

# The Waters of Euphrates and Tigris: An International Law Perspective

*A Study by Adele J. Kirschner and Katrin Tiroch\**

*A. von Bogdandy and R. Wolfrum, (eds.),  
Max Planck Yearbook of United Nations Law, Volume 16, 2012, p. 329-394.  
© 2012 Koninklijke Brill N.V.*

---

\* This Study was written as part of the MPIL Global Knowledge Transfer project on “Water Conflicts in International Law” financed by the German Ministry of Foreign Affairs, see <[www.mpil.de/red/water](http://www.mpil.de/red/water)>. The authors would like to thank Prof. Dr. Dr. h.c. Rüdiger Wolfrum, Prof. Dr. Ulrich Beyerlin and Dr. Tilmann Röder for their invaluable comments on the article. Special thanks also go to Nicolas Bremer, Jie-Yoon Kim and David Reichwein for their kind assistance.

- I. Introduction
- II. Geography, Climate and Hydrological Setting
  1. Geography
    - a. The Euphrates
    - b. The Tigris
  2. Climate
  3. Hydrological Setting
- III. Utilization of the Rivers and Development Plans
  1. Iraq
  2. Syria
  3. Turkey
  4. Conclusion
- IV. Historical Overview on Water Politics in the Euphrates and Tigris Region
  1. Developments before World War II
  2. Developments after World War II
- V. International Law in the Euphrates and Tigris Region
  1. International Water Law
    - a. Introduction
    - b. Equitable and Reasonable Utilization of an International Watercourse
    - c. Obligation not to Cause Harm
    - d. Procedural Obligations
    - e. Environmental Protection
    - f. Groundwater
    - g. Vital Human Needs
    - h. Water Principles in Islamic Law
  2. Bilateral Agreements
    - a. Water Sharing Agreements before the 1990s
      - aa. Turkey and Iraq
      - bb. Syria and Turkey
      - cc. Iraq and Syria
    - b. Developments after 2000
- VI. Contentious Issues
  1. Euphrates and Tigris: Two Separate Rivers or One Integrated System?
  2. Terminology
  3. Different Ideas about Criteria to Determine Water Needs
  4. Turkish Position with Regard to the 1997 UN Watercourses Convention: Turkey as Persistent Objector to Customary International Law?
- VII. Proposed Solutions
  1. Syria and Iraq
  2. Turkey
    - a. Three Stages Plan for Optimum, Equitable and Reasonable Utilization of the Transboundary Watercourse of the Euphrates Basin (Three Stages Plan)
    - b. The Peace Pipeline
- VIII. Elements to be Considered for a Future Framework

1. Why do Iraq, Syria and Turkey Need a Trilateral Water Agreement?
  2. Elements to be Considered in a Trilateral Agreement
    - a. General Remarks on Issues Essential for a Successful and Above All Sustainable Water Agreement
    - b. Key Components
- IX. Conclusion

## **Abstract**

Competition over the scant resource water has been a recurring source of conflict between Iraq, Syria and Turkey, all three being riparian states of the Euphrates and Tigris Rivers. Despite several attempts at a common management of both watercourses, negotiations have not yet led to a final agreement. However, an equitable and sustainable allocation of this natural resource among the different countries would prove beneficial to all.

This article examines the relations between Iraq, Syria and Turkey with regard to their shared rivers, the Euphrates and the Tigris, from an international law perspective. It starts by giving an overview of the utilization and development of the rivers and a history of the water dispute. The authors then analyze the relevant law applicable in the region from a global and regional perspective and present the conflicting positions of the riparians by describing the underlying problems of the conflict. Then different solutions which have been proposed by the riparians are evaluated. Finally, the authors propose elements to be considered in a future sharing agreement, and give a short conclusion.

## **Keywords**

International Water Law; Euphrates and Tigris Rivers; International Watercourses; Equitable Utilization of Shared Resources

## **I. Introduction**

Water is a scant resource. Although water covers about two thirds of the earth's surface only about three per cent of this water is fresh water. In turn, the majority of this water is hardly accessible and distributed unequally. Whereas some regions have abundant water resources, others suffer from extreme scarcity. In light of growing water consumption and a steadily increasing world population, water is becoming ever more important and has an ever greater significance.

The question of water distribution and use is also of utmost importance for the Euphrates and Tigris region which has been struggling with water scarcity along with an increasing water demand for a long time. Competition over this scant resource has been a recurring source of conflict between the main riparian states Iraq, Syria and Turkey. Despite several attempts at a common management of both watercourses, negotiations have not yet led to a final agreement. However, an equitable and sustainable allocation of this natural resource among the different countries would prove beneficial to all.

This article examines the relations between Iraq, Syria and Turkey with regard to their shared rivers, the Euphrates and the Tigris, from an international law perspective. It commences with a short overview on the geography, climate and hydrological setting (II.), as well as on the utilization and development of the rivers (III.). The subsequent parts then focus on the history of the water dispute (IV.) and an analysis of the relevant law on a global and regional level (V.). Against this background the article then discusses the conflicting positions of the riparians by describing the underlying problems of the conflict (VI.). Finally different solutions which have been proposed by the riparians will be evaluated (VII.). The authors then conclude with a proposal for elements to be considered in a future sharing agreement (VIII.) and by giving a short conclusion (IX.).

## **II. Geography, Climate and Hydrological Setting**

The following section will give a brief overview of the physical setting of the rivers Euphrates and Tigris. This includes the geography, climate and hydrology of the region. The consideration of the rivers' physical characteristics is a prerequisite for understanding the setting in which the riparian states operate.

### **1. Geography**

The two rivers both originate in the mountainous region of southern Anatolia in eastern Turkey, with their sources lying barely 30 kilometers apart. The drainage basin<sup>1</sup> of the Euphrates is said to lie 28 per cent

---

<sup>1</sup> A drainage basin (also called catchment; catchment area; drainage area; river basin; watershed) is regarded as the entire drainage area of a stream, a

in Turkey, 17 per cent in Syria, 40 per cent in Iraq and 15 per cent in Saudi Arabia.<sup>2</sup> The Tigris drainage basin is described to stretch into Turkey (12 per cent), Syria (0.2 per cent), Iraq (54 per cent) and Iran (34 per cent). Although Saudi Arabia and Iran are frequently listed as drainage basin states,<sup>3</sup> they are usually not included in studies of the basin. This is due to the fact that the Saudi Arabian tributary is said to dry up in summer months and Iran has so far not made much use of the waters of the Tigris due to the difficult geographic and climatic conditions of the region.<sup>4</sup> Even though the Euphrates and the Tigris flow separately for the largest part, they are commonly considered together in studies.<sup>5</sup> Both rivers merge in their last 190 kilometers, forming the Shatt al-Arab<sup>6</sup> before flowing into the Persian Gulf. They are also connected by the man-made *Thartar* Canal in central Iraq.

#### a. The Euphrates

The Euphrates is noted to be between approximately 2,700 and 3,000 kilometers long, making it the longest river in southwest Asia west of

---

river or a lake; UNESCO/ WMO, *International Glossary of Hydrology*, see under <<http://webworld.unesco.org>> EN 0360, EN 0115.

<sup>2</sup> T. Naff/ R.C. Matson, *Water in the Middle East: Conflict or Cooperation?*, 1984, 83.

<sup>3</sup> See for example J.A. Allan, *The Middle East Water Question: Hydropolitics and the Global Economy*, 2008, 70 et seq.; Naff/ Matson, see note 2, 83.

<sup>4</sup> Reportedly Iran is, however, planning or has even already constructed several dams on tributaries of the Tigris and the Shatt al-Arab. Yet, current information regarding development plans in Iran is very hard to obtain; see I. Kaya, "The Euphrates-Tigris Basin: An Overview and Opportunities for Cooperation under International Law", *University of Arizona Arid Lands Newsletter* 44 (1998), see under <<http://ag.arizona.edu>>; S. Harms, *Branchenreport Wasser, Wirtschaftsplattform Irak 2010*, Chapter 3, see under <<http://www.wp-irak.de>>.

<sup>5</sup> Some authors even claim that both rivers form a single hydrological unit; see A. Kibaroglu, *Building a Regime for the Waters of the Euphrates-Tigris River Basin*, 2002, 160; N. Kliot, *Water Resources and Conflict in the Middle East*, 2005, 100; H. Elver, *Peaceful Uses of International Rivers: The Euphrates and Tigris Dispute*, 2002, 346. On this issue see under VI.1.

<sup>6</sup> On this issue, see R. Moshtaghi, "Shatt al Arab", in: R. Wolfrum (ed.), *Max Planck Encyclopedia of Public International Law*, 2012; D.A. Caponera, "The Legal Status of the Shatt-al-Arab (Tigris and Euphrates) River Basin", *Austrian J. Publ. Int'l Law* 45 (1993), 147 et seq.

the Indus.<sup>7</sup> After the two rivers Kara-Su and Murat Su flow together in eastern Turkey to form the Euphrates, the river enters northwestern Syria before flowing down the length of Iraq on its way to the sea. While the drainage basin of the Euphrates is shared by five states, only two states significantly contribute to its water supply.<sup>8</sup> The Euphrates receives most of its waters from Turkey supplying it with 88 per cent of the river's flow.<sup>9</sup> While Syria contributes an additional 11 per cent, the remaining riparian Iraq hardly contributes to the water volume.<sup>10</sup>

### b. The Tigris

The Tigris also flows southwards from Turkey, forming for a short distance the Turkish-Syrian border and later the Iraqi-Syrian border. It then flows down the length of Iraq, eventually joining the Euphrates near Qurna. The Tigris is measured to be approximately 1,840 km long.<sup>11</sup> Like the Euphrates it receives most of its water from Turkey (51 per cent), with Iraq and Iran respectively contributing 39 per cent and 10 per cent of the annual water volume.<sup>12</sup>

## 2. Climate

The Euphrates and the Tigris lie in a transition zone between humid continental and desert climates.<sup>13</sup> The climate in south eastern Turkey, where the headwaters of both rivers flow, is generally characterized by wet winters and dry summers.<sup>14</sup> The climate changes as the rivers flow south first through Syria and then through Iraq. Parts of Syria and the most of Iraq experience an arid climate with little precipitation.<sup>15</sup>

---

<sup>7</sup> See for example: J.F. Kolars/ W.A. Mitchell, *The Euphrates River and the Southeast Anatolia Development Project*, 1991, 3; Allan, see note 3, 70; Kibaroglu, see note 5, 162.

<sup>8</sup> Kaya, see note 4.

<sup>9</sup> Naff/ Matson, see note 2, 83 et seq.

<sup>10</sup> Ibid., 84.

<sup>11</sup> Kolars/ Mitchell, see note 7, 6; Kibaroglu, see note 5, 162.

<sup>12</sup> Allan, see note 3, 70.

<sup>13</sup> F.M. Lorenz/ E.J. Erickson, *The Euphrates Triangle: Security Implications of the Southeastern Anatolia Project*, 1999, 3.

<sup>14</sup> Kliot, see note 5, 104 et seq.

<sup>15</sup> Ibid.

Alongside the aridity the mean temperatures especially in summer are extremely high<sup>16</sup> resulting in a high water loss due to evaporation.<sup>17</sup>

### 3. Hydrological Setting

Both rivers receive most of their water from rainfall and melting snow in the mountains of southern Turkey.<sup>18</sup> Equally their flow varies greatly from season to season and from year to year.<sup>19</sup> This is not only due to climatic impacts such as for example water loss through evaporation, but also to years of rapid water use development disrupting the natural flow of the rivers. Scientists have, however, been able to identify three different flow seasons: the period of high discharge (March to June), the period of low discharge (July to October) and the period of average discharge (November to February).<sup>20</sup> The irregularity within the rivers' flow accompanied by an erratic documentation of stream flow data makes it difficult to determine the mean annual discharge of both rivers resulting in a great variation of available data.<sup>21</sup> Estimates roughly lie around 31,820 million cubic meters per year for the Euphrates and 42,230 million cubic meters per year for the Tigris.<sup>22</sup>

## III. Utilization of the Rivers and Development Plans

Both rivers are characterized by a high level of competition over water by their co-riparians. This is especially reflected in the lack of coordination with regard to the development of water utilization projects which are outlined below.

---

<sup>16</sup> The mean average temperature in Iraq during the summer is said to lie at 30 degree Celsius; Kliot, see note 5, 108.

<sup>17</sup> Ibid.

<sup>18</sup> M.L. Kavvas et al., "A Study of Water Balances over the Euphrates-Tigris Watershed", *Physics and Chemistry of the Earth* 36 (2011), 197 et seq. (198).

<sup>19</sup> A. Kibaroglu et al., *Cooperation on Turkey's Transboundary Waters, Status Report commissioned by the German Federal Ministry for Environment, Nature Conservation and Nuclear Safety*, 2005, 57; FAO, "Irrigation of the Middle East Region in Figures", *Aquastat Water Reports* 34 (2009), 359.

<sup>20</sup> Kliot, see note 5, 109 et seq.; Naff/ Matson, see note 2, 86.

<sup>21</sup> Kliot, see note 5, 108 et seq.

<sup>22</sup> Naff/ Matson, see note 2, 86 et seq.



## 1. Iraq

Historically Iraq has been the principal user of the Euphrates and Tigris waters,<sup>23</sup> starting with the very beginnings of agricultural development in Mesopotamia in approximately 4000 B.C.<sup>24</sup> Consequently it is not surprising that Iraq was also the first state to begin utilizing the waters of the Euphrates and the Tigris in modern times by constructing new water works on the rivers.<sup>25</sup> In 1913 Iraq had finished the construction of the *al-Hindiya* Barrage which made it possible to divert water from the Euphrates into renewed irrigation canals, some of them dating from ancient times.<sup>26</sup>

With economic development, population growth and urbanization, the demand for water and water uses steadily increased. Iraq was especially keen to bring more land under irrigation. In the coming years it thus spent heavily on its hydrological infrastructure and built several other dams along both rivers.<sup>27</sup> Their main purposes were flood control, water diversion to irrigation canals and later also hydroelectric power production.<sup>28</sup> These investments were, however, also largely motivated by a fear of losing water, especially that of the Euphrates, through upstream development projects in Syria and Turkey, rather than by the country's actual needs.<sup>29</sup> It is against this background that Iraq constructed the *Tharthar* Canal north of Baghdad. As mentioned previously it links the Tigris to the Euphrates through the *Tharthar* Valley depression. This allows Iraq to transfer water in large quantities from the Tigris to the Euphrates, thereby controlling the flood flow of the Tigris, but also compensating possible shortfalls in the Euphrates

---

<sup>23</sup> Y. Lupu, "International Law and the Waters of the Euphrates and Tigris", *Geo. Int'l Envtl L. Rev.* 14 (2001-2002), 349 et seq. (350).

<sup>24</sup> Hilal, see note 5, 337.

<sup>25</sup> Naff/ Matson, see note 2, 89; Kliot, see note 5, 117.

<sup>26</sup> Kibaroglu, see note 5, 169.

<sup>27</sup> For an overview of barrages, regulators and lakes on the Euphrates and the Tigris in Iraq, cf. Kliot, see note 5, 118 et seq.

<sup>28</sup> *Ibid.*, 143 et seq.; generation of hydroelectric power currently accounts for about 17 per cent of electric energy production in Iraq, cf. FAO, see note 19, 205.

<sup>29</sup> M. Biedler, "Hydropolitics of the Tigris – Euphrates River Basin with Implications for the European Union", *Centre Européen de Recherche Internationale et Stratégique: Research Paper* No. 1 (2004), 17 et seq.

basin.<sup>30</sup> As in most arid countries the agricultural sector is the biggest water consumer.<sup>31</sup> Although it only adds 5 per cent in value to Iraq's GDP water withdrawal from this sector is estimated to lie at 79 per cent.<sup>32</sup> Moreover, owing to outdated and ineffective water delivery systems much of this water is unfortunately not used efficiently.<sup>33</sup> According to most predictions water withdrawals in all sectors will increase and demands are soon expected to exceed Iraq's water supplies.<sup>34</sup>

## 2. Syria

Syria's economy is largely dependent on agriculture and food security, this has always been among the highest priorities of government agenda,<sup>35</sup> thus the water in the Syrian part of the Euphrates basin is mainly used for irrigational purposes.<sup>36</sup> Although industrial and domestic uses take up only a small part of the total water resources consumption, pressure on water resources from these sectors is steadily increasing.<sup>37</sup>

Syria did not really start developing the use of the Euphrates and the Tigris waters before the 1960s.<sup>38</sup> The first major project was the construction of the *Tabqa* Dam or *al-Thawtah* Dam on the Euphrates,

---

<sup>30</sup> Kliot, see note 5, 120; Naff/ Matson, see note 2, 92.

