmental protection and water quality management in the domestic, agricultural and industrial sectors. This legal reorientation has been basically guided by the European Union’s water legislation within the framework of the accession process.

<sup>5</sup> The Memorandum of Understanding (MoU) between the Government of the Republic of Turkey and the Government of the Syrian Arab Republic in the Field of Remediation of Water Quality, 23 December 2009.

### 3. The Orontes River Basin

#### 3.1 Geographic and hydrologic features

The Orontes River rises in the karstic springs of Al-Labweh, Ain Zarka and Daffash in the northern Bekaa region of Lebanon near the city of Baalbek at an altitude of 690 m. Also known as *Asi Nehri* in Turkish and *Nahr-al Asi* in Arabic, the Orontes is the only river in Western Asia that flows north and drains west into the Mediterranean (UN-ESCWA and BGR, 2013). The Orontes enters the Syrian territory near the Lebanese town of Hermel, it then passes through the cities of Homs and Hamah, crosses the fertile Al-Ghab region where intensive irrigation systems have been established, and defines 56 km of the Syrian-Turkish border (Korkmaz and Karatas, 2009: 21)<sup>6</sup> before entering into Turkey. The river turns southwest in Turkey, passing through Antakya and discharging into the Mediterranean Sea near Samandag in the Turkish province of Hatay.

The data concerning total length and catchment area of the Orontes River vary according to the different sources. Most of the sources mention a length between 448 and 571 km. A recent study using Google Earth images at an altitude of 2,000 m calculated a total length of 556 km, of which 40 km lie in Lebanon, 366 km in Syria and 98 km in Turkey (Korkmaz and Karatas, 2009: 21).<sup>7</sup> While data on the catchment area fluctuate between 17,000 km<sup>2</sup> and 37,900 km<sup>2</sup>, Korkmaz and Karatas (2009), using Arc Map v. 9.2, calculated the actual catchment area of the Orontes as 21,743 km<sup>2</sup>. According to this study, 26% of the catchment area is situated in Turkey, 67% in Syria and 7% in Lebanon.<sup>8</sup> The Orontes has two main tributaries: the Afrin River, which has a larger water

---

<sup>6</sup> 25 km, according to UN-ECSWA and BGR (2013: 228), and 32 km according to Caponera (1993: 630).

<sup>7</sup> These figures are contested by several other studies including UN-ECSWA and BGR, which report that the total length of the river system is 404 km. Bazza and Najib (2003: 7), on the other hand, argues that the total length is 485 km, of which 336 km in Syria.

<sup>8</sup> According to UN-ECSWA and BGR (2013: 224), based on the study by Lehner et al. (2008) on topography and stream network of the Orontes drainage area, the catchment covers an area of 26,530 km<sup>2</sup>, shared by Syria, Turkey and Lebanon respectively by 67%, 25%, and 8%. Aquastat and FAO, on the other hand, refer to a catchment area of 24,660 km<sup>2</sup> (69% in Syria, 23% in Turkey, 8% in Lebanon) (Aquastat, 2008: 1).

flow, and the Karasu River. The Afrin River originates in the Turkish Kartal Mountains, it flows south through the city of Afrin in Syria and then re-enters Turkey, draining into the Amik Lake. The Karasu River runs almost entirely through Turkey except forming a small section of the Turkish-Syrian border. The combined mean annual discharge potential of the Orontes River including its tributaries is estimated at 2.4 to 2.8 billion cubic meters (BCM), representing a flow of 75.7-88.3 m<sup>3</sup> per second (Comair et al., 2013).<sup>9</sup> The mean annual flow volume measured near Hermel in Lebanon is 0.41 BCM. At Syria's Al-Omeiry station close to the Lebanese border, however, the mean annual flow volume decreases to 0.2 BCM, indicating the intensive water use for irrigation in the region concerned (UN-ESCWA and BGR, 2013: 231). The average yearly flow potential at the point of entry into Turkey is estimated at 1.4 BCM for the Orontes, 0.6 BCM for the Afrin and 0.4 BCM for the Karasu (Scheumann et al., 2011: 303). However, during summer months the Orontes dries up before reaching Turkey due to extensive water use in Syria's Al-Ghab region (Baran et al., 2006: 576).

The Orontes system is mainly fed by groundwater (around 90%) which is dependent upon the snow cover in the Lebanon and Anti-Lebanon Mountains (UN-ESCWA and BGR, 2013: 231). Spring snowmelt constitutes the peak flow in the system. Groundwater discharge due to snowmelt continues to maintain river flow during dry summer seasons. Another period of high river flow appears during the winter months due to increased rainfall. As a result of Mediterranean climate characteristics, the Orontes River Basin annually receives 400-500 mm of rainfall most of which occurring during winter season.

### *3.2 Water development and use by the riparians*

While the water resources of the Orontes River and its tributaries are intensively used by all riparians for irrigation purposes and for domestic and industrial water uses, the irrigation by Syria and Turkey constitutes by far the greatest usage, of which the demand occasionally exceeds the supply of the river system. In 2009, FAO estimated the total irrigated area in the basin at

---

<sup>9</sup> An earlier study by DSI gives an annual discharge of 3.4 BCM (DSI, 1958: 24). Therefore, the annual water potential of the Orontes river system dropped considerably in the last several decades.

300,000 to 350,000 ha, of which 58% situated in Syria, 36% in Turkey and 6% in Lebanon. Beside the issue of quantity, one of the prominent concerns over the Orontes waters is the water quality caused by polluting discharges in the Syrian part of the basin creating significant problems in downstream Turkey. This section elaborates the current status of water development and use in the Orontes Basin.

### 3.2.1 Upstream (Lebanon)

Despite the fact that the headwaters of the Orontes are located within Lebanese territory, the utilization of its water resources in Lebanon is hitherto mostly confined to small-scale farming, fish farms and tourism activities (UN-ESCWA and BGR, 2013: 234), with an annual total use of 21 million cubic meters (MCM). The bilateral water-sharing agreement on the Orontes River, signed in 1994 between Lebanon and Syria, stipulates that Lebanon's annual share amounts to 80 MCM, out of 420 (or 510) MCM.<sup>10</sup> While the agricultural sector is the largest consumer of water, accounting for 77% of the total use, domestic water use amounts to 23%.

According to FAO estimates, 18,000-21,000 ha are irrigated in the Lebanese part of the Orontes Basin. These figures are to be increased when the Assi irrigation scheme will be operational. The Assi scheme project is divided into two phases and includes two dams with a total capacity of 64 MCM, as well as a number of pumping stations and irrigation networks which will irrigate an additional 6,800 ha in the Hermel and Al Qaa regions. The Assi scheme also aims at creating 50 MW of hydroelectricity and providing water for domestic use in Baalbek and Hermel.

The water quality in the Lebanese part of the Orontes is relatively good, given the low level of pollutants originating from agricultural, industrial or domestic water use.

### 3.2.2 Midstream (Syria)

Syria is the major user of the Orontes water resources, accounting for 90%

---

<sup>10</sup> The FAO Aquastat Database estimates surface water flow to Syria at 510 MCM/year through the Orontes River and the bordering El Kebir River (FAO Aquastat, 2008).

of the annual flow which amounts to 1.2 BCM at the Syrian-Turkish border (Aquastat, 2008: 4).

Unlike the rest of the country, harnessing the water of the Orontes started during the French Mandate (1930s). In 1937, reconstruction of the ancient Qattineh Dam was initiated in order to regulate the flow and increase the irrigation capacity of the Orontes (Aquastat, 2008: 3). In terms of water use, the Orontes River constitutes the second most important river in Syria after the Euphrates, providing 20% of the country's total estimated water use volume. Agriculture is the largest water user, consuming about 1,977 MCM/year (77% of total water use), followed by domestic water use at 9% and industry at 8%. Average annual groundwater use for irrigation (1,111 MCM or 56%) exceeded surface water use (886 MCM or 44%) during the period between 1992 and 2009.

Since the 1950s Syria has intensively developed water resources in the Orontes Basin. First large dams in Syria were constructed on the Orontes, at Rastan and Mhardeh in 1960 (Aquastat, 2008: 3). This was further accelerated with Decree No. 3 of 1972, which initiated the construction of multipurpose dams. Over the years Syria has built 41 dams in the basin (Aquastat, 2008: 3). The total reservoir capacity of all dams in the basin reached about 950 MCM in 2006. The Rastan, Qattineh, Zeita and Mhardeh Dams have the largest storage capacity.