<sup>31</sup> FAO, see note 19, 205.

<sup>32</sup> Ibid., 201.

<sup>33</sup> N. Al-Mamouri, in: Harms, see note 4, Chapter 6; large parts of the water infrastructure were also severely damaged or even destroyed by the wars in 1991 and 2003; J.M. Trondalen, *Water and Peace for the People: Possible Solutions to Water Disputes in the Middle East*, 2008, 182.

<sup>34</sup> See for example, Kliot, see note 5, 146; FAO, see note 19, 212 et seq.

<sup>35</sup> M. Bazza/R. Najib, "Towards Improved Water Demand Management in Agriculture in the Syrian Arab Republic", paper presented on the First National Symposium on Management and Rationalization of Water Resources Use in Agriculture organized by the University of Damascus, Damascus, Arab Republic of Syria, 28-29 April 2003, 5, see under <ftp://ftp.fao.org/docrep/fao>.

<sup>36</sup> Cf. FAO, see note 19, 344.

<sup>37</sup> Cf. M. Salman, "Institutional Reform for Irrigation and Drainage in Syria: Diagnosis of Key Elements", in: FAO, *Syrian Expatriates Conference*, 2004, 1, see under <ftp://ftp.fao.org>.

<sup>38</sup> Allan, see note 3, 72.

which is considered to be the largest dam in Syria.<sup>39</sup> The filling of the *Tabqa* Dam in 1974/1975 led to serious tensions with Syria's downstream neighbor Iraq since it caused a remarkable decrease in downstream flow.<sup>40</sup> With a special focus on expanding the country's irrigated area Syria has since been steadily increasing the development of its water uses.<sup>41</sup> As of 2008, 165 dams could be counted along its rivers. Yet the Euphrates is said to have currently 4 dams only.<sup>42</sup> Nevertheless it accounts for the major share of the country's water use.<sup>43</sup> Compared to the Euphrates the Tigris does not appear to play a big role in Syria's water development scheme. This may be because it only runs along a short stretch of the eastern Syrian border to Turkey.<sup>44</sup> However, according to Allan, Syria has recently conducted technical studies for an irrigation project using Tigris water.<sup>45</sup>

### 3. Turkey

Turkey began to develop plans to utilize the Euphrates at about the same time as Syria.<sup>46</sup> The main object of this development scheme was the exploitation of the rivers' energy potential.<sup>47</sup> Unlike Syria and Iraq, Turkey is not that heavily dependent on water for irrigation since it can also rely on natural precipitation.<sup>48</sup> In fact the development of hydroelectric energy has been given priority over other uses.<sup>49</sup> The first dam Turkey built on the Euphrates was the *Keban* Dam which was solely intended to generate hydroelectric power.<sup>50</sup> It was completed in 1973

---

<sup>39</sup> The *Tabqa* Dam forms the *Al Assad* Lake which has a storage capacity of 14.1 km<sup>3</sup> and a total surface area of 674 km<sup>2</sup>. It was constructed with financial and technical assistance of the Soviet Union and completed in 1973 (FAO, see note 19, 343).

<sup>40</sup> Naff/ Matson, see note 2, 90; see also under IV. 2.

<sup>41</sup> Trondalen, see note 33, 180.

<sup>42</sup> FAO, see note 19, 344.

<sup>43</sup> Salman, see note 37, 1.

<sup>44</sup> Biedler, see note 29, 15.

<sup>45</sup> Allan, see note 3, 72.

<sup>46</sup> Naff/ Matson, see note 2, 91.

<sup>47</sup> Biedler, see note 29, 10 et seq.

<sup>48</sup> *Ibid.*, 10.

<sup>49</sup> Trondalen, see note 33, 180.

<sup>50</sup> Naff/ Matson, see note 2, 91.

and was by chance filled at about the same time as the *Tabqa* Dam in Syria. Unfortunately the filling of both dams also coincided with an extremely dry year leading to a severe water shortage downstream in Iraq.<sup>51</sup> The construction of the *Keban* Dam marked the beginning of a grand Turkish development scheme for the Euphrates and Tigris rivers.<sup>52</sup> In the 1980s it officially launched the *Güneydoğu Anadolu Projesi*<sup>53</sup> (GAP), a major multi-sector regional development project within the Turkish portions of the Euphrates and the Tigris basin, to develop the land and water resources in the region.<sup>54</sup> The project was originally scheduled to be completed in 2010,<sup>55</sup> however, in 2008 the Turkish government presented a new action plan postponing this target to 2012.<sup>56</sup>

#### 4. Conclusion

When comparing the various uses of the Euphrates and the Tigris rivers by their riparian states it is striking that all three states have planned and implemented big development projects but little effort has been

---

<sup>51</sup> J.F. Kolars, "Problems of International River Management: The Case of the Euphrates", in: A.K. Biswas (ed.), *International Waters of the Middle East: From Euphrates-Tigris to Nile*, 1994, 44 et seq. (49); see also under IV. 2.

<sup>52</sup> Cf. Kibaroglu, see note 5, 223; according to Kibaroglu although the *Keban* Dam is not officially part of the South-East Anatolia Project it is an integral part of Turkey's overall development scheme.

<sup>53</sup> Turkish for Southeast Anatolia Project.

<sup>54</sup> It consists of major irrigation and hydropower schemes encompassing 22 dams, 19 hydroelectric power plants and irrigation systems that shall bring 1.7 million hectares of land under irrigation (GAP Program for the Development of Land and Water Resources, see under <<http://www.gap.gov.tr>>). The heart of the GAP and also the largest dam in Turkey is the *Atatürk* Dam on the Euphrates near Adiyaman (J.F. Kolars, "The Hydro-Imperative of Turkey's Search for Energy", *Middle East Journal* 40 (1986), 53 et seq. (63)). It has a storage capacity of 48.7 million cubic meters and is considered one of the largest dams in the world (Kolars/ Mitchell, see note 7, 38).

<sup>55</sup> Latest Point Reached in GAP, see under <<http://www.gap.gov.tr>>.

<sup>56</sup> Southeastern Anatolia Project Action Plan (2008-2012), May 2008, see under <[http://includes.gap.gov.tr/files/ek-dosyalar\\_en/gap-action-plan/gap-action-plan.pdf](http://includes.gap.gov.tr/files/ek-dosyalar_en/gap-action-plan/gap-action-plan.pdf)>. According to a report on the latest situation of GAP activities at least the project in large shall be completed by 2012, *Güneydoğu Anadolu Projesi son Durum* (2010), 7.

made to coordinate these schemes.<sup>57</sup> All three states have, for example, developed immense water storage capacities over the years which have only fostered the individual accumulation of water rather than an attitude of sharing. Moreover, it also seems very questionable that the rivers' flow is large enough to actually fill these reservoirs.<sup>58</sup> It is thus no surprise that all this has led to ineffective and inefficient demand management practices and may be considered as one of the main factors influencing the water imbalance in the region.<sup>59</sup>

#### IV. Historical Overview on Water Politics in the Euphrates and Tigris Region

##### 1. Developments before World War II

Mesopotamia with its two great rivers the Euphrates and the Tigris is often described as the "cradle of civilization" as it gave rise to one of the earliest great cultures in history.<sup>60</sup> Yet, already in ancient times there was conflict over shared water resources. The two Mesopotamian city states of *Umma* and *Lagash* fought over water supplies more than 5000 years ago. However, these city states are also known for concluding the earliest recorded agreement to settle their disputes.<sup>61</sup>

From the 16th century to 1918 the entire Euphrates basin and most of the Tigris basin were part of the Ottoman Empire. Some treaties were concluded with Persia over the Tigris. These, however, mainly concerned boundaries or navigational issues and not water management or consumption.<sup>62</sup> The origin of current state borders within the Eu-

---

<sup>57</sup> Naff/ Matson, see note 2, 89.

<sup>58</sup> Kliot, see note 5, 122.

<sup>59</sup> Naff/ Matson, see note 2, 89.

<sup>60</sup> G. Pring/ B. Salman Banaei, "Tigris and Euphrates Rivers", in: Wolfrum, see note 6, para. 11.

<sup>61</sup> S.C. McCaffrey, *The Law of International Watercourses*, 2007, 59-60.

<sup>62</sup> R.A. Lien, "Still Thirsting: Prospects for a Multilateral Treaty on the Euphrates and Tigris Rivers Following the Adoption of the United Nations Convention on International Watercourses", *B. U. Int'l L. J.* 16 (1998), 273 et seq. (278-279); J.W. Dellapenna, "The Two Rivers and the Lands Between: Mesopotamia and the International Law of Transboundary Waters", *Brigham Young University Journal of Public Law* 10 (1996), 213 et seq. (236).

phrates and the Tigris region lies in the redrawing of the political map after World War I. The pertinent area was divided between three states: France, the United Kingdom and Turkey. Iraq was attributed to the United Kingdom and Syria to France, both of which constituted so-called 'A' mandates according to article 22 Covenant of the League of Nations.<sup>63</sup> The remaining part was left to Turkey.<sup>64</sup> During this time some agreements including provisions, although mostly not very specific ones, on the use of both the Euphrates and the Tigris were concluded between the respective powers. These will shortly be described in the following.

### 1920: The Franco-British Convention

In 1920 France and the United Kingdom agreed on certain issues in connection with their mandates for Syria, the Lebanon, Palestine and Mesopotamia, such as boundary location and the joint use of a railway.<sup>65</sup> The treaty also referred to the utilization of the Euphrates and the Tigris rivers in its article 3 which provided for the formation of a commission. This commission was to review any Syrian irrigation plan that could affect the amount of water flowing into the area of the British mandate.<sup>66</sup>

---

<sup>63</sup> Covenant of the League of Nations 225 CTS 195; for further information on the topic, see: R. Gordon, "Mandates", in: Wolfrum, see note 6.

<sup>64</sup> For more detailed information on the breakup of the Ottoman Empire, please see e.g. H.N. Howard, *The Partition of Turkey: A Diplomatic History 1913-1923*, 1931.

<sup>65</sup> Franco-British Convention on Certain Points Connected with the Mandates for Syria, the Lebanon, Palestine and Mesopotamia (signed 23 December 1920), LNTS Vol. 22 No. 564.

<sup>66</sup> Article 3 Franco-British Convention on Certain Points Connected with the Mandates for Syria, the Lebanon, Palestine and Mesopotamia (see note 65) reads as follows: "The British and French Governments shall come to an agreement regarding the nomination of a commission, whose duty it will be to make a preliminary examination of any plan of irrigation formed by the Government of the French mandatory territory, the execution of which would be of a nature to diminish in any considerable degree the waters of the Tigris and Euphrates at the point where they enter the area of the British mandate in Mesopotamia."

### 1923: Lausanne Peace Treaty

The Lausanne Peace Treaty between Turkey and the Allies of 1923<sup>67</sup> only contained limited references to the management of shared water resources. Article 109 required that,

“In default of any provisions to the contrary, when as the result of the fixing of a new frontier the hydraulic system (canalization, inundation, irrigation, drainage or similar matters) in a State is dependent on works executed within the territory of another State, or when use is made on the territory of a State, in virtue of pre-war usage, of water or hydraulic power, the source of which is on the territory of another State, an agreement shall be made between the States concerned to safeguard the interests and rights acquired by each of them. Failing an agreement, the matter shall be regulated by arbitration.”<sup>68</sup>

### 1921 - 1930: Agreements between France and Turkey<sup>69</sup>

Between 1921 and 1930 France and Turkey entered into various agreements, some of which also contained provisions on the use of the Euphrates and the Tigris. The first pertinent provision can be found in a peace agreement concluded between the Former Minister of the French Republic and the Minister for Foreign Affairs of the Government of the Grand National Assembly of Angora of 1921<sup>70</sup> (hereinafter referred to as Angora Agreement),<sup>71</sup> which formally put an end to the state of war between the two states (article I).<sup>72</sup> Article XII of the Angora Agreement concerned the distribution and removal of water. It laid down the

---

<sup>67</sup> Treaty of Peace with Turkey, with related Documents (signed 24 July 1923), LNTS Vol. 28 No. 701.

<sup>68</sup> Article 109 Treaty of Peace with Turkey, *ibid.*

<sup>69</sup> Some authors also mention an agreement between Iraq and Turkey from 1930. Reportedly the two states pledged not to alter the course of the Euphrates river without each others' consent. Unfortunately the authors of this study were unable to obtain the mentioned document; Lupu, see note 23, 354-355, who, however, again refers to the article of Dellapenna, see note 62, 238.

<sup>70</sup> Agreement with a View to Promoting Peace, with Protocol relating thereto, Protocol concerning its coming into force, and Exchange of Notes (signed 20 October 1921, entered into force 28 October 1921), LNTS Vol. 54 No. 1284.

<sup>71</sup> Ankara was previously called Angora.

<sup>72</sup> Article I Agreement with a View to Promoting Peace, see note 70.

obligation to equitably utilize and share the Kuveik river between the Syrian city Aleppo and the Turkish district to the north.<sup>73</sup> It was assumed that the communities themselves were best suited to establish an equitable method of sharing the Kuveik waters.<sup>74</sup> The same article also addressed Aleppo's right to tap Euphrates waters for supply to satisfy the needs of the district. Thereby it even authorized Aleppo to organize, if necessary, its water supply from the Euphrates in Turkish territory. This, however, was to be done at the city's own expense. Further or more specific requirements for the utilization of this water were not laid down.

Another treaty was concluded in 1926 to strengthen cooperation and friendship between France and Turkey.<sup>75</sup> It again addressed the topic of water supply for Aleppo from the Kuveik and the Euphrates, yet again without further specifying this.<sup>76</sup> In addition to the two agreements, the Final Protocol of the Commission on the Delimitation of the Turkish-Syrian Frontier (1930)<sup>77</sup> mentions the Tigris river. This Commission had previously been established according to the Angora Agreement in order to delimit the border between the two neighboring states. Article II ascertains that the vicinity of the two states imposes particular obligations on the riparians requiring an agreement on their reciprocal rights. All issues concerning the Tigris – the treaty lists navigation, fishing, industrial and agricultural uses or river police – were to be determined on the basis of complete equality.<sup>78</sup>

In conclusion, one can observe that only sparse attention was paid to the utilization of the Euphrates and the Tigris rivers before World War II. This reflects the fact that the rivers were not much used by Tur-

---

<sup>73</sup> The Kuveik river flows from Turkey to northwestern Syria.

<sup>74</sup> Agreement with a View to Promoting Peace, see note 70, Exchange of Notes VIII.

<sup>75</sup> Convention of Friendship and Good-Neighbourly Relations between France and Turkey (signed 30 May 1926), LNTS Vol. 54 No. 1285.

<sup>76</sup> Article XIII Convention of Friendship and Good-Neighbourly Relations, see note 75.

<sup>77</sup> Protocole final d'abornement de la commission d'abornement de la frontière turco-syrienne agissant conformément au traité d'Angora du 20 octobre 1921, à la convention d'amitié et de bon voisinage du 30 Mai 1926 et au Protocole d'abornement du 22 Juin 1929 (signed 3 May 1930), Doc. ST/LEG/SER.B/12, 290.

<sup>78</sup> Article II Protocole final d'abornement, see note 77.



key and Syria at that time.<sup>79</sup> It is, however, interesting to note that some agreements indicate an acceptance of the principles of fair and equitable utilization of a shared water resource.<sup>80</sup> This is in particular the case with the Angora Agreement which contained (at the time) progressive stipulations with regard to equitable sharing of the Kuveik river.

## 2. Developments after World War II

After World War II Iraq and Syria had in the meantime both gained independence. In 1946 Iraq and Turkey concluded a comprehensive agreement which aimed at strengthening the neighborly cooperation between the two states.<sup>81</sup> Protocol No.1 referred to the regulation and development of the waters of the Tigris and the Euphrates and of their tributaries. It included quite far-reaching rights and obligations in the interests of both parties, which will be discussed in detail below.<sup>82</sup> However, Protocol No.1 was never implemented.