Two main agricultural areas in Syria are supplied with water from the Orontes: the region between Homs and Hama and the Al-Ghab region. The latter was systematically drained from the 1950s onwards to reclaim land for irrigated agriculture. The Orontes riverbed was enlarged and deepened, and dams were built to regulate the flow of the river and to provide water for irrigation. The Al-Ghab Project was carried out between 1958 and 1967 and covered 46,000 ha. An area of about 70,000 ha is now being irrigated as part of this project, consuming around 330 MCM/year of reservoir water and another 150 MCM/year of groundwater. The region between Homs and Hama, on the other hand, is partly supplied from the Qattineh Lake via the Homs-Hama canal, providing water to an area of about 23,000 ha. Since the reservoir does not meet the demand, it is supplemented by groundwater wells, which irrigate another 20,000 ha in this part of the basin. The total irrigated area in the Orontes Basin in Syria has increased from approximately 155,000 ha in 1989

(Aquastat, 2008: 3), to 200,000 ha in 1992 and 215,000 ha in 2008 (Aquastat, 2008: 3), while occasionally exceeding 250,000 ha in the period between 2004 and 2008. On average, an area of about 97,000 ha (43%) is irrigated by surface water and 130,000 ha (57%) by groundwater. Part of the groundwater used is derived from fossil aquifers. The extent of the pressure on these resources, particularly in the Ghab region, puts the sustainability of water resources in the whole Orontes River Basin at risk (Hamade and Tabet, 2013: 56). Another region which significantly increased the use of groundwater for irrigation purposes is the Province of Idlib (Aquastat, 2008: 3).

The intensification of water use in the Orontes Basin in Syria has raised the question of long-term water sustainability. Water tables in some parts of the western Orontes Basin have dropped as much as 57 m in 10 years (FAO, 2003: 342). The total irrigation water need in the Syrian part of the Orontes Basin is indicated in the amount of 3,586 BCM (Wakil, 1993: 20), a number well above the annual discharge capacity of the Orontes.

The Orontes Basin is considered one of the country's most disturbed hydrological ecosystems. Apart from agriculture-based nitrate and phosphate pollution, industrial wastewater is discharged into the streams with limited or no treatment. Water quality is also threatened by domestic wastewater discharge in many parts of the basin (UN-ESCWA and BGR, 2013: 236-237).

### 3.2.3 Downstream (Turkey)

The Orontes river system constitutes the main watercourse of the Hatay and Kilis provinces in the Eastern Mediterranean region of Turkey. The Amik Plain in the Hatay province is a significant agricultural area in the Turkish part of the basin.

Because of the frequent flooding of towns and villages in the Amik Plain due to insufficient natural drainage canals, the authorities decided to drain the Amik Lake in the early 1940s. Draining of the Lake by the State Hydraulic Works of Turkey (DSI, Turkish acronym) started in the 1950s and was completed in the early 1970s. Hence, the Amik Plain became an important agricultural area of the Eastern Mediterranean region of Turkey, covering an area of 31,000 ha. However, flooding and increased soil salinity - negatively affecting agricultural productivity - have become two major concerns in the area due to problems

in the drainage works, particularly those executed in the 1970s (Kibaroglu et al., 2005: 69).

The most noteworthy dams in the Turkish part of the Orontes Basin are the Yarseli and Tahtakopru Dams, both located on tributaries of the Orontes. There are also two water development projects under construction and six in the investigation phase. These projects are designed to regulate the flow of the river system in order to provide water for irrigation and domestic use, to generate hydropower and to protect lands and settlements from floods (Kibaroglu et al., 2005: 69).

Irrigated agriculture in the Turkish part of the basin covers, according to the Turkish Ministry of Agriculture and Rural Affairs (2004: 116), an area of more than 125,000 ha. Based on DSI exploratory surveys, the total area that can be irrigated by the Orontes river system within Turkey is estimated around 225,000 ha (DSI, 1958).

### *3.3 Transboundary water issues: claims - counter claims, negotiations and treaties*

There are a number of bilateral water agreements involving Turkey, Syria or Lebanon, the earliest of which date back to the French mandate (over Lebanon and Syria) in the early 1920s. The issue of supplying water for irrigation is the biggest priority in the basin as reflected in the agreements. However, to date, there is no agreement involving all three riparians.

#### **3.3.1 Syria-Lebanon**

Negotiations between Lebanon and Syria on the Orontes began as early as 1940. In 1962 a Syrian-Lebanese joint committee was established to deal with the Orontes, allocating an annual water amount of 100 MCM to the Hermel and Ka'a regions in Lebanon. In 1968, the committee decided to re-consider the annual water needs of both countries. Syria and Lebanon decided in 1972 to allocate 80 MCM/year to Lebanon, but this agreement never became operative (Comair et al., 2013: 134; Salha, 1995: 25-30).

Finally, on 20 September 1994 the two countries signed the "Bilateral Agreement Concerning the Usage and Sharing of the Waters of the Al-Asi River (Orontes) between the Syrian Arab Republic and the Lebanese Republic" which formally

allocated 80 MCM/year to Lebanon and 340 MCM/year to Syria. In case of a fall in annual discharge of the Orontes below 400 MCM/year, Lebanon's share would be proportionately reduced. The management of the headspring and river flow was settled in the agreement and a technical committee composed of experts from both countries was formed in order to control and manage the Orontes headwaters in the Lebanese part of the river basin. The works, however, were to be financed solely by Syria. In this agreement the Orontes water resources are considered "common waters" (Canatan, 2003: 82).

Downstream Turkey was totally excluded from this agreement leading to criticism among the Turkish bureaucracy and the general public. Turkey was neither notified nor consulted in the negotiation process (Salha, 1995). On the implementation level the agreement does not truly comply with the international water law framework, namely the basic principles of the 1997 UN Watercourses Convention, even though it refers to the customary water law principles in its wording.

### 3.3.2 Syria-Turkey

So far, conflicts over the use of the Orontes' waters occurred mainly between Turkey (downstream) and Syria (midstream). From the Turkish point of view, problems are caused by agricultural water demand and planned irrigation projects in both countries as well as by the quality parameters of the water when entering Turkey. Syria, for long, did not recognize Hatay as Turkish territory and thus rejected any discussions over Orontes waters.<sup>11</sup> For Syria, the concern is rather to control the headwaters of the Orontes River in Lebanon which appears to be one of the factors that contributed to the lengthy Syrian military involvement in Lebanon. Within this context, Syria always demanded that the Orontes headwaters should stay in Lebanese territory and not be given to Israel (Kolars et al., 1986: 262).

Several agreements between Turkey and the French mandate over Syria during the 1920s and 1930s included clauses relating to the Orontes water resources (Caponera, 1993: 634-635). The first agreement between independent riparians

---

<sup>11</sup> Negotiations on the Friendship Dam implied Syria's unofficial yet effective recognition of Turkish sovereignty over Hatay (Jörum, 2014).

was the “Final Protocol to Determine Syria - Hatay Border Limitation” signed between Syria and Turkey in 1939, which stipulated that the waters of the rivers (i.e. Orontes, Karasu and Afrin), where they constitute the boundary between Syria and Turkey, will be utilized in an equal manner. There were, however, no further stipulations on how to use the rivers’ water resources.

In 1950, Syria approached the World Bank to receive funding for the Al-Ghab Project. An agreement was signed between the two parties in the same year. Taking account of the Turkish concerns, the World Bank convened a meeting between Turkish and Syrian experts in Damascus, Syria. Findings of these experts were summarized in an official Turkish letter to the World Bank concluding that Turkish territory would face frequent floods during the period of construction, and that the project would leave no water for Turkey during irrigation seasons (Caponera, 1993: 633).