In the following decades water issues more and more came to the fore. Conflicts arose in particular when Turkey and Syria began to claim a larger share of their common water resources (mostly the Euphrates) and announced ambitious energy and irrigation projects. This coincided with Iraq expanding its development plans.<sup>83</sup> Since the 1960s the situation has been characterized by various crisis situations as a result of the three riparian states acting unilaterally. Yet, the period has also brought about bilateral and trilateral consultations and meetings. So far, these, however, were not very successful and produced few results.<sup>84</sup> Generally, one should note that there is scarce official information about these talks as the riparian states wanted to keep them off the

---

<sup>79</sup> See Part III.; see also Dellapenna, see note 62, 237.

<sup>80</sup> Lien, see note 62, 285; see article 12 Agreement with a View to Promoting Peace, see note 70; article II Protocole final d'abornement, see note 77; on the principle of equitable and reasonable utilization, see under V. 1. b.

<sup>81</sup> Treaty of Friendship and Neighbourly Relations between Iraq and Turkey (signed 29 March 1946, it came into force 10 May 1948), UNTS Vol. 37 No. 580.

<sup>82</sup> See under V. 2. a.

<sup>83</sup> A. Kibaroglu, "Socioeconomic Development and Benefit Sharing in the Euphrates-Tigris River Basin", in: H. Shuval/ H. Dweik (eds), *Water Resources in the Middle East: Israeli-Palestinian Water Issues – From Conflict to Cooperation*, 2007, 185 et seq. (185).

<sup>84</sup> Dellapenna, see note 62, 238.

records.<sup>85</sup> Moreover, the documentation found in literature, although in general consistent, varies in its details and sometimes is even contradictory. Nevertheless, one can distinguish certain developments and agreements which will be described in the following.

In the mid 1960s, the main topic of discussion concerned the building and impounding of the *Keban* (Turkey) and *Tabqa* (Syria) Dams, alongside with the *Haditha* Dam in Iraq, all situated on the Euphrates. The construction of the *Keban* Dam was supported by international donors, like the United States Aid for Development, reportedly pushing for conditions for the protection of downstream states. Accordingly Turkey agreed to ensure a minimal discharge of 350 m<sup>3</sup>/sec downstream of the dam. Prerequisite, however, was that the natural flow of the river made such a supply possible.<sup>86</sup>

In 1965, a first round of tripartite negotiations commenced. The meetings were primarily of a technical nature and concerned updates on works, the exchange of data and other technical information on various dams.<sup>87</sup> It is noted that during these meetings, in order to have bargaining advantages, each country brought forward a maximum of demands on Euphrates waters: Iraq 14 billion cubic meters, Syria 13 billion cubic meters, Turkey 18 billion cubic meters. However, all demands taken together would have by far exceeded the annual yield of the river.<sup>88</sup> At the time the formation of a Joint Technical Committee (hereinafter referred to as JTC) was also discussed or possibly even implemented.<sup>89</sup> This does not become entirely clear from literature, at least apparently the parties held some kind of technical meetings in this period. Iraq even pushed for a permanent JTC to supervise a future water sharing agreement but this was rejected by Turkey. There was also disagreement over the functions the JTC should exercise,<sup>90</sup> as well as the scope of its jurisdiction (whether it should be limited to the Euphrates or also include the Tigris).<sup>91</sup>

---

<sup>85</sup> R.M. Slim, "Turkey, Syria, Iraq: The Euphrates", in: G.O. Faure/ J.Z. Rubin (eds), *Culture and Negotiation*, 1993, 135 et seq. (139).

<sup>86</sup> Kibaroglu, see note 5, 223.

<sup>87</sup> Ibid., 224.

<sup>88</sup> J. Waterbury, "Transboundary Water and the Challenge of Cooperation in the Middle East", in: P. Roger/ P. Lydon (eds), *Water in the Arab World: Perspectives and Prognoses*, 1994, 39 et seq. (56).

<sup>89</sup> Cf. Kibaroglu, see note 5, 223-225; Elver, see note 5, 405.

<sup>90</sup> Kibaroglu et al., see note 19, 61.

<sup>91</sup> Kibaroglu, see note 5, 224; Elver, see note 5, 406.

Subsequently, Syria and Iraq held several bilateral meetings on technical matters concerning the distribution of Euphrates waters. Syria strongly opposed Iraq's position of having "established uses" or "acquired rights" during the negotiations and continued with the construction of the *Tabqa* Dam.<sup>92</sup> However, reportedly Syria informally accepted that Iraq was entitled to 59 per cent of the Euphrates water flow in normal years.<sup>93</sup>

In the 1970s delegations of the riparian states started meeting again trilaterally. The JTC was (re-)activated, yet only on an *ad hoc* basis. The main issue discussed still concerned the impounding of the *Keban* and *Tabqa* Dams. However, a water rights agreement as well as an agreement over a joint procedure for filling the two upstream dams without causing harm downstream once again was not reached. Eventually both the *Keban* and the *Tabqa* Dams were filled unilaterally within a year between 1974 and 1975.<sup>94</sup>

The almost simultaneous filling of the two dams in combination with the fact that 1974 constituted a particularly dry year, led to a serious crisis between Iraq and Syria,<sup>95</sup> since Iraq was already suffering from a severe water shortage. In addition, all this happened in the context of an already tense political environment with disagreements between the Ba'th parties of both states.<sup>96</sup> In 1974 the conflict still could be averted. Syria consented to slow down the impounding of the *Tabqa* Dam and to provide for additional amounts of Euphrates waters (200 million m<sup>3</sup>/year) to be released.<sup>97</sup> Yet, in 1975, the second season of filling the *Keban* and *Tabqa* Dams, the crisis broke out again. The relationship between the two states severed and resulted in mutual accusations. Iraq claimed that the water flow from the Euphrates had dropped tremendously, the normal flow of 920m<sup>3</sup>/sec having gone down to 197m<sup>3</sup>/sec. Syria, on the other hand, put the blame on Turkey. It maintained that only half of the previously normal flow had reached Syria. The Arab League was asked to intervene but was not able to successfully mediate between the two parties. In mid 1975, the conflict was on

---

<sup>92</sup> See under V. 2.

<sup>93</sup> Waterbury, see note 88, 56-57.

<sup>94</sup> Kibaroglu, see note 5, 225.

<sup>95</sup> Kliot, see note 5, 161.

<sup>96</sup> Elver, see note 5, 374; since 1968 there have been two distinct Ba'th parties in Syria and Iraq, see: E. Kienle, *Ba'th v. Ba'th: The Conflict between Syria and Iraq 1968-1989*, 1993, 3.

<sup>97</sup> Naff/ Matson, see note 2, 93; Kliot, see note 5, 161-162.

the verge of armed hostility. Both Syria and Iraq deployed their armies near the mutual border. Iraq even threatened to attack the *Tabqa* Dam. Eventually, last minute mediation on the parts of Saudi Arabia and the Soviet Union was able to avert a violent conflict. The parties reportedly also came to an understanding, which was not made public. It was, however, noted that Syria agreed as a gesture of goodwill to let 60 per cent of the Euphrates waters through to Iraq.<sup>98</sup>

Another JTC was formed again in 1980 between Turkey and Iraq,<sup>99</sup> with Syria joining in 1983 but it only met sporadically and cooperation was mainly on a technical level. Topics of discussion were centered on the GAP works being planned and built in southern Turkey. Of particular concern was the building of the *Ataturk* Dam. The JTC was to identify a reasonable and appropriate method for water allocation.<sup>100</sup> After 16 meetings it concluded its last meeting in 1993. It had split over the question of a formulation of a proposal to share the rivers and could not agree on a regime to determine the equitable utilization of their shared rivers.<sup>101</sup>

In the face of the completion of the Turkish *Ataturk* Dam, Syria and Turkey signed a protocol in 1987 in which Turkey pledged to let a yearly average of more than 500 m<sup>3</sup>/sec of the Euphrates waters through to Syria.<sup>102</sup> In 1989, also Iraq and Syria agreed upon joint minutes fixing the water share between them: Iraq was to get 58 per cent and Syria the remainder of 42 per cent of the Euphrates waters.<sup>103</sup> The (partial) filling of the *Ataturk* Dam in 1990 then led to another tension

---

<sup>98</sup> Cf. Naff/ Matson, see note 2, 93-94, who cites private statements by Iraqi officials; see also Elver, see note 5, 375, who, however, does not cite a source.

<sup>99</sup> Some authors mention a Protocol of the Joint Economic Committee between Turkey and Iraq from 1980, which the authors of this study were, however, unable to obtain; see e.g. A.T. Wolf/ J.T. Newton, *Case Study Transboundary Dispute Resolution: the Tigris-Euphrates Basin*, 3; Elver, see note 5, 421, referring to a "Protocol for Techno-Economic Cooperation".

<sup>100</sup> Kibaroglu et al., see note 19, 61.

<sup>101</sup> Elver, see note 5, 407-408.

<sup>102</sup> Para. 6 Protocol on Matters Pertaining to Economic Cooperation between Turkey and the Syrian Arab Republic (signed and entered into force 17 July 1987) UNTS Vol. 1724 No. 30069; for a detailed discussion of the protocol see under V. 2. a. bb.

<sup>103</sup> Para. 1 Joint Minutes Concerning the Provisional Division of the Waters of the Euphrates River (Iraq-Syria) (signed 17 April 1989), see under <<http://faolex.fao.org>>.

between the three riparian states when Turkey (at least partly) cut off the water flow for about 30 days. Both Iraq and Syria protested against this measure and claimed that they had suffered severe damage (loss of crops, environmental damage etc.) because of the low level of water reaching their territories. Turkey, again, argued that the filling of the dam was a technical necessity and that it had duly warned its co-riparians in advance. Additionally, in an effort to reduce the damage and prove its good intentions, Turkey had increased the quantity of water in the months before the filling of the dam, i.e. it released more than the committed 500 m<sup>3</sup>/sec. Hence, the other riparian states had been given the possibility to store more water.<sup>104</sup>

Throughout the 1990s a variety of bilateral and trilateral talks were held but they repeatedly failed.<sup>105</sup> Iraq reportedly requested Turkey to increase the water flow to Syria to 700 m<sup>3</sup>/sec on various occasions, but this was rejected by Turkey.<sup>106</sup> Yet, Syria and Turkey concluded a joint communiqué on cooperation in January 1993.<sup>107</sup> In its para. 6 it refers to the protocol signed by the two states in 1987. The parties ambitiously agreed to seek a final solution settling the allocation of the Euphrates waters by the end of the year. However, again no such agreement was reached.

In 1996 the construction of the so called *Birecik* Dam in Turkey was accompanied by strong protests on the side of Iraq and Syria and led to another crisis.<sup>108</sup> Probably as a consequence, Iraq and Syria allied and apparently organized a joint water coordination committee. The parties conferred on possibilities of an equitable and reasonable sharing and

---

<sup>104</sup> Allan, see note 3, 73; Elver, see note 5, 376; see also Turkish Ministry of Foreign Affairs, "Water Issues between Turkey, Syria and Iraq", *Perceptions: Journal of International Affairs* 1 (1996), Chapter I.C.4.A.

<sup>105</sup> It should be noted that the information and literature on the events occurring after 1990 is even scarcer and harder to obtain than before.

<sup>106</sup> Turkish Ministry of Foreign Affairs, see note 104, Chapter I.C.5.

<sup>107</sup> Joint Communiqué on Cooperation between the Syrian Arab Republic and Turkey (signed and came into force 20 January 1993), UNTS Vol. 1724 No. 30070.

<sup>108</sup> Kibaroglu, see note 5, 229-230; A. Kibaroglu/ W. Scheumann, "Euphrates-Tigris River System: Political Rapprochement and Transboundary Water Cooperation", in: A. Kibaroglu/ W. Scheumann/ A. Kramer (eds), *Turkey's Water Policy: National Framework and International Cooperation*, 2011, 277 et seq. (282).

utilization of the Euphrates and Tigris waters and also decided to coordinate their positions on the issue against Turkey.<sup>109</sup>

Another Joint Communiqué was signed between Syria and Turkey in 2001.<sup>110</sup> It aims at (further) improving the relations, fostering dialogue and creating a coordination mechanism between the two countries. The agreement stipulates technical cooperation between both parties, including training programs, the identification, planning and implementation of joint projects, exchange programs and partnerships. An implementation protocol for the activities between the two parties, which identifies and specifies the activities to be carried out, was signed two years later.<sup>111</sup>

According to recent reports, there have lately been some activities in the field of cooperation on water issues. In 2007, Turkey and Syria decided to re-activate the JTC and held a series of meetings. They agreed to share information on meteorological patterns and water quality. This was followed in 2009 by a great variety of Memoranda of Understandings (MoUs) signed between the riparians. Turkey and Iraq agreed to cooperate in various fields, such as politics, economy, energy, culture, security as well as water and signed 48 MoUs.<sup>112</sup> The agreement on water issues *inter alia* concerned the exchange of data, information and expert knowledge, the efficient use of water resources and the strengthening of the JTC.<sup>113</sup> Similarly, Turkey and Syria enhanced their cooperation by signing 50 agreements and MoUs, four of which are noted to

---

<sup>109</sup> Wolf/ Newton, see note 99, 4.

<sup>110</sup> 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 (GOLD) (signed 23 August 2001), see under <<http://ocid.nacse.org>>.

<sup>111</sup> Implementation Document of Joint Communiqué (Programme for 2003) (25 July 2003), on file with the authors (unofficial translation); see also Kibaroglu, see note 83, 189.

<sup>112</sup> Strategic Foresight Group, *The Blue Peace: Rethinking Middle East Water*, 2011, 30-31, see under <<http://www.strategicforesight.com>>; see also: Kibaroglu/ Scheumann, see note 108, 293.

<sup>113</sup> The MoU between the Ministry of Environment and Forestry of the Republic of Turkey and the Ministry of Water Resources of the Republic of Iraq on Water (15 October 2009), on file with the authors (unofficial translation).

concern water issues.<sup>114</sup> Finally, sources also refer to a tripartite MoU from 2009 on strengthening cooperation, initiating water education programs, establishing joint measurement stations, monitoring and evaluating the impact of climate change and exchange of information on these issues.<sup>115</sup> However, there is little or no information to be found on the tripartite MoU of 2009 as well as the re-launched JTC.

To sum up, several formal and informal agreements were concluded after World War II. However, none addresses the question of water utilization and management of either the Euphrates or the Tigris comprehensively.<sup>116</sup> The precise content of the relevant agreements will be analyzed below.

## V. International Law in the Euphrates and Tigris Region

### 1. International Water Law

The question of the respective riparian state's rights and obligations concerning the Euphrates and the Tigris waters is highly contested. The following part will give an overview of international law relevant for the Euphrates and the Tigris region. Its purpose is to give a general introduction to the core norms of international water law, which provide a legal framework leaving room for states to develop more specific norms.

---

<sup>114</sup> Strategic Foresight Group, see note 112, 30-31; see also: Kibaroglu/Scheumann, see note 108, 293-294; out of the four MoUs mentioned the following three MoUs concern the Euphrates and Tigris rivers and are on file with the authors: MoU between the Government of the Republic of Turkey and the Government of the Syrian Arab Republic on Establishment of a Pumping Station in the Territories of the Syrian Arab Republic for Water Withdrawal from the Tigris River (23 September 2009); MoU in the Field of Remediation of Water Quality between the Government of the Republic of Turkey and the Government of the Syrian Arab Republic (23 September 2009); MoU between the Government of the Republic of Turkey and the Government of the Syrian Arab Republic in the Field of Efficient Utilization of Water Resources and Combating Drought (23 September 2009) (unofficial translations).

<sup>115</sup> Strategic Foresight Group, see note 112, 31; see also: Eviewweek, *Turkey, Syria, Iraq Sign MoU for Use of Water Resource (9 May 2009)*, 2009.

<sup>116</sup> In fact, after 1946 agreements mainly focused on the Euphrates river.

### a. Introduction

As the demand for water increased at the beginning of the 19th century, the legal framework relating to the non-navigational utilization of international watercourses also started to develop more and more. Essential work was done in this field by the Institut de Droit International<sup>117</sup> as early as 1911. Later on also the work of the ILA<sup>118</sup> as well as the ILC<sup>119</sup> contributed fundamentally to the development of international water law. Important codifications of this area of international law *inter alia* are the 1966 ILA Helsinki Rules, further updated in 2004 by the Berlin Rules,<sup>120</sup> the 1997 Convention on the Law of the Non-Navigational Uses of International Watercourses (UN Watercourses Convention)<sup>121</sup> as well as on a regional level the 1992 UNECE Conven-

---

<sup>117</sup> The Institut de Droit International (IDI) was founded in 1873 in Belgium as an “exclusively learned society” composed of the world’s leading international public lawyers. It is devoted to promoting the progress of international law [arts 1 and 3 Statute of the Institut de Droit International (10 September 1873, as amended), see under <<http://www.idi-iil.org>>].

<sup>118</sup> The ILA was founded in Brussels in 1873 as an international non-governmental organization with the objective to promote the study, clarification and development of international law and to further international understanding and respect for international law [article 3 (1) Constitution of the International Law Association (adopted August 2004), in: ILA, *Report of the Seventy-First Conference, Berlin 2004*, 2004, 42.]; see also T. Stein, “International Law Association (ILA)”, in: Wolfrum, see note 6; for further information on the development of the legal rules and principles of international water law, see e.g., A. Teclaff, “Fiat or Custom: The Checkered Development of International Water Law”, *Natural Resources Journal* 31 (1991), 45 et seq.

<sup>119</sup> The ILC was established by the General Assembly in 1947 for the promotion of the progressive development of international law and its codification [article 1 Statute of the International Law Commission, A/RES/174 (II) of 21 November 1947], see also P.S. Rao, “International Law Commission (ILC)”, in: Wolfrum, see note 6.

<sup>120</sup> Committee on Water Resources, “Helsinki Rules on the Uses of the Waters of International Rivers”, in: ILA, *Report of the Fifty-Second Conference (Helsinki 1966)*, 1967, 484 (ILA Helsinki Rules); Committee on Water Resources, “Water Resources Law – Fourth Report”, in: ILA, *Report of the Seventy-First Conference*, see note 118, 334 (ILA Berlin Rules). It should be noted that these instruments do not constitute binding legal instruments.

<sup>121</sup> Convention on the Law of the Non-navigational Uses of International Watercourses (adopted and opened for signature 21 May 1997, not yet entered



tion on the Protection and Use of Transboundary Watercourses and International Lakes (UNECE Helsinki Convention).<sup>122</sup> Additionally, a multitude of sub-regional conventions and bilateral treaties concerning specific watercourses were signed.<sup>123</sup>

The UN Watercourses Convention is the only universally applicable Convention that establishes basic principles and rules for interstate cooperation on the management, use, apportionment as well as for the protection of international watercourses. Both Iraq and Syria have signed and ratified it.<sup>124</sup> In contrast, Turkey has not signed the Convention and was, moreover, among the three states that voted against its adoption in the UN General Assembly. Apart from that the Convention is still not in force since it has not yet received the necessary 35 ratifications. Therefore, the UN Watercourses Convention, as well as other regional and sub-regional conventions, is not directly applicable in the Euphrates and the Tigris region. Consequently, the question of a customary application of the fundamental norms of international water law arises. Unfortunately, there is still disagreement about the exact status, scope and interrelationship of these norms.<sup>125</sup> Albeit this fact the

---

into force) *ILM* 36 (1997), 700 et seq.; the UN Watercourses Convention was based on a draft prepared by the ILC, see Draft Articles on the Law of Non-navigational Uses of International Watercourses and Commentaries Thereto, 1994, GAOR 49th Sess., Suppl. 10, 195.

<sup>122</sup> Article 2 (1) Convention on the Protection and Use of Transboundary Watercourses and International Lakes (with Annexes), UNTS Vol. 1936 No. 33207.

<sup>123</sup> See for example Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, *ILM* 34 (1995), 864 et seq.; Convention on Cooperation for the Protection and Sustainable Use of the Danube River, OJ L 342 (12 December 1997), 19 et seq.; Convention on the Protection of the Rhine, OJ L 289/31; Indus Waters Treaty 1960, UNTS Vol. 419 No. 6032; Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC), *ILM* 40 (2001), 321 et seq.

<sup>124</sup> Iraq accepted on 9 July 2001 and Syria ratified on 2 April 1998; according to article 18 of the Vienna Convention on the Law of Treaties, UNTS Vol. 1155 No. 18232, the two states are to refrain from acts that might defeat the purpose of the UN Watercourses Convention, see note 121, before it enters into force.

<sup>125</sup> Cf. O. McIntyre, "The Role of Customary Rules and Principles of International Environmental Law in the Protection of Shared International Freshwater Resources", *Natural Resources Journal* 46 (2006), 157 et seq.; P.M. Dupuy, "Formation of Customary Law and General Principles", in:

authors of this study generally contend that the norms described below are legally binding norms, i.e. norms of customary international law.<sup>126</sup> Even though one might not follow this approach, it cannot be denied that these fundamental norms will most likely influence the setting of terms in the debate and provide guidelines for voluntary compliance as well as for the negotiations of a future agreement.<sup>127</sup>

### **b. Equitable and Reasonable Utilization of an International Watercourse**

Probably the pre-eminent norm in international water law regarding the management of an international watercourse is the principle of equitable and reasonable utilization.<sup>128</sup> As a matter of principle states have the sovereign right to use a shared freshwater resource within their territory. The norm, however, requires a state to use a water resource in a manner that is equitable and reasonable *vis-à-vis* other states.<sup>129</sup> The objective is to attain optimal utilization of and benefits from a water-

---

D. Bodansky/ J. Brunnée/ E. Hey (eds), *The Oxford Handbook of International Environmental Law*, 2007, 449 et seq. (450 et seq.).

<sup>126</sup> Although this view cannot be supported by an in-depth analysis, since this would go far beyond the scope of the study, separate references for each norm which underscore their customary legal status are provided.

<sup>127</sup> Cf. D. Bodansky, “Customary (and Not So Customary) International Environmental Law”, *Ind. J. Global Legal Stud.* 3 (1995-1996), 105 et seq. (119), who also correctly states that “the international community should spend less time debating a norm’s legal status and more time translating general norms into enforceable treaties”, (105).

<sup>128</sup> For a discussion of the distinction between policies, legal rules and legal principles, see U. Beyerlin, “‘Prinzipien’ im Umweltvölkerrecht – ein pathologisches Phänomen?”, in: H.J. Cremer et al. (eds), *Tradition und Weltoffenheit des Rechts: Festschrift für Helmut Steinberger*, 2002, 31 et seq.; id., “Different Types of Norms in International Environmental Law: Policies, Principles and Rules”, in: Bodansky/ Brunnée/ Hey, see note 125, 425 et seq.; for the purposes of this study, the substantive norms of international water law (equitable and reasonable utilization and the obligation not to cause harm) will be referred by the terms “*principle*” of equitable and reasonable utilization and no harm “*rule*” since this is what they are generally called. This terminology, however, is used without prejudice whether either norm is considered a “*principle*” or “*rule*” of international law.

<sup>129</sup> S.C. McCaffrey, “International Watercourses”, in: Wolfrum, see note 6, para. 11.

course, but in a sustainable manner consistent with its adequate protection. The principle of equitable and reasonable utilization is widely supported by state practice<sup>130</sup> and has been applied and confirmed by various international<sup>131</sup> and national court decisions.<sup>132</sup>

At the core of the principle lies the sovereign equality of all states. Hence, all watercourse states have a right to an equal share of the uses and benefits of an international watercourse and no state has *a priori* a superior claim on the shared resource.<sup>133</sup> Yet, states also have the correlative obligation not to exceed their rights and unduly interfere with the rights of other states.<sup>134</sup> It should also be clarified that equity does not mean equality of the share. Equal rights do not imply the equal apportionment of a watercourse. At the same time, the objective of an optimal utilization does not entail that a state capable of making the most

---

<sup>130</sup> For a survey of state practice, see ILC, Special Rapporteur McCaffrey, Second Report on the Law of the Non-navigational Uses of International Watercourses, Doc. A/CN.4/399 of 21 May 1986; this is supported by the consistent inclusions of the norm in treaties and other documents, cf. article 5 UN Watercourses Convention, see note 121; article IV ILA Helsinki Rules, see note 120; article 12 ILA Berlin Rules, see note 120; article 5 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, see note 123; article 5 ILC Draft Articles on the Law of Non-navigational Uses of International Watercourses, see note 121; see also L. del Castillo-Laborde, "Equitable Utilization of Shared Resources", in: Wolfrum, see note 6, para. 16; McCaffrey, see note 61, 376 and references cited at 384 et seq.; see also references cited by C. Behrmann, *Das Prinzip der angemessenen und vernünftigen Nutzung und Teilhabe nach der VN-Wasserlaufkonvention*, 2008, 63-64 (fn 5).

<sup>131</sup> Cf. *Gabčíkovo-Nagymaros Project (Hungary v. Slovakia)*, ICJ Reports 1997, 7 et seq. (paras 78, 85, 147); *Affaire du Lac Lanoux* (1957), 12 RIAA 281 (315); *Territorial Jurisdiction of the International Commission of the River Oder (United Kingdom v. Poland)* (10 September 1929), PCIJ Series A No. 23, 27.

<sup>132</sup> See e.g. *Kansas v. Colorado*, US Supreme Court [1907] 206 US 46; *New Jersey v. New York*, US Supreme Court [1931] 283 US 336; *Colorado v. New Mexico*, US Supreme Court [1984] 467 US 310; cf. also *Land Württemberg und Land Preußen gegen das Land Baden betreffend die Donauversinkung* before the German Staatsgerichtshof (Constitutional Court of the German Reich) (18 June 1927) (1927), 116 Entscheidungen des Reichsgerichts in Zivilsachen Anhang 18.

<sup>133</sup> Therefore, it is also irrelevant where the source of an international watercourse lies; see, Behrmann, see note 130, 65.

<sup>134</sup> *Ibid.*, 64-65.

efficient – economically or technologically – or monetarily valuable use should have a prior claim against other states.<sup>135</sup>

The principle of equitable utilization is inherently of a rather flexible and general nature. It has to be adapted to a wide variety of situations and accommodate the different, often opposing interests of states. Thus, the norm implies a balancing of uses between the watercourse states concerned.<sup>136</sup> This, in turn, requires the examination of all relevant conditions pertaining to a particular situation. In order to assess their utilization correctly states then need to consider certain factors and criteria on which they can base their assessment and consult with other states. Such factors include *inter alia* geographical, social and economic circumstances, as well as existing and potential uses, conservation and protection measures and available alternatives.<sup>137</sup> Further it has to be taken into account that the factors are not static, but prone to change and alteration, either due to natural developments or man-made influences. Therefore, a determination of equitable and reasonable utilization must be continuously reviewed and reassessed, since changing circumstances require adjustments.<sup>138</sup>

### c. Obligation not to Cause Harm

The second fundamental pillar of international water law is the obligation not to cause significant harm to other riparian states, also called no harm rule.<sup>139</sup> It means to prevent the causing of harm to other riparian

---

<sup>135</sup> Draft Articles on the Law of Non-navigational Uses of International Watercourses, see note 121, commentaries to article 5, paras (3), (8).

<sup>136</sup> McCaffrey, see note 129, para. 11.

<sup>137</sup> Cf. article 6 UN Watercourses Convention, see note 121; article IV ILA Helsinki Rules, see note 120; article 13 ILA Berlin Rules, see note 120.

<sup>138</sup> M.S. Helal, “Sharing Blue Gold: The 1997 UN Convention on the Law of the Non-navigational Uses of International Watercourses Ten Years On”, *Colo. J. Int’l Envtl L. & Pol’y* 18 (2007), 337 et seq. (345).

<sup>139</sup> The customary status of this norm enjoys widespread support, see e.g.: article 7 UN Watercourses Convention, see note 121; article 2 (1) UNECE Helsinki Convention, see note 122; article X ILA Helsinki Rules, see note 120; article 16 ILA Berlin Rules, see note 120; Principle 21 UN Conference on the Human Environment, Stockholm Declaration of the UN Conference on the Human Environment (16 June 1972), Doc. A/CONF.48/14/Rev. 1, 3; Principle 2 UN Conference on Environment and Development, Rio Declaration on Environment and Development (14 June 1992), Doc. A/CONF. 151/26/Rev. 1 Vol. I, 3; *Affaire du Lac Lanoux*,

states through activities related to an international watercourse. Thereby harm may result from pollution or a decrease of water quantity due to other activities not necessarily related to a state's direct utilization of a watercourse, such as e.g. deforestation.<sup>140</sup>

The no harm rule is often linked to the doctrines of *sic utere tuo ut alienum non laedas* (so use your own as not to harm that of another), good neighborliness and/or of abuse of rights.<sup>141</sup> All three doctrines try to reconcile conflicting rights of different states.<sup>142</sup> The underlying rationale is that a state may not use or permit such use of its territory that causes injury to the rights or interests of other states.<sup>143</sup>

It should be pointed out that the no harm rule does not embody an absolute standard.<sup>144</sup> Several mitigating factors have to be taken into account. Firstly, state and conventional practice as well as case law require the harm to exceed a certain threshold, i.e. to be sufficiently serious or significant.<sup>145</sup> The determination of what is significant may, however, be different in each case. Secondly, the required standard of conduct is one

---

see note 131, 308; in support of the no harm rule but not on international water law itself: *Trail Smelter (United States of America v. Canada)* (1938/41), 3 RIAA 1905, 1965; *Corfu Channel (United Kingdom of Great Britain and Northern Ireland v. Albania) (Merits)*, ICJ Reports 1949, 4 et seq. (22); see also: McCaffrey, see note 61, 406 et seq.; O. McIntyre, *Environmental Protection of International Watercourses under International Law*, 2007, 87 et seq.; G. Handl, "Transboundary Impacts", in: Bodansky/ Brunnée/ Hey, see note 125, 531 et seq. (534).

<sup>140</sup> McCaffrey, see note 61, 409.

<sup>141</sup> Handl, see note 139, 533; McIntyre, see note 139, 89-90; McCaffrey, see note 61, 415-419.

<sup>142</sup> McCaffrey, see note 61, 417.

<sup>143</sup> This principle was most famously expressed in the *Trail Smelter Case* of 1949, see note 139, 1965: "[U]nder the principles of international law, as well as of the law of the United States, no State has the right to use or to permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties of persons therein, when the case is of serious consequence and the injury established by clear and convincing evidence".

<sup>144</sup> Helal, see note 138, 361, 364; McCaffrey, see note 61, 408.

<sup>145</sup> McIntyre, see note 139, 93; see also: T. Bruha/ C.A. Maaß, "Schutz der Süßwasserressourcen im Völkerrecht – Prinzipien, Instrumente und neuere Entwicklungen", in: T. Bruha/ H.J. Koch (eds), *Integrierte Gewässerschutzpolitik: Gewässerschutz, Wassernutzung, Lebensraumschutz*, 2001, 69 et seq. (79-83); the term "significant" is used by the ILC and in article 7 UN Watercourses Convention, see note 121.

of due diligence. That means it does not entail responsibility for the mere occurrence of a result (obligation of result). Rather states shall take all reasonable measures not to cause significant harm (obligation of conduct). The concrete measures required are to be established taking into account the facts and circumstances of each particular situation as well as the capabilities of the state concerned. The standard of due diligence is mostly to be fulfilled on a national level and generally involves the adoption of adequate legislation and administrative measures as well as their enforcement.<sup>146</sup>

Finally, it is important to note that the rule does not only constrain activities of upstream states. It is clear that the environment of a downstream state may be factually harmed by an upstream use. However, there is also potential of harm the other way round. Heavy downstream use may have the legal effect of imposing limitations on an upstream state's utilization of a watercourse as its use may alter the equitable balance of uses between watercourse states. Thus, harm can also be of a legal nature. The upstream state may in effect be deprived of its right to use a watercourse or engage in a planned activity by downstream uses. Consequently, the obligation to prevent harm does not permit a downstream state to completely restrict the economic development of an upstream state.<sup>147</sup>

#### d. Procedural Obligations

Procedural norms play a vital role in international water law since they provide the normative framework which is necessary for the implementation of substantial obligations. In addition, procedural obligations can help to avoid disputes.

The most important of these obligations *inter alia* are: the obligation of prior notification, the obligation to exchange data and information, the obligation to consult with potentially affected states, the obligation to conduct an environmental impact assessment (EIA) and the central and embracing obligation to cooperate.<sup>148</sup> It is again maintained that all procedural obligations mentioned reflect customary international law.

---

<sup>146</sup> McIntyre, see note 139, 102.

<sup>147</sup> McCaffrey, see note 61, 410-415.

<sup>148</sup> B. Baker Röben, "International Freshwaters", in: F.L. Morrison/ R. Wolfrum (eds), *International, Regional and National Environmental Law*, 2000, 285 et seq. (303-304).

The following part aims to give an introduction to the procedural obligations in international water law.