In 1952 Syria and Turkey reached an agreement on the Jaghjagh and Baligh (Balik) Rivers, two rivers flowing from Turkey to Syria. However, this agreement was not ratified by the Turkish Parliament because of the concerns over Syrian plans for the Orontes and the actual use of the Afrin River by Syria. The Turkish aim was to include all rivers shared with Syria not just those flowing *from* and *into* Syria (Hirsch, 1956: 215). In 1962, Syria assigned the development of the Orontes River project to the Dutch company NEDECO. As noted by Caponera (1993: 634), this plan focused solely on the projects in Syria without mentioning the “requirements, interests and acquired rights of Turkey”. In response to this plan, the Turkish delegation, during a meeting involving experts from both riparian countries, proposed the adoption of a draft protocol calling for a river basin development plan concerning the whole basin in order to determine measures to mitigate flood hazards, to study the feasibility of constructing a dam at the border to irrigate the Amik Plain, and to install early warning systems for flood protection. This proposal was not welcomed by the Syrian delegation, and no agreement was reached at the meeting (Kibaroglu et al., 2005: 69-70; Caponera, 1993: 634).

From 1983 onwards, water related talks between Syria and Turkey continued mainly under the mandate of a Joint Technical Committee. It soon became evident that negotiations between Turkey and Syria appeared to be more difficult than relations between Syria and Lebanon. One of the reasons for this

is related to conflicting views on the subject of negotiations. While Syria was persistently rejecting to discuss the Orontes waters with Turkey on the grounds of territorial claims to the Hatay province and the Orontes as a national river, Turkey demanded a framework for discussion taking account of all regional transboundary waters (including the Euphrates and Tigris).

Since 1995, Turkey's complaints as to the quantity of water entering Turkey became vociferous. According to the Turkish Ministry of Foreign Affairs the water quantity was reduced from 1.55 BCM to 140 MCM. Syria, on the other hand, advocated that the reduction in the amount of water released to Turkey was predominantly caused by the drought conditions, not by an increase in Syrian use (Shapland, 1997: 146).

A change of tide occurred when in October 1998 the two countries signed the Adana Security Protocol, followed by reciprocal visits of the Syrian President to Turkey and the Turkish Prime Minister to Syria, as well as by the signing of the first Free Trade Agreement on 22 December 2004.

#### **4. The Orontes Friendship Dam: the Orontes from a “bone of contention” to a “medium of cooperation”**

In the same year, during the visit of the Turkish Prime Minister Erdogan to Damascus in 2004, Turkey advanced the proposal for the construction of a joint “Friendship Dam” on the Orontes. Both sides agreed in principle to proceed with this project (Soylemez, 2005) and after a series of technical studies on topographic and geological characteristics of the region, a number of sites for construction of the dam were identified (Scheumann et al., 2011: 309).

Finally, on 23-24 December 2009, Turkey and Syria agreed to start the construction of the Friendship Dam on the Orontes River at the Turkish-Syrian border. The agreement was reached at the first meeting of the High-Level Strategic Cooperation Council in Damascus, which also resulted in the signing of 50 Memoranda of Understandings, four of which related to water issues.

The dam is expected to be approximately 15 m high with a capacity of 110 MCM. 40 MCM of this capacity will be used for flood protection while the rest will be

utilized for energy production and irrigation. Costs of construction were to be shared between the two riparians. It was also decided that both countries would install and operate flow measuring stations in the area serving as early warning systems for flood protection. The foundation of the dam was laid on February 7, 2011. The initial plan was to finish the main body of the dam in one year, and the hydroelectric plant and irrigation systems in two years (Hurriyet, 2011), but the outbreak of internal unrest in Syria followed by the deterioration in Turkish-Syrian relations caused the project to be suspended.

Notwithstanding the fact that the completion of the dam will take some years due to the internal situation in Syria, the signing of an official protocol on the Orontes waters was a real breakthrough in Turkish-Syrian hydro-politics and also in broader political relations. For decades, Syria did not recognize the Turkish-Syrian political border crossed by the Orontes, maintaining territorial claims to the Turkish province of Hatay (historically known as Alexandretta). The signing of the protocol implied the recognition of the border by Syria. Also, for decades, Turkey had demanded regulation of the water flow of the Orontes River which had often been fluctuating, causing severe floods and droughts in downstream towns and villages in Turkey. Yet, Syria never agreed to build water development structures at the border, arguing that the Orontes is a national river. In this respect, the Protocol of December 2009 marks a drastic change in Syria's attitude. In fact, there can be flourishing cooperation between otherwise hostile riparian states after their agreement to build joint dams on common borders.<sup>12</sup>