The obligation to notify<sup>149</sup> requires a state to provide prior and timely notification to other watercourse states about planned activities within its territory or under its control that may have a significant adverse effect. A logic consequence of this is also that a state needs to be informed adequately in order to enable it to assess potential environmental implications of planned measures correctly. Therefore, it is necessary that a notification includes sufficient information, including the results of any EIA.<sup>150</sup> It should also be mentioned that the obligation is reciprocal in nature, i.e. it applies to upstream as well as downstream states.<sup>151</sup>

In addition to the requirement of prior notification, it is of crucial importance that states regularly exchange data and information concerning the condition of a watercourse.<sup>152</sup> The obligation is closely linked with the principle of equitable and reasonable utilization as without such data and information, the ongoing evaluation of uses

---

<sup>149</sup> Conventions and other instruments that contain similar obligations: see e.g. Principle 19 UN Conference on Environment and Development, Rio Declaration on Environment and Development, see note 139; article 14 Convention on Biological Diversity, UNTS Vol. 1760 No. 30619; arts 3 and 10 Convention on the Transboundary Effects of Industrial Accidents, *ILM* 31 (1992), 1333 et seq.; see Part III UN Watercourses Convention, see note 121; article 6 UNECE Helsinki Convention, see note 122; article 4 Revised Protocol on Shared Watercourses in the Southern African Development Community, see note 123; for further references see ILC, Special Rapporteur McCaffrey, *Third Report on the Law of the Non-navigational Uses of International Watercourses*, Doc. A/CN.4/406 of 11 December 1981, paras 63 et seq.; McCaffrey, see note 61, 473.

<sup>150</sup> Article 12 UN Watercourses Convention, see note 121; for further information see McIntyre, see note 139, 324-333.

<sup>151</sup> Helal, see note 138, 346; A. Grzybowski/ S.C. McCaffrey/ R.K. Paisley, "Beyond International Water Law: Successfully Negotiating Mutual Gains Agreements for International Watercourses", *Pacific McGeorge Global Business and Development Law Journal* 22 (2010), 139 et seq. (142).

<sup>152</sup> This obligation has been recognized in a variety of instruments, such as article 8 Convention on Long-Range Transboundary Air Pollution, UNTS Vol. 1302 No. 21623; article 5 Vienna Convention for the Protection of the Ozone Layer, UNTS Vol. 1513 No. 26164; arts 6 and 13 UNECE Helsinki Convention, see note 122; article 9 UN Watercourses Convention, see note 121; article 6 Indus Waters Treaty 1960, see note 123; for further references see McIntyre, see note 139, 333-337.

along with the weighing of all relevant factors as well as the adequate protection of a watercourse are rendered difficult, if not impossible.<sup>153</sup>

The duty to enter into consultations<sup>154</sup> with co-basin states is also closely connected to the two obligations mentioned previously. It arises in a variety of circumstances<sup>155</sup> and generally requires states to communicate in order to find strategies on how to accommodate different (often opposing) interests. It is, however, important to note that the duty to consult does not go as far as, for example, requiring the consent of an objecting state to a planned measure.<sup>156</sup> Consultations are a step in the process that precedes formal negotiation, i.e. they are not necessarily aimed at finding a compromise, but are rather discussions based *inter alia* on information exchange.<sup>157</sup> In this sense consultations provide a first opportunity for states to exchange their views and can thus support conflict prevention.

The practice to conduct an EIA has recently gained much acceptance among states; it is a binding norm of international law, as lately ruled by the ICJ in the so called *Pulp Mills Case*.<sup>158</sup> The obligation

---

<sup>153</sup> McCaffrey, see note 61, 478-479.

<sup>154</sup> A great variety of treaty instruments require states to enter into consultations; cf. e.g., article 5 Convention on Environmental Impact Assessment in a Transboundary Context (done 25 February 1991, entered into force 10 September 1997), *ILM* 30 (1991), 802 (Espoo Convention); article 4 Convention on the Transboundary Effects of Industrial Accidents, see note 149; article 5 Convention on Long-Range Transboundary Air Pollution, see note 152; for further references see McIntyre, see note 139, 337-344.

<sup>155</sup> See also arts 3 (5), 4, 7 (2), 11, 17, 18 (2) and (3), 19 (3), 21 (3), 24 (1), 26 (2), 30 UN Watercourses Convention, see note 121.

<sup>156</sup> McIntyre, see note 139, 337.

<sup>157</sup> Cf. McCaffrey, see note 61, 477.

<sup>158</sup> *Pulp Mills on the River Uruguay (Argentina v. Uruguay) (Judgment)* (20 April 2010), ICJ Doc. 2010 General List No. 135, para. 204; see also Principle 17 Rio Declaration on Environment and Development, see note 139; article 206 UN Convention on the Law of the Sea, UNTS Vol. 1833 No. 31363; article 4 (1) (f) UN Framework Convention on Climate Change (with Annexes), UNTS Vol. 1771 No. 30822; article 8 and Annex I Protocol on Environmental Protection to the Antarctic Treaty, *ILM* 30 (1991), 1455 et seq.; in general Espoo Convention, see note 154; article 11 (3) UNECE Helsinki Convention, see note 122; Chapter IV ILA Berlin Rules 2004, see note 120; see also P. Birnie/ A. Boyle, *International Law and the Environment*, 2009, 164; McIntyre, see note 139, 229-239; A. Epiney, "Environmental Impact Assessment", in: Wolfrum, see note 6, para. 63; U. Beyerlin, *International Environmental Law*, 2011, 233 et seq.



stipulates that states have to undertake an environmental impact assessment, “where there is a risk that the proposed industrial activity may have a significant adverse impact in a transboundary context, in particular, on a shared resource.”<sup>159</sup> The idea is that a state first needs to have sufficient information and understand the environmental impact of an activity to be then able to take a decision and consequently prevent environmental harm.<sup>160</sup> Unfortunately, international law remains mostly silent on the specific scope and minimum core content of an EIA.<sup>161</sup> Hence, it is left to each state’s domestic legal order to specify its elements. Even though the exact requirements are not specified, it is clear that the EIA has to be conducted prior to the implementation of the project and requires ongoing monitoring.<sup>162</sup>

Finally, the duty to cooperate<sup>163</sup> is considered as an overarching principle embracing all procedural obligations mentioned previously. The term cooperation generally describes “the voluntary coordinated action of two or more States which takes place under a legal regime and serves a specific objective. To this extent it marks the effort of States to accomplish an objective by joint action [...], where the activity of a single State cannot achieve the same result.”<sup>164</sup> Hence, continuous cooperation is not only a necessary and indispensable requirement for the effective functioning of other procedural rules but also the driving force

---

<sup>159</sup> *Pulp Mills on the River Uruguay*, see note 158, para. 204.

<sup>160</sup> Epiney, see note 158, para. 1.

<sup>161</sup> Non-binding principles may be taken as guidelines; see e.g. UNEP, *Goals and Principles of Environmental Impact Assessment*, or see also, Espoo Convention, see note 154.

<sup>162</sup> *Pulp Mills on the River Uruguay*, see note 158, para. 205; for more information on EIA, see also UNEP, *Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach*, 2004.

<sup>163</sup> The importance of cooperation concerning the utilization of international watercourses has been emphasized repeatedly; cf. Principle 7 Rio Declaration on Environment and Development, see note 139; article 8 ILC, Draft Articles on the Law of Non-navigational Uses of International Watercourses, see note 121; article 8 UN Watercourses Convention, see note 121; *Affaire du Lac Lanoux*, see note 131, 308; *Gabčíkovo-Nagyymaros Project*, see note 131, para. 17; for further references, see, ILC, Special Rapporteur McCaffrey, see note 149, paras 43 et seq.

<sup>164</sup> R. Wolfrum, “Cooperation, International Law of”, in: id., see note 6, para. 2.

for the attainment as well as the maintenance of an equitable allocation of the uses and benefits of an international watercourse.

#### e. Environmental Protection

Traditionally the interests of riparian states mainly concerned the allocation of uses of shared freshwater resources. However, states have increasingly recognized the significance of the protection of the environment against pollution and other forms of harm. Alongside a better scientific understanding of the interdependence between different ecosystems, this has led to a trend towards more holistic and eco-system oriented approaches. Modern treaties and conventions no longer only consider the interests of states in utilizing a watercourse but are especially designed to ensure the ecological balance of a watercourse by prescribing environmental measures and standards.<sup>165</sup> Such measures, for example, relate to the prevention and reduction of pollution, the introduction of alien species, minimum flow guarantees and the general protection of the river's environment as well as the achievement of a good water quality.<sup>166</sup> This trend is reflected by the emergence and development of (customary) rules and principles in international environmental law including *inter alia* the obligation to prevent or minimize environmental harm, the precautionary principle, the polluter pays principle, sustainable development or the obligation to protect the eco-system.<sup>167</sup>

Environmental considerations do not (yet) play a big role in the Euphrates and the Tigris region even though both rivers are unfortunately highly polluted and suffer from environmental harm. In particular, rapid salinity increase and severe deterioration of the marshlands con-

---

<sup>165</sup> U. Beyerlin, *Umweltvölkerrecht*, 2000, 85; for treaties specifically concerning the protection of an international watercourse, see e.g. Convention on Cooperation for the Protection and Sustainable Use of the Danube River, see note 123; Convention on the Protection of the Rhine, see note 123.

<sup>166</sup> U. Beyerlin/ J. Grote Stoutenburg, "Environment, International Protection", in: Wolfrum, see note 6, para. 59.

<sup>167</sup> McIntyre, see note 139, 191 et seq.; see also, A. Nollkaemper, *The Legal Regime for Transboundary Water Pollution: Between Discretion and Constraint*, 1993; generally on principles of environmental law see R. Wolfrum, "International Environmental Law: Purposes, Principles and Means of Ensuring Compliance", in: F.L. Morrison/ R. Wolfrum (eds), *International, Regional and National Environmental Law*, 2000, 3; P. Sands, *Principles of International Environmental Law*, 2003.

stitute major problems.<sup>168</sup> It is, therefore, essential that any future agreement includes the issue of the environmental protection of the Euphrates and the Tigris river.

#### f. Groundwater

In the context of transboundary waters, attention needs also to be paid to groundwater. Within the Euphrates and the Tigris region, the three riparian states share groundwater resources, such the *Ceylanpinar* aquifer and the *Ras El Ain* karstic springs.<sup>169</sup>

Groundwater holds a special status in international water law. Although it is an important resource for freshwater, particularly in arid regions,<sup>170</sup> until recently it has received only little coverage in international law.<sup>171</sup> While the rules stipulated in the 1997 UN Watercourses Convention also apply to groundwater, they do so only in a limited way.<sup>172</sup> According to its definition of an international watercourse the Convention applies to groundwater when it is related to surface water, normally flowing into a common terminus.<sup>173</sup> This definition does not only exclude confined groundwater unrelated to surface water but also makes it difficult to determine to what extent aquifers with multiple termini (such as, for example, the groundwater associated with the Danube) fall under the scope of the convention.<sup>174</sup> Next to causing uncertainty this leaves out important transboundary aquifer systems, containing great amounts of freshwater resources. Moreover, the provisions

---

<sup>168</sup> Cf. D. Grey/ D. Blackmore, *Iraq – A Strategy to Negotiate with Co-Riparian States Responding to a “Note Verbale” to RBAS-UNDP* (April 2011), on file with the authors, 8.

<sup>169</sup> Kibaroglu et al., see note 19, 74.

<sup>170</sup> Aquifer systems constitute a strategic and also reliable freshwater reserve that can be drawn upon in cases of drought; see K. Mechlem, “Groundwater Protection”, in: Wolfrum, see note 6, para. 5.

<sup>171</sup> According to Mechlem the reasons for this neglect lie *inter alia* in the complex nature of aquifers and longtime lack of available data on their behavior; see K. Mechlem, “International Groundwater Law: Towards Closing the Gaps?”, *Yearbook of International Environmental Law* 14 (2003), 47 et seq. (53).

<sup>172</sup> Cf. *ibid.*, 47 et seq.

<sup>173</sup> See article 2 UN Watercourses Convention, see note 121.

<sup>174</sup> Mechlem, see note 171, 54 et seq.

are tailored to surface water and do not cover the specific hydrological behavior of groundwater.<sup>175</sup>

In 2008 the UN General Assembly adopted Resolution 63/124,<sup>176</sup> containing a set of Draft Articles on the Law of Transboundary Aquifers which had been developed by the ILC between 2002 and 2008.<sup>177</sup> In spite of their non-binding nature,<sup>178</sup> these Draft Articles mark an important step in the development of international water law regarding the treatment of groundwater, more specifically transboundary aquifers.<sup>179</sup> They basically adapt the fundamental principles of international water law to the specific characteristics of groundwater.<sup>180</sup> Also, like the UN Watercourses Convention, the Draft Articles offer a framework for states to make appropriate arrangements for the proper management of

---

<sup>175</sup> It should be noted that not all international water law instruments suffer from this limitation. For example, the ILA Berlin Rules (2004), see note 120, stipulate rules for both surface and groundwater and on a regional level the UNECE Helsinki Convention, see note 122, also applies to surface as well as groundwater. The same goes for the Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy [2000] OJ L327/1; cf. Mechlem, see note 171, 57 et seq.

<sup>176</sup> The Law of Transboundary Aquifers, A/RES/63/124 of 11 December 2008.

<sup>177</sup> The ILC is tasked with the progressive development of international law and its codification [article 1 (1) Statute of the International Law Commission, see note 119]. Its members prepare draft conventions on subjects which have not yet been regulated, sufficiently developed or require more precise formulation and systematization in international law (article 15).

<sup>178</sup> Works of the ILC have the nature of recommendations and are thus, with the exception of codified rules of customary international law, not binding on states; Rao, see note 119, para. 5. The General Assembly has decided to examine the final form that may be given to the ILC, "Draft Articles on the Law of Transboundary Aquifers adopted by the Commission on First Reading", in: ILC, *Report of the International Law Commission Covering the Work of its 58th Sess. (1 May–9 June and 3 July–11 August 2006)*, GAOR 61 Sess., Suppl. 10, 192; A/RES/63/124, see note 176, para. 6.

<sup>179</sup> For the history of the development cf. Mechlem, see note 170. In this context the following non-governmental instruments of the ILA are also noteworthy: ILA Seoul Rules on International Groundwaters (Committee on Water Resources, "Rules on International Groundwaters", in: ILA, *Report of the Sixty-Second Conference (Seoul 1986)*, 1987, 251); ILA Berlin Rules, see note 120.

<sup>180</sup> Mechlem, see note 170, para. 20.

their transboundary aquifers, by taking into account the provisions of these draft articles.

#### g. Vital Human Needs

Water is essential for life. Without access to a sufficient supply of water humans have no chance of survival. Hence, when weighing different uses and negotiating a water-sharing agreement states should pay due respect to basic human needs. This is particularly the case for states suffering from water scarcity since they already face a great challenge of supplying their populations with sufficient amounts of water. The importance of securing fresh water access for basic human needs is also reflected in international water law. Although international water law generally does not recognize a hierarchy between uses,<sup>181</sup> it provides for a certain safeguard against neglecting the vital importance of water for humans.<sup>182</sup> Article 10 (2) of the UN Watercourses Convention, dealing with the relationship between different kinds of uses, for example calls upon states, when settling a conflict between different uses, to give “special regard [...] to the requirements of vital human needs.”<sup>183</sup>

This requires sufficient water for sustaining human life, including drinking water and water for food production.<sup>184</sup> With regard to groundwater the ILC Draft Articles on the Law of Transboundary Aquifers even go a step further, requiring states to consider basic needs before a conflict of uses occurs,<sup>185</sup> namely within the process of determining an equitable and reasonable utilization.<sup>186</sup> Both provisions echo a growing trend in international water law highlighting the necessity to

---

<sup>181</sup> Cf. article 10 (1) UN Watercourses Convention, see note 121.

<sup>182</sup> S.C. McCaffrey, “The Human Right to Water”, in: E. Brown-Weiss/ L. Boisson de Chazournes/ N. Bernasconi-Ostewalder (eds), *Fresh Water and International Economic Law*, 2005, 94 et seq. (100).

<sup>183</sup> Article 10 (2) UN Watercourses Convention, see note 121.

<sup>184</sup> Convention on the Law of the Non-navigational Uses of International Watercourses: Report of the Sixth Committee convening as the Working Group of the Whole, Doc. A/51/869 of 11 April 1997, 5.