## 5. Conclusion

This chapter first analyzed how Turkey's transboundary water policy is founded on its officially declared basic principles. Turkey's transboundary water policy is formulated in accordance with national socio-economic development goals and determined by its specific geographical and historical

---

<sup>12</sup> The Arpacay Dam between Turkey and Armenia (former USSR) built in the 1970s, and the Lesotho Highlands Project between South Africa and Lesotho constitute two examples of such endeavors.

context. The transboundary water policy has been mainly planned and implemented by governmental institutions, in particular the Ministry of Foreign Affairs (MoFA), specifically with the initiation of the GAP project in the early 1980s. Other concerned ministries and non-governmental institutions have attempted to provide technical and intellectual input to the policy formulation. Transformation of the water bureaucracy had also an impact on the foreign policy initiatives such as the signing of the bilateral Memoranda of Understandings with Syria and Iraq by the keen initiatives of the Ministry of Environment and Forestry. All in all, the MoFA has articulated the main principles of the transboundary water policies, some of which highly inspired by customary international law and treaty practice.

In the second part, transboundary water issues in the Orontes River Basin are presented with its geographical and hydrological features. Water development and use by the riparians are explained by highlighting the fact that irrigation is the major competitive user in the basin while there is still potential to develop the river basin by constructing multi-purpose dams such as the attempted Friendship Dam on the Turkish-Syrian border, yet halted due to the internal conflict in Syria. This part also discussed transboundary water politics in the region by delineating negotiation processes and treaties, mainly taking place at bilateral levels (Syria-Lebanon and Syria-Turkey).

It has been demonstrated in this chapter that, despite the existence of a number of cooperative initiatives between countries of the basin, a tri-partite cooperative framework is lacking. Furthermore, prevailing cooperation attempts in the river basin need to be more inclusive in terms of different segments of society. In particular, women, who play crucial roles in water management practices, should be incorporated in cooperative arrangements among riparians.

The internal conflict in Syria, which erupted in spring 2011, had devastating impacts on water use and management in the Orontes Basin. Today, the Orontes Basin comprises some of the most conflict-affected areas in Syria. Springs, wells and water networks are strategic for territorial control by either pro-regime or opposition forces, and have been deliberately targeted to interrupt water supply in certain sectors. Two-thirds of the four million inhabitants of the basin have been displaced over the past three years (Jaubert, 2014: 6).

This chapter is not intended to analyze the implications of ongoing conflict on water use and management in Syria. However, our study and observations bring us to the conclusion that transboundary water cooperation will be essential to respond to the urgent needs of communities in Syria. From a post-conflict perspective, rehabilitation of the domestic and agricultural water infrastructure will be a priority to ensure the sustainable return of displaced populations. Beyond emergency relief interventions, the prioritization and allocation of resources for reconstruction will be determinant factors in the reconciliation process. Hence, in these processes, co-riparians, namely Turkey and Lebanon may play critical and constructive roles for recovery in the Syrian water sector as well as maintaining water and food security.

### *References*

- Aquastat (2008). Irrigation in the Middle East Region in figures, Aquastat Survey 2008: Asi-Orontes River Basin.
- Baran T., Ozis U. and Ozdemir Y. (2006). Sınır Asan Asi Havzasi Su Potansiyeli Ve Yararlanilmasi. TMMOB Su Politikalari Kongresi, 21-23 March, Ankara: 571-581.
- Bazza M. and Najib R. (2003). Towards Improved Water Demand Management in Agriculture in the Syrian Arab Republic, First National Symposium on Management and Rationalization of Water Resources Use in Agriculture, Damascus, FAO.
- Canatan E. (2003). Turkiye-Suriye Arasinda Asi Nehri Uyusmazligi, Master's thesis, Hacettepe University, Ankara.
- Caponera D. (1993). Legal aspects of transboundary river basins in the Middle East: The Al Asi (Orontes), the Jordan and the Nile. *Natural Resources Journal* 28(3): 629-663.
- Comair G.F., McKinney D.C., Scoullos M.J., Flinker R.H., Espinoza G.E. (2013). Transboundary cooperation in international basins: Clarification and experiences from the Orontes river basin agreement: Part 1. *Environmental Science and Policy* 31: 133-140.
- DSI (1958). Asi Havzasi istikşaf Raporu (The Exploratory Report on the Orontes Basin), Devlet Su Isleri, Etud Plan Dairesi, Ankara.
- FAO (2003). Syrian Agriculture at the Crossroads, FAO Agricultural Policy and Economic Development Series.
- Hamade S. and Tabet C. (2013). The Impacts of Climate Change and Human Activities on Water Resources Availability in the Orontes Watershed: Case of the Ghab Region in Syria. *Journal of Water Sustainability* 3(1) March: 45-59.

- Hirsch A.M. (1956). From the Indus to Jordan: Characteristics of Middle East International River Disputes. *Political Science Quarterly* 71(2): 203-222.
- Hurriyet (7 February 2011). Available at: <http://www.hurriyet.com.tr/ekonomi/16953457.asp> [accessed 15 April 2014].
- Jaubert R. (2014). Syria: The impact of conflict on population displacement, water and agriculture in the Orontes river basin, Water Security in the Middle East, Swiss Agency for Development and Cooperation, Geneva.
- Jörum E.L. (2014). Syria's 'Lost Province': The Hatay Question Returns. Available at: <http://carnegieendowment.org/syriaincrisis/?fa=54340> [accessed 11 April 2014].
- Kibaroglu A, Klaphake A., Kramer A., Scheumann W., Carius A. (2005). Cooperation on Turkey's Transboundary Waters, Research report for the German Federal Ministry for Environment, Nature Conservation and Nuclear Safety, Adelphi Research, Berlin.
- Kibaroglu A. and Scheumann W. (2013). Evolution of Transboundary Politics in the Euphrates-Tigris River System: New Perspectives and Political Challenges. *Global Governance* 19: 279-305.
- Kolars J., Naff T., McCaffrey S.C., Dellapenna J.W. (1986). Hydro-Geographic Background to the Utilization of International Rivers in the Middle East, Proceedings of the Annual Meeting (American Society of International Law) 80(9-12) April: 250-267.
- Korkmaz H. and Karatas A. (2009). Asi Nehri'nde Su Yönetimi ve Ortaya Çıkan Sorunlar (Water Management in the Orontes and Emerging Problems). *Mustafa Kemal Üniversitesi, Sosyal Bilimler Enstitüsü Dergisi (Mustafa Kemal University Journal of Social Sciences Institute)* 6(12): 18-40.
- Ministry of Forestry and Water Affairs (2013). Havza Yönetimi ve Su Bilgi Sistemi Çalışma Grubu Raporu, Ormancılık ve Su Surasi 21-23 Mart 2013, Ankara: 33-34.
- Salha S. (1995). Türkiye, Suriye ve Lübnan İlişkilerinde Asi Nehri Sorunu (The Orontes River Problem in Relations Between Turkey, Syria and Lebanon), Dis Politika Enstitüsü Yayınları & Hacettepe Üniversitesi, Ankara, 55 pp.
- Scheumann W., Sagsen I., Tereci E. (2011). Orontes River Basin: Downstream Challenges and Prospects for Cooperation. In *Turkey's Water Policy: National Frameworks and International Cooperation*, ed. by A. Kibaroglu et al., Springer-Verlag, Berlin.
- Shapland G. (1997). Rivers of Discord International Water Disputes in the Middle East, St. Martin's Press, New York.
- Soylemez Y. (2005). Prime Minister Erdogan's Return Visit to Syria. *Hurriyet Daily News* 2 January 2005. Available at: <http://www.hurriyetdailynews.com/default.aspx?pageid=438&n=prime-minister-erdogan8217s-return-visit-to-syria-2005-01-02> [accessed 21 April 2014].
- Turkish Ministry of Agriculture and Rural Affairs – Hatay Provincial Directorate of Agriculture and Rural Affairs (2004). Hatay İli Tarımsal Master Planı (Agricultural Master Plan for Hatay Province).

UN-ESCWA and BGR (United Nations Economic and Social Commission for Western Asia; Bundesanstalt für Geowissenschaften und Rohstoffe) (2013). Inventory of Shared Water Resources in Western Asia, Beirut.

Wakil M. (1993). Analysis of Future Water Needs for Different Sectors in Syria. *Water International* 18(1): 18-22.