<sup>185</sup> C. Leb, “Dig Deep: Conflict Prevention through Protection of Basic Water Rights: The Role of International Water Law in Conflict Prevention”, Paper presented at the *International Conference “Transboundary Aquifers: Challenges and New Directions” (ISARM), UNESCO Paris, 6-8 December 2010*, 4.

<sup>186</sup> Article 5 (2) ILC Draft Articles on the Law of Transboundary Aquifers, see note 178.

respect basic human needs in the management of transboundary water resources.<sup>187</sup> This trend is undoubtedly influenced by current developments in the field of human rights law, more specifically the human right to water.<sup>188</sup> While the rules governing international water law have not been devised as individual rights they do express the basic idea behind the right to water, that is, in making allocation decisions states should pay attention to vital human needs.<sup>189</sup> In sum, one can say that if vital human needs are at threat they should be prioritized over any other use to the extent necessary.<sup>190</sup>

#### **h. Water Principles in Islamic Law**

When examining the international law applicable in the Euphrates and the Tigris region special regard should be paid to Islamic law since Turkey, Syria and Iraq are all countries with largely Muslim populations. Even though Islamic law might not necessarily provide for a modern day solution of the Euphrates and Tigris conflict<sup>191</sup> and Turkey and

---

<sup>187</sup> Leb, see note 185, 5; several water sharing agreements refer to the human right to water or vital human needs, see e.g., Charte des Eaux du Fleuve Sénégal (Senegal River Charter) of 18 May 2002; see under <<http://www.ecolex.org>>; La Charte de L'eau du Bassin Niger (Niger River Charter) signed 30 April 2008, see under <<http://www.abn.ne>>.

<sup>188</sup> On the human right to water see, e.g., E. Riedel/ P. Rothen (eds), *The Human Right to Water*, 2006; A. Kirschner, "The Human Right to Water and Sanitation", in: A. von Bogdandy/ R. Wolfrum (eds), *Max Planck UNYB* 15 (2011), 445 et seq. With particular focus on the Middle East see A.K. Biswas/ E. Rached/ C. Tortajada, *Water as a Human Right for the Middle East and North Africa*, 2008.

<sup>189</sup> McCaffrey, see note 182, 100 et seq.

<sup>190</sup> K. Bourquain, *Freshwater Access from a Human Rights Perspective: A Challenge to International Water and Human Rights Law*, 2008, 43; who criticizes that law does not make clear what the necessary minimum standard is which, in practice, makes the fulfillment of this aim doubtful.

<sup>191</sup> See for instance J.E. Cohen, "International Law and the Water Politics of the Euphrates", *N.Y.U.J.Int'L.&Pol.* 24 (1992), 503 et seq. (538). McCaffrey also points out that at the time Islamic water law was developed, people were not thinking about manipulating big rivers such as the Euphrates but rather concentrated on point sources and very small streams. Remarks of S.C. McCaffrey, "Water Resources in the Middle East", *ASIL Proceedings of the 80th Annual Meeting*, 1986, 249 et seq. (269).

Syria have secular laws,<sup>192</sup> it can perhaps provide for some valuable insight into the region's mindset towards water. Moreover it should not be disregarded that Islamic law, or the *sharia*,<sup>193</sup> has governed water issues in the Middle East for several centuries and its spirit has surely been in parts incorporated into modern secular water laws.<sup>194</sup>

The status of water in Islamic law perhaps becomes best apparent in the double meaning of the word *sharia*. Not only does it stand for the true moral path that Muslims must follow, but it also refers to access to the pure source of drinking water that must be preserved for humans.<sup>195</sup> In general, Islamic law governing the sharing and use of water is built upon common principles and guidelines rather than specific rules.<sup>196</sup> Islamic water law is based on the principle that water, in its natural state, is a common good and entitlement of all Muslims.<sup>197</sup> This is derived from a *hadith*<sup>198</sup> stating that "man holds three things in common, water,

---

<sup>192</sup> The new Iraqi Constitution is not secular. Although Islamic law is named as a source of legislation (article 2 Constitution of Iraq adopted 15 October 2005), in practice it is, however, not applied directly. On this issue see e.g. S. Hanish, "The Role of Islam in the Making of the New Iraqi Constitution", *Domes* 16 (2007), 30 et seq.; I. Coleman, "Women, Islam and the New Iraq", *Foreign Aff.* 85 (2006), 24 et seq. For an overview on the relationship between *sharia* and the Iraqi Constitution see T.J. Roeder/ T. Azizy, *Max Planck Materials on the Relation between Islamic Law and Constitutional Law in Selected Countries*, 2010, 12.

<sup>193</sup> *Sharia* is the name given by Muslims to the rules and regulations that govern the life of Muslims. *Sharia* is derived from several sources including the *koran*, the *hadith* (the practice of the Prophet Muhammed), the *ijma* (consensus of Islamic legal scholars) and *qiyas* (legal analogy); F. Griffel, "Introduction", in: A. Amanat/ F. Griffel (eds), *Sharia: Islamic Law in the Contemporary Context*, 2007, 3.

<sup>194</sup> T. Naff, "Conflict and Water Use in the Middle East", in: P. Rogers/ P. Lydon (eds), *Water in the Arab World*, 1994, 253 et seq. (268).

<sup>195</sup> Ibid.; Mallat even goes as far as calling it the "law of water", C. Mallat, "The Quest for Water Use Principles: Reflections on Sharia and Custom in the Middle East", in: J.A. Allan/ C. Mallat (eds), *Water in the Middle East: Legal, Political and Commercial Implication*, 1995, 127 et seq. (128).

<sup>196</sup> Naff, see note 194, 269.

<sup>197</sup> Ibid., 270; J.C. Wilkinson, "Muslim Land and Water Law", *Journal of Islamic Studies* 1 (1990), 54 et seq. (60).

<sup>198</sup> Next to the *koran* the *hadith* or "traditions" of the Prophet are considered as a source of Islamic law. They are said to be a record of Prophet Muhammed's behavior and words; A. Hourani, *History of the Arab People*, 2005, 66 and 69.

pasture, and fire.<sup>199</sup> No legal person or ruler may hence appropriate a river, or try to sell, rent or tax its water.<sup>200</sup> This prohibition though apparently does not pertain to artificial wells and irrigation canals. Under Islamic law, for example, one who digs a well is granted an ownership interest and exclusive rights in the water.<sup>201</sup> Regardless of how far these ownership rights may go,<sup>202</sup> under Islamic law no one has the right to deny any living being the right to quench its thirst.<sup>203</sup> Sharing water is considered a holy duty.<sup>204</sup>

Moreover, Islamic law establishes a clear priority of uses. Hereby water for drinking and domestic purposes is accorded top priority with humans taking precedents in use before animals.<sup>205</sup> Domestic uses again take priority over agricultural needs, such as water for irrigation. Once all these needs are satisfied, those living upstream have antecedent rights. This is largely based on the assumption that settlement proceeds from upper stretches of a watercourse onward downstream.<sup>206</sup> In principle this approach reflects a first in use, first in right position which is contrasted by modern international water law.

More in line with international water law is, however, the limitation which the *sharia* imposes on irrigation rights. Although hesitant with regard to according full property rights to water, the *sharia* accords several servitude rights such as the right to irrigate (right of *shirb*). The exercise of *shirb* is limited by a no harm provision: a person who irrigates

---

<sup>199</sup> Naff, see note 194, 270.

<sup>200</sup> Ibid. Wilkinson, see note 197, 60; both noting that products resulting from the use of water may, however, be levied.

<sup>201</sup> Elver, see note 5, 42.

<sup>202</sup> On this issue see for example C. Mallat, "Law and the Nile River: Emerging International Rules and the Sharia", in: P.P. Howell/ J.A. Allan (eds), *The Nile: Sharing a Scarce Resource*, 1994, 365 et seq. (372 et seq.).

<sup>203</sup> M.A. Civic, "A Comparative Analysis of the Israeli and Arab Water Law Traditions and Insights for Modern Water Sharing Agreements", *Den. J. Int'l L. & Pol'y* 26 (1998), 437 et seq.(443).

<sup>204</sup> Ibid., 442.

<sup>205</sup> Ibid.

<sup>206</sup> Naff, see note 194, 270 et seq., who also remarks that conversely this is not reflected in history since great civilizations like the Egyptians or Babylonians have proceeded upward in their settlement, i.e. starting at the lower end of the basin.



his/her land may not in doing so provoke harm to downhill or downstream neighbors.<sup>207</sup>

In sum, albeit its somewhat supple nature, Islamic water law clearly advocates a common responsibility of all Muslims to share their water resources as well as to avoid harming others when using them.<sup>208</sup>

## **2. Bilateral Agreements**

The following section will discuss the main agreements so far reached within the region. The first part will focus on bilateral water sharing agreements between the three riparian states concluded before the 1990s: the 1946 Treaty of Friendship and Good Neighbourly Relations between Turkey and Iraq, the Protocol between Syria and Turkey of 1987 and the Joint Minutes between Iraq and Syria of 1989. The second part will consider the more recent developments referred to above.<sup>209</sup>

### **a. Water Sharing Agreements before the 1990s**

#### **aa. Turkey and Iraq**

In 1946 Iraq and Turkey signed the Treaty of Friendship and Good Neighbourly Relations.<sup>210</sup> The treaty covers various issues, which are mainly dealt with in six Protocols annexed to the treaty.<sup>211</sup> Protocol No. 1 concerns the regulation of the waters of the Tigris and the Euphrates, including their tributaries. According to the preamble both parties recognized the importance of the construction of conservation works on the rivers for Iraq to regulate the water flow and prevent disastrous floods. Additionally, the need for permanent observation sta-

---

<sup>207</sup> Mallat, see note 202, 376.

<sup>208</sup> Cf. Lien, see note 62, 306.

<sup>209</sup> See under IV. 2.

<sup>210</sup> Treaty of Friendship and Neighbourly Relations between Iraq and Turkey, see note 81.

<sup>211</sup> Protocol No. 1 – Relative to the Regulation of the Waters of the Tigris and Euphrates and of their Tributaries; Protocol No. 2 – Relative to Mutual Assistance in Security Questions; Protocol No. 3 – Relative to Co-operation in Educational, Instructional and Cultural Matters; Protocol No. 4 – Relative to Postal, Telegraphic and Telephonic Communications; Protocol No. 5 – Relative to Economic Questions; Protocol No. 6 – Relative to the Frontier.

tions was laid down. It is noteworthy that the parties considered that the most suitable location for the construction works was likely to be within Turkish territory while the entire costs should be borne by Iraq. Moreover, parties should construct these works with a view to achieving greatest possible benefits for both states with regard to irrigation and power generation.<sup>212</sup>

To achieve these ends, the Protocol provides for quite extensive joint assessment, monitoring and information exchange mechanisms. It allows Iraq to send technical experts to Turkey so as to conduct investigations, collect information, as well as prepare plans for possible construction works on the various rivers. The Protocol further contains a set of obligations for Turkey. Firstly, Turkey shall provide the Iraqi experts with all necessary information, access, assistance and facilities as well as ensure the collaboration with Turkish experts.<sup>213</sup> It also was obliged to set up permanent observation stations to ensure their operation and maintenance as well as to regularly communicate measuring results to the competent Iraqi authorities. The Turkish government, moreover, generally accepted any other construction works on Turkish territory, on the condition that they were perceived necessary as a result of studies carried out by the experts of both countries. Yet, these works should be subject to a separate agreement.<sup>214</sup> Finally, Turkey was obliged to consult Iraq about any Turkish plans for construction works on the river. As far as possible, they should then be adapted to the interests of both parties.<sup>215</sup>

It is striking that the Protocol entails quite far reaching obligations, as well as restrictions on Turkish sovereignty. Presumably Turkey would nowadays hardly allow the construction of Iraqi conservation works on its territory. And *vice versa*, Iraq probably would not be interested in major water (control) infrastructure outside its borders. Another significant aspect of the Protocol is that it acknowledges the importance of cooperation, sharing of information and the need for consultation for the mutual benefit of both states. Yet, it includes no clear standards for such cooperation.<sup>216</sup>

This agreement stems from a time when Turkey was not (yet) making extensive use of the two rivers' waters. Subsequently, the relation-

---

<sup>212</sup> Preamble Protocol No. 1, see note 211.

<sup>213</sup> Article 2 Protocol No. 1, *ibid.*

<sup>214</sup> Article 4 Protocol No. 1, *ibid.*

<sup>215</sup> Article 5 Protocol No. 1, *ibid.*

<sup>216</sup> Lien, see note 62, 286.

ship between the two states, however, changed<sup>217</sup> and the planned measures were actually never implemented. Hence, the agreement lost its practical importance and supposedly fell into disuse.

#### bb. Syria and Turkey

Syria and Turkey signed the Protocol on Matters Pertaining to Economic Cooperation in 1987.<sup>218</sup> The Protocol is quite comprehensive. It endeavors to enhance cooperation for the mutual benefit of both states in various areas, such as *inter alia* petroleum and gas, electricity, banking, transport, telecommunication and trade. Paras 6-10 of the Protocol relate to water issues. The provision on the sharing of the resources of the Euphrates was included with a view to the upcoming impounding of the *Ataturk* Dam reservoir. Turkey agreed to let a yearly average flow of more than 500 m<sup>3</sup>/sec through to Syria. In case the monthly flow fell under the agreed level, Turkey had to make up the difference during subsequent months. However, the wording of the Protocol (“the Turkish side undertakes to ...”) does not suggest a very strong obligation. The agreement was considered provisional until a final allocation agreement on the Euphrates waters among the three riparians would be reached.<sup>219</sup> The two parties further agreed to allocate the Euphrates and the Tigris waters in the shortest time possible as well as to include Iraq.<sup>220</sup> A final agreement on the allocation of the Euphrates water has to date not come into existence.

Syria and Turkey also recognized the benefits of joint cooperation in the Protocol and it was agreed to expedite the work of the JTC. Moreover, the two states agreed in principle to construct and jointly operate projects for irrigation and hydro-power generation purposes.<sup>221</sup> Finally the Protocol touches upon the so-called “Peace Pipe Line” project proposed by Turkey.<sup>222</sup> It sets forth that Turkey informed Syria about the details of the project. Syria, then again, stated its interest in and principal endorsement of the project under the premise that Turkey commis-

---

<sup>217</sup> See under IV. 2.

<sup>218</sup> Protocol on Matters Pertaining to Economic Cooperation between Turkey and the Syrian Arab Republic, see note 102.

<sup>219</sup> Para. 6, *ibid.*

<sup>220</sup> Paras 6 and 7, *ibid.*

<sup>221</sup> Paras 8 and 9, *ibid.*

<sup>222</sup> For more details on the Peace Pipeline Project proposed by Turkey, see under VII. 2. b.

sions an international consultancy firm with a technical and economic feasibility study. Syria, furthermore, agreed to facilitate feasibility studies on the Syrian portion of the project and eventually to enter into negotiations if the results of the studies were positive.<sup>223</sup>

### cc. Iraq and Syria

Finally, also Syria and Iraq agreed to share the Euphrates waters. In 1989 the Joint Minutes concerning the provisional division of the waters of the Euphrates river were signed by both parties.<sup>224</sup> In contrast to the preceding Syrian-Turkish agreement, which established a fixed minimum flow, Syria pledged to release 58 per cent of the Euphrates waters to Iraq. Syria was to keep the remaining quantity of 42 per cent.<sup>225</sup> This roughly corresponds to previous unofficial or unpublished records.<sup>226</sup> Once again, the wish to reach a trilateral agreement between the three riparian states was expressed. Moreover, the establishment of a JTC to deal with technical and administrative details of the implementation of the agreement was regarded as the best way to realize common interests.<sup>227</sup>

The difference between both agreements (1987 and 1989) is noteworthy, as both agreements favor Syria. In the earlier agreement Turkey bears the risk of not being able to provide enough water as it is obliged to ensure a yearly average flow based on a fixed quota. In the later agreement, on the other hand, Syria has negotiated a more flexible mechanism passing the risk on to Iraq by agreeing to provide a certain percentage of the water available. Hence, if there is less water available in Syria, Iraq receives less. Apart from that, one can notice that the pertinent parts of both agreements deal with one single issue: the allocation of water between riparian states. Water quality issues or other environmental concerns are not addressed. This mirrors the predominant preoccupation of the riparian states on quantity related water issues.

---

<sup>223</sup> Para. 10 Protocol on Matters Pertaining to Economic Cooperation between Turkey and the Syrian Arab Republic, see note 102.

<sup>224</sup> Joint Minutes Concerning the Provisional Division of the Waters of the Euphrates River (Iraq-Syria), see note 103.

<sup>225</sup> Para. 1, *ibid.*

<sup>226</sup> See also under IV. 2.

<sup>227</sup> Para. 2 Joint Minutes Concerning the Provisional Division of the Waters of the Euphrates River (Iraq-Syria), see note 103.

## b. Developments after 2000

With the exception of the Joint Communiqué on Cooperation concluded between Syria and Turkey in January 1993 which hardly touched on the question of water,<sup>228</sup> the 1990s did not produce any agreements on water issues between the riparian states. In the new millennium the cooperation experienced a new impetus resulting in a variety of MoUs, joint communiqués and other agreements dealing with water issues.

The 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 (GOLD) of the Ministry of Irrigation of the Republic of Syria in 2001 after several meetings can be considered as a first breakthrough.<sup>229</sup> As already pointed out above, the agreement envisages technical cooperation between the parties including training programs, joint development projects as well as exchange programs and partnerships between all levels of staffs. An Implementation Protocol of 25 July 2003<sup>230</sup> complements and further specifies the projects, programs and activities to be carried out. In particular, four training programs were planned on (1) Participatory Irrigation Management in GAP, (2) Integrated Water Based Development: Examples from the GAP, (3) Women and Youth in Development: The GAP Experience, and (4) Project Cycle: Planning, Design and Implementation of Rural and Agricultural Development Projects. Furthermore, details were provided on a Twin Villages Project and a Joint Irrigated Agricultural Research Project (Twin Research Station). Additionally, an exchange program envisaged visits from Syrian engineers in Turkey to participate in the implementation of projects on the “Management, Operation and Maintenance of Irrigation Systems in the Southeastern Anatolia Region”, “Participatory Rural Development” and “Improvement of Soil in the Leveled Lands Through the Use of Agricultural Residuals and Bio Fertilizers”. Finally the protocol also

---

<sup>228</sup> Joint Communiqué on Cooperation between the Syrian Arab Republic and Turkey (signed and came into force 20 January 1993), see note 107.

<sup>229</sup> 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 (GOLD), see note 110.

<sup>230</sup> Implementation Document of Joint Communiqué (Programme for 2003), see note 111.

provides for some instructions on the execution of the activities stipulated.

Syria adopted agreements to set up pumping stations for water withdrawal from the Tigris river in 2002 with Iraq<sup>231</sup> and 2009 with Turkey respectively.<sup>232</sup> Both agreements lay down specific rules regarding the amount of water Syria may withdraw from the river. In return, Syria is required to report on all phases of implementation of the projects as well as on the quantity of water withdrawn. In the 2002 agreement the parties agreed to jointly monitor the river's discharges by setting up respective monitoring stations. It also foresees a joint technical committee to regularly determine the quantities of water drawn from the pumping station. Moreover, Iraq and Syria underscore their commitments to the UN Watercourses Convention by including a reference to it in article 7 which provides that all issues not provided for in the agreement shall be dealt with under the Convention. The 2009 agreement does not contain such far-reaching stipulations with regard to joint monitoring. However, it lays a strong emphasis on regular exchange of data and information. Apart from that, a final allocation agreement of the Euphrates and the Tigris waters between all three riparian states is once again envisaged.

In 2009 Turkey signed another three MoUs with its neighboring countries. Turkey and Syria signed two MoUs, one "in the Field of Efficient Utilization of Water Resources and Combating Drought"<sup>233</sup> and another one "in the Field of Remediation of Water Quality".<sup>234</sup> Both MoUs acknowledge the importance of sustainable development and stress that the protection of natural resources necessitates close cooperation between the parties. The third MoU was concluded between

---

<sup>231</sup> Agreement on Setting up a Syrian Pumping Station on the River Tigris between Syria and Iraq (done 9 April 2002), on file with authors (unofficial translation).

<sup>232</sup> MoU between the Government of the Republic of Turkey and the Government of the Syrian Arab Republic on Establishment of a Pumping Station in the Territories of the Syrian Arab Republic for Water Withdrawal from the Tigris River, see note 114.

<sup>233</sup> MoU between the Government of the Republic of Turkey and the Government of the Syrian Arab Republic in the Field of Efficient Utilization of Water Resources and Combating of Drought, see note 114.

<sup>234</sup> MoU in the Field of Remediation of Water Quality between the Government of the Republic of Turkey and the Government of the Syrian Arab Republic, see note 114.

Turkey and Iraq.<sup>235</sup> It also calls for cooperation as well as transfer of knowledge, experience and technology for the protection and utilization of water resources.

The new millennium marked a turning point in the relations between the three riparian states: the relations were overall improving and after about a decade of little interaction regarding water issues riparian states were fostering technical cooperation as well renewing their commitment towards cooperation regarding water issues. Whereas the agreements from early 2000 still lay the main focus on technical collaboration, it is interesting to note that by 2009 (in particular the 2009 MoUs) the focus of cooperation was moving towards the more efficient utilization of water resources alongside their protection. All riparians explicitly recognized the importance of a sustainable development approach in one of the MoUs. Moreover, this recent incorporation of sustainability considerations (drought mitigation, protection of the resource, preservation of water resources in quality and quantity etc.) might suggest that approaches are slowly shifting towards finding a more sustainable solution for the use of the Euphrates and the Tigris river.

All in all, despite of this positive development there is yet a long way to go. The riparian states are still following a piecemeal approach, settling single-issue subjects rather than adopting a more integrated view on river basin management. Allocation aspects and increasing water claims are still at the center of discussion whereas water quality concerns have been disregarded until very recently and still do not rank very high on the political agenda.<sup>236</sup>

## VI. Contentious Issues

Having established the legal framework, this will now be contrasted to the different positions of the riparian states with regard to international

---

<sup>235</sup> MoU between the Ministry of Environment and Forestry of the Republic of Turkey and the Ministry of Water Resources of the Republic of Iraq on Water, see note 114.

<sup>236</sup> This conclusion is made on the basis of observations made by the authors at the International Conference "Advancing Cooperation in the Euphrates and Tigris Region: Institutional Development and Multidisciplinary Perspectives", 2-4 May 2012 Istanbul, see <[www.mpil.de/red/water](http://www.mpil.de/red/water)>.

law, including an analysis of the main contentious issues. The following four main points of dispute can be discerned:

### 1. Euphrates and Tigris: Two Separate Rivers or One Integrated System?

A major issue between the riparians is the question of whether the Euphrates and the Tigris can be considered as an integrated system, or whether they are to be discussed and treated separately. Syria and Iraq view the Euphrates and the Tigris as two separate rivers.<sup>237</sup> Turkey does not share this view, arguing that the two rivers come together at the *Shatt-al-Arab* and that with Lake *Tharthar* Iraq has even intentionally connected the two rivers.<sup>238</sup> These conflicting positions are explained by the fact that all three riparians hope to attain the most benefits from their respective claims. Syria and especially Iraq fear that if they were to consider the rivers as part of one system, then their claims to a larger share of the Euphrates river would be weakened.<sup>239</sup> Turkey, in turn, is trying to retain its development schemes for the Euphrates since, due to favorable geographic conditions, it is more suited for water development projects than the Tigris.<sup>240</sup>

According to international water law two rivers generally are considered as forming a single unit (watercourse system or drainage basin),<sup>241</sup> if they share a common terminus and their waters are to a cer-

---

<sup>237</sup> They claim that both rivers flow separately for most of their way and are clearly separated by hydrological boundaries. The confluence of both rivers to form the *Shatt-al-Arab* is considered negligible; Iraqi Ministry of Water Resources, *Facts on the Joint Waters with Turkey*, 1999, 29, 35 (on file with the authors).

<sup>238</sup> Biedler, see note 29, 21.

<sup>239</sup> *Ibid.*; this is due to the possibility of feeding irrigation areas not only with water from the Euphrates but also from the Tigris.

<sup>240</sup> Iraqi Ministry of Water Resources, see note 237, 35.

<sup>241</sup> Art. 2 (a) UN Watercourses Convention, see note 121, speaks of a “watercourse system”, as opposed to a “drainage basin”. The latter term is followed by other legal instruments such as the ILA Helsinki Rules (1966), (see note 120) and the ILA Berlin Rules (article 3 ILA Berlin Rules (2004), (see note 120). It is based on a geographical concept and is broader than the term “watercourse system”. The term comprises an entire system of interconnected waters, including principal and secondary tributaries as well as groundwaters which are not connected to surface water. It is often criti-



tain extent interconnected,<sup>242</sup> or constitute by virtue of their relationship a unitary whole.<sup>243</sup> Undoubtedly, the Euphrates and the Tigris both flow into a common terminus at the *Shatt-al-Arab*. It is also through the *Shatt-al-Arab* that both rivers are also sufficiently interconnected, so that they can also be regarded as a unitary whole. Even though international water law might seem prone to a single basin approach, ultimately it does not impose an obligation to follow it. Rather it is a management decision over which the riparians need to find an understanding. Whether to conclude two separate agreements for both rivers, or, to have one agreement treating the Euphrates and the Tigris as a single or two separate watercourse systems is a matter which needs to be negotiated. Nonetheless, from an environmental perspective it can only be recommended to treat the rivers as a single unit since activities on both rivers can result in harm for the *Shatt-al-Arab* as well as the Persian Gulf.

## 2. Terminology

Another problem is posed by the lack of consensus regarding the use of terminology. Syria and Iraq consider the rivers, to be *international* rivers which should be treated as integrated entities by all riparian users.<sup>244</sup> They accordingly argue for an equal share of the waters between all three riparians.<sup>245</sup> Turkey on the contrary considers *international* rivers

---

cized for over-restricting the sovereignty of states, since it can extend the scope of application of international law also to small tributaries lying entirely within a national territory; cf. ILC, Special Rapporteur Kearny, First Report of the Law on Non-navigational Uses of International Watercourses (7 May 1976), Doc. A/CN.4/295 of 7 May 1976, 184 et seq.; see also, Commentary to article 3 Berlin Rules (2004), see note 120.

<sup>242</sup> Article 3 No. 5 ILA Berlin Rules, see note 120.

<sup>243</sup> Article 2 (a) UN Watercourses Convention, see note 121.

<sup>244</sup> Iraqi Ministry of Water Resources, see note 237, 29, 35; M. Jouejati, "Water Politics as High Politics: The Case of Turkey and Syria", in: H.J. Barkey (ed.), *Reluctant Neighbor: Turkey's Role in the Middle East*, 1996, 131 (136 et seq.). For a detailed analysis of this issue see N. Bremer, *Non-Navigational Use of the Euphrates and Tigris River System. The Regulation of the Distribution and Utilisation of the Water of Euphrates and Tigris through International Law illustrated at the example of the Ataturk Dam and the Ilisu Dam*, forthcoming, Part 1, E.II.2.

<sup>245</sup> Iraqi Ministry of Water Resources, see note 237, 29.

only to be those that constitute a boundary between two or more states.<sup>246</sup> It thus does not recognize the “international” character of the Euphrates and the Tigris, but claims that they are “transboundary” or “trans-border” rivers, falling under Turkey’s exclusive sovereignty until they flow across the borders.<sup>247</sup> Accordingly the Euphrates becomes an “international” river only after it joins the Tigris to form the *Shatt-Al Arab*. Before this point each state shall enjoy full sovereign rights to use the water flowing through its territory.<sup>248</sup> Turkey’s distinction between “international” and “transboundary” rivers is based on an understanding that associates different rights and obligations to these terms. While “international” rivers are to be *shared* through the median line or *Talweg*,<sup>249</sup> “transboundary” rivers should be used in an equitable and reasonable way.<sup>250</sup>

The use of different terminology when describing the Euphrates and the Tigris is not only a barrier to cooperation, but also makes it difficult to relate to international law. International law, as expressed by the 1997 UN Watercourses Convention,<sup>251</sup> defines a watercourse<sup>252</sup> as “international” when parts of it are situated in different states.<sup>253</sup> Parts of both the Euphrates and the Tigris are situated in different states. According to the UN Watercourses Convention they are therefore “international”. This corresponds with the view of the lower riparians Syria and Iraq. Turkey’s distinction between “transboundary” and “international” is closer to a historic differentiation drawn between watercourses that form or traverse boundaries, respectively called “contiguous” and “successive” international watercourses.<sup>254</sup> The legal rules governing both

---

<sup>246</sup> Kibaroglu et al., see note 19, 20.

<sup>247</sup> Republic of Turkey, “Turkey Water Report 2009”, *Report of the General Directorate of State Hydraulic Works*, 2009, 48 et seq.

<sup>248</sup> Ibid.

<sup>249</sup> H. Chalabi/ T. Majzoub, “Turkey, the Waters of the Euphrates and Public International Law”, in: J.A. Allan/ C. Mallat (eds), *Water in the Middle East: Legal, Political and Commercial Implications*, 1995, 211.

<sup>250</sup> Republic of Turkey Report, see note 247, 48; Kibaroglu et al., see note 19, 20.

<sup>251</sup> UN Watercourses Convention, see note 121.

<sup>252</sup> As stated above the use of the term “watercourse” does not affect the application of international law to a river, but rather extends the scope of this body of law to an entire watercourse system, see note 241.

<sup>253</sup> See article 20 UN Watercourses Convention, see note 121.

<sup>254</sup> This distinction was primarily made in the law of navigational uses of watercourses. On this issue see McCaffrey, see note 61, 41 et seq.

types of watercourses are, however, the same and do not differentiate.<sup>255</sup> This is likewise underscored by the terminology used in other water law instruments, for example the UNECE Helsinki Convention uses the term “transboundary” for border as well as for cross-border rivers (article 1 (1)) without treating them differently. Equally the ILC has used both terms interchangeably, connecting the same meaning to both “transboundary” and “international”.<sup>256</sup> Turkey’s distinction alongside its association of different obligations and rights regarding the use of “transboundary” and “international” rivers,<sup>257</sup> is thus not reflected by international water law. Strictly speaking, since international law does not abide by a certain terminology, the underlying problem here is not really one of use of terms, but of the scope of rights a state possesses *vis-à-vis* its co-riparians.<sup>258</sup>

### 3. Different Ideas about Criteria to Determine Water Needs

It is a prerequisite for reaching a sharing-agreement between the riparians that the three states agree on criteria to determine reasonable utilization. As mentioned above the norm of equitable and reasonable utilization is flexible, but also ambiguous and requires definition as well as quantification.<sup>259</sup> Whereas Iraq, Syria and Turkey basically all acknowledge this norm,<sup>260</sup> controversy exists over the definition and determination of an equitable and reasonable share.<sup>261</sup> More precisely the riparians disagree on how to weight the different criteria when determining

---

<sup>255</sup> Ibid., 45.

<sup>256</sup> Cf. article 2 (a) ILC Draft Articles on the Law of Non-navigational Uses of International Watercourses, see note 121, defining international as “situated in different states” and article 2 (c) ILC Draft Articles on the Law of Transboundary Aquifers adopted by the Commission on First Reading, see note 178, also defining transboundary as “situated in different states.”

<sup>257</sup> E.g. equitably “sharing” or “allocating” waters.

<sup>258</sup> Chalabi/ Majzoub, see note 249, 220.

<sup>259</sup> W. Scheumann, “Conflicts on the Euphrates: an Analysis of Water and Non-water Issues”, in: W. Scheumann/ M. Schiffler (eds), *Water in the Middle East: Potential for Conflicts and Prospects for Cooperation*, 1998, 113 et seq. (128).

<sup>260</sup> Kibaroglu, see note 5, 244; Iraqi Ministry of Water Resources, see note 237, 29.

<sup>261</sup> Scheumann, see note 259, 128.

an equitable utilization.<sup>262</sup> While Syria and especially Iraq claim that they have acquired rights pertaining to prior or historical uses dating back from ancestral times and favor a mathematical approach by equally portioning the rivers, Turkey with its so-called Three Stages Plan<sup>263</sup> follows a rather needs-based approach claiming that waters should be allocated according to the needs of each riparian.<sup>264</sup> In doing so, Turkey has, however, made clear that an equitable use also encompasses and focuses on an optimal use, more precisely the efficient and effective utilization, of water.<sup>265</sup> With Syria and Iraq wanting to guard their already existing and partly historic water installations and Turkey promoting the development of new installations, no doubt having in mind the successful completion of the GAP Project, the two positions are clearly marked by the development plans of the respective countries.<sup>266</sup> Not surprisingly all three states pursue an approach out of which they expect the most advantages for their situation.<sup>267</sup>

In this respect international water law provides only little guidance and there is basically no norm to follow in determining a priority of uses.<sup>268</sup> Accordingly, for the most part, international water law leaves it up to states to agree on criteria for sharing. The main problem is not one of law but that all three states insist on their respective positions and are not willing to depart from them.

---

<sup>262</sup> For criteria, see under V. 1. b.

<sup>263</sup> Three Stages Plan for Optimum, Equitable and Reasonable Utilization of the Transboundary Watercourse of the Euphrates Basin (Three Stages Plan), see Turkish Ministry of Foreign Affairs, see note 104, Chapter IV; for full particulars see under VII. 2. a.

<sup>264</sup> Kibaroglu, see note 5, 244; Scheumann, see note 259, 128.

<sup>265</sup> Republic of Turkey Report, see note 247, 48.

<sup>266</sup> Scheumann, see note 259, 128.

<sup>267</sup> As explained above (see under V.1.b.), the principle of equitable and reasonable utilization does neither mean an equal apportionment in a mathematical sense nor does it favor the most efficient utilization of a water resource.

<sup>268</sup> Cohen, see note 191, 526; for example article 6 (3) of the UN Watercourses Convention, (see note 121), stipulates that “the weight [...] given to each factor [shall] [...] be determined by its importance in comparison with other relevant factors”, thus clearly leaving this decision to the State Parties. Only in article 10 (2) there is a reference stipulating a certain priority of uses or certain criteria, where it reads that “in the event of a conflict between uses [...] special regard shall be given to the requirements of vital human needs.”

#### 4. Turkish Position with regard to the 1997 UN Watercourses Convention: Turkey as Persistent Objector to Customary International Law?

Finally, the Turkish position towards the UN Watercourses Convention is perceived as an impediment to reaching consensus on the rules applicable in the Euphrates and the Tigris region. As mentioned earlier, Turkey is not a party to the UN Watercourses Convention whereas Syria and Iraq are. Although this issue is brought up quite frequently it actually does not pose a problem.<sup>269</sup> Indeed the UN Convention is an important resource of international water law, albeit not being in force. Yet, as elaborated above, there is a body of customary international water law,<sup>270</sup> which stipulates rights and obligations with regard to transboundary water cooperation, so that recourse to the UN Convention is not necessary. These rules of customary international law are binding upon states and in principle once a rule of customary international law has been established a state cannot exempt itself unilaterally. An exception to this rule is made only when a state has persistently objected to a rule during its formative stage.<sup>271</sup> Turkey has more than once raised objections towards certain provisions of the UN Convention, such as for example the specific implementation of the obligation to prevent harm enshrined in article 7.<sup>272</sup> Against this background one could possibly argue that Turkey's reluctance voices a persistent objection to these rules. Yet, even though it has rejected certain provisions of the UN

---

<sup>269</sup> See for example Kibaroglu, see note 5, 257 et seq.

<sup>270</sup> Which is in part also reflected by the UN Watercourses Convention, see note 121, see under V. 1.

<sup>271</sup> O. Elias, "Persistent Objector", in: Wolfrum, see note 6, para. 1.

<sup>272</sup> Turkey has *inter alia* raised the following points during the negotiations of the UN Watercourses Convention: (1) in general it criticized that the Convention went far beyond the scope of a framework document, which should be limited to enacting basic principles; (2) it proposed to omit article 7 completely since according to its view the obligation to prevent harm is subsidiary to that of equitable and reasonable utilization; (3) the dispute settlement clause in article 33 should be omitted and it should be up to the states concerned to determine the rules of procedure since compulsory rules do not fit into a framework convention. See Convention on the Law of the Non-navigational Uses of International Watercourses: Draft Articles on the Law of the Non-navigational Uses of International Watercourses and Resolution on Confined Transboundary Groundwater, Report of the Secretary-General, Doc. A/51/275 of 6 August 1996, 12, 35, 53.

Convention, it has also frequently expressed its adherence to the core norms of international water law, such as the obligation to prevent harm and equitable and reasonable utilization.<sup>273</sup> On the basis of such an express commitment it would be far-reaching to regard Turkey as a persistent objector in this case. All three riparians must hence adhere to the rules of customary international law.

## VII. Proposed Solutions

Over the years all riparians have brought forward different proposals to reach a solution on the water-related problems in the region. They shall be discussed in the following.

### 1. Syria and Iraq

Syria and Iraq put forward somewhat similar plans to reach a sharing agreement between the riparian states. Both proposed that the allocation of the Euphrates and the Tigris waters be achieved through mathematical formulae. According to the Syrian proposal, in a first step, the riparian states declare their water demand from the Euphrates and the Tigris. The two rivers are treated separately. Then the total water supply capacity of both rivers is determined in each state. Depending on the results, there are two possibilities: if the total water demand does not surpass the total water supply capacity, the water is allocated according to the declared quantities. If the water demand is higher than the potential water discharge, the deficit will be deducted proportionally from the demand stipulated by each riparian state.<sup>274</sup> Pursuant to

---

<sup>273</sup> See for example, Turkey's written comment on the Draft Articles on the Law of Non-navigational Uses of International Watercourses, see note 121, in *Convention on the Law of the Non-navigational Uses of International Watercourses: Draft Articles*, see note 272, 28 and Turkish Ministry of Foreign Affairs, see note 104, Chapter III.

<sup>274</sup> *Ibid.*, Chapter II.A; or Kibaroglu, see note 5, 252, who cites the final Communiqués of the 16 Joint Technical Committee meetings (1980-1992) as source. It should, however, be mentioned that other authors describe the Syrian position somewhat differently; cf. Jouejati, see note 244, 144; Elver, see note 5, 415. The Syrian proposal is described as follows: 1. The JTC calculates the flow of the Euphrates and Tigris; 2. The JTC roughly estimates the quantity of water needed by each riparian for its projects (current and

the Iraqi proposal the water demand for realized, planned and future projects is to be put forward by each state. The next step envisages the exchange of data on the Euphrates and the Tigris. Finally, the JTC shall calculate the quotas for water allocation. Thereby projects under operation shall be prioritized over planned projects.<sup>275</sup>

Even though mathematical approaches may have certain advantages – an apportionment based on percentages allows, for example, for a flexible reaction in case of drought – the proposed approaches can be criticized on various grounds. One point of criticism is that the mathematical apportionment of a water resource neither contributes to improve the problem of water scarcity nor takes into account water quality issues which are among the most pressing concerns for both downstream riparians. Measures that ease the water shortage or tackle water quality issues are not provided for in the Iraqi and Syrian proposals. Additionally, a strict mathematical approach does not consider the great seasonal as well as annual variability of the rivers' water flow.<sup>276</sup> It is, furthermore, pointed out that water demand claims are open to arbitrariness as it allows states to declare their needs unilaterally.<sup>277</sup>

## 2. Turkey

### a. Three Stages Plan for Optimum, Equitable and Reasonable Utilization of the Transboundary Watercourse of the Euphrates Basin (Three Stages Plan)<sup>278</sup>

The Three Stages Plan was introduced by Turkey in 1984 and has been continuously reiterated since.<sup>279</sup> It is Turkey's official plan of action for the optimal use and allocation of the Euphrates (and Tigris) river. The central idea is that it would neither be efficient nor equitable to utilize

---

future); 3. Finally, the JTC establishes the share each riparian state is entitled to. The states have the right to utilize their share according to their own needs.

<sup>275</sup> Kibaroglu et al., see note 19, 63; Turkish Ministry of Foreign Affairs, see note 104, Chapter II.A.

<sup>276</sup> Jouejati, see note 244, 144.

<sup>277</sup> Elver, see note 5, 415.

<sup>278</sup> Turkish Ministry of Foreign Affairs, see note 104, Chapter IV.

<sup>279</sup> Kibaroglu/ Scheumann, see note 108, 277 et seq. (284) ; Kibaroglu, see note 5, 254.

considerable quantities of a scant resource to irrigate infertile or less productive soil. Hence, a variety of factors, such as geographic and climatic conditions or economic expediency, should also be taken into account when allocating water.<sup>280</sup>

To this end water allocation should firstly be based on the assessment of the available water resources (Stage 1 – Inventory Studies of Water Resources). This *inter alia* includes the exchange and examination of available data, joint measurements, the estimation of water uses and losses and the calculation of natural flows. In a second step the land resources (soil conditions and quality, crop patterns, irrigation requirements etc.) would be studied, assessed and classified (Stage 2 – Inventory Studies of Land Resources). Finally, based on the previous assessments water and land resources should be evaluated jointly. The needs for the competing sectors would then be established and the water allocated accordingly (Stage 3 – Evaluation of Water and Land Resources). This stage covers *inter alia* the modernization and rehabilitation of ongoing projects, the improvement of irrigation, the determination of the total water consumption and demand as well as the determination of the economic viability of planned projects.<sup>281</sup> The plan of action is based on two principal premises. Firstly, the Euphrates and the Tigris are considered as one single transboundary watercourse system. Secondly, an equitable, rational and optimal utilization of a watercourse can only be realized through a joint scientific study determining the actual water needs of each riparian state. In this context the collection and sharing of joint data is of crucial importance since it is on this basis that the necessary means and measures to achieve the aim of an optimum water allocation are established.<sup>282</sup>

The Three Stages Plan was rejected by Iraq and Syria. The two states criticized the fact that the concept reflected the position of Turkey: i.e. that the Euphrates and the Tigris are transboundary rivers (as opposed to international rivers) and constitute a single system.<sup>283</sup> Furthermore, it was argued that the Turkish plan of action heavily infringed upon the sovereignty of the riparian states.<sup>284</sup> It was also noted that Syria and

---

<sup>280</sup> Chalabi/ Majzoub, see note 249, 213-214.

<sup>281</sup> Turkish Ministry of Foreign Affairs, see note 106, Chapter IV.

<sup>282</sup> Ibid.

<sup>283</sup> See under VI.

<sup>284</sup> Jouejati, see note 244, 143.



Iraq feared that Turkey would use the inventory studies on land resources to expose their supposedly inefficient agricultural practices.<sup>285</sup>

The Three Stages Plan is the most comprehensive water management plan brought forward by one of the riparian states. Unlike the other proposals, it does not exclusively concentrate on the quantitative aspect of water allocation but rather envisages a broad analysis of water and land resources encompassing both strategies on resource as well as on demand management. Moreover, the Plan recognizes the importance of data sharing, joint data gathering, data comparability and the application of advanced technology, which are undoubtedly reasonable approaches. Yet, the reluctance of Iraq and Syria to embrace the plan is also comprehensible. The Three Stages Plan in fact puts Turkey in a favorable position. Iraq for example suffers from very low water use efficiency and irrigation yields,<sup>286</sup> due to which it will probably not receive a very favorable classification in the assessment of water and land resources. Theoretically the plan is to be embraced, however, in practice it is probably extremely difficult if not impossible to implement. A minimum prerequisite would be a good and stable political environment and mutual trust between the riparian states. This is not the case at the moment. In addition, it can be stated that even though the implementation of the Plan probably would have a positive effect on the environment, environmental concerns still are not at the center of attention.

#### b. The Peace Pipeline

The proposal of a Peace Pipeline was introduced by Turkey at the end of the 1980s. Two pipelines were to supply water from Turkey (the *Ceyhan* and *Keyhan* rivers were named as possible sources) to Gulf and Middle East countries. One pipeline would supply water to Jordanian and Syrian cities. The other massive pipeline – the grander version – was supposed to go further south and export water to Saudi Arabia, Bahrain, Kuwait, Oman, Qatar and the United Arab Emirates.<sup>287</sup> However, the Peace Pipeline projects were never realized. Saudi Arabia and

<sup>285</sup> Kibaroglu, see note 5, 256-257.

<sup>286</sup> Grey/ Blackmore, see note 168, 7 (Report on file with the authors).

<sup>287</sup> It is interesting to note that the pipeline(s) could have had a positive side-effect for Syria. From the fall of the pipeline when entering Syrian territory, Syria could generate electric power; see B. Wachtel, "The Peace Canal Project: A Multiple Conflict Resolution Perspective for the Middle East", in: J. Isaac/ H. Shuval (eds), *Water and Peace in the Middle East*, 1994, 363 et seq. (368).

the Gulf States did not want to depend on the good will of both Turkey and Syria (the pipeline was to go through Syria).<sup>288</sup> Additionally, they feared sabotage or blackmail. Besides, it was maintained that the projects were not cost effective. Protests also came from Syria and Iraq. Whereas Syria did not want Israel to benefit from the project,<sup>289</sup> Iraq feared to receive less water since, even if the Peace Pipeline was not to be supplied with the Euphrates and Tigris waters, it was argued that Turkey would compensate its water loss from these waters. The Iraqis further claimed that such exports demonstrated that Turkey was storing more water than needed and as a consequence, the equitable shares of both downstream states should be larger.<sup>290</sup>

## VIII. Elements to be Considered for a Future Framework

### 1. Why do Iraq, Syria and Turkey Need a Trilateral Water Agreement?

Already the nature of a “shared” resource implies cooperation. Actions or uses within one state almost always have effects on the environment in other states. Experience has shown that without cooperation the danger of overuse through unilateral development accompanied by environmental degradation or even depletion of the fresh water resource is very high. Eventually this may not only irreversibly harm the resource, but also confront states with the danger that they will not be able to provide their populations with enough water.

Coordinated development or even joint management brings about benefits for all riparian states (e.g. *inter alia* reduced costs for infrastructure, predictable water supply, flood control, effective pollution control).<sup>291</sup> Moreover, it is a necessary prerequisite for achieving and maintaining overall good water quality, alongside a healthy ecosystem. In order to maximize these reciprocal benefits and to ensure a sustainable utilization of their water resources, states need to overcome their

---

<sup>288</sup> Dellapenna, see note 62, 233-235.

<sup>289</sup> Jouejati, see note 244, 143.

<sup>290</sup> Dellapenna, see note 62, 233-235; 253-255.

<sup>291</sup> C.W. Sadoff/ D. Grey, “Beyond the River: the Benefits of Cooperation on International Rivers”, *Water Policy* 4 (2002), 389 et seq. (393 et seq.); who distinguish between benefits “to”, “from”, “because” and “beyond” the river.

political differences and move away from competition and challenging each others' rights towards seeking joint action.<sup>292</sup> Recent efforts at cooperation show that the three riparians of the Euphrates and the Tigris river are becoming aware of the need to tackle common concerns.

In this context a treaty laying down specific obligations is more likely to be respected than general norms of international law alone.<sup>293</sup> At the same time if states manage to balance conflicting interests and find a satisfactory solution for all it would bring stability.<sup>294</sup> Where inequalities remain and a solution does not deliver equal benefits an agreement can provide for procedures such as a compensation mechanism to ensure an equal distribution of benefits and costs.<sup>295</sup> Finally a treaty can give all co-riparians better assurance that their partners are abiding by the rules.<sup>296</sup> In particular, treaty commitment is generally fostered by including an additional compliance control mechanism through which states can also assist each other in fulfilling treaty obligations.<sup>297</sup> This does in turn not only strengthen implementation but it also promotes mutual trust which is crucial for the successful and sustainable sharing of a resource.

## 2. Elements to be Considered in a Trilateral Agreement

It should have become quite obvious that the riparians of the Euphrates and the Tigris need to agree on a method how to share their waters in

---

<sup>292</sup> Grzybowski/ McCaffrey/ Paisley, see note 151, 143.

<sup>293</sup> K. Mechlem, "Water as Vehicle for Inter-state Cooperation: A Legal Perspective", *FAO Legal Paper Online* 32 (2003), 6.

<sup>294</sup> It should be noted that an agreement can also pave the way for greater cooperation resulting in benefits *beyond* the river such as regional security, see Sadoff/ Grey, see note 291, 393.

<sup>295</sup> A. Houdret/ A. Kramer/ A. Carius, "The Water Security Nexus: Challenges and Opportunities for Development Cooperation", *GTZ Concept Paper International Water Policy and Infrastructure Programme*, 2010, 18. Such a mechanism could for example require a lower riparian to contribute or even co-finance an upstream investment that shall reduce negative pollution effects downstream.

<sup>296</sup> Mechlem, see note 293, 7.

<sup>297</sup> S. Vinogradov/ P. Wouters/ P. Jones, *Transforming Potential Conflict into Cooperation Potential: The Role of International Law*, 2003, 66 et seq., who name typical elements of compliance control mechanisms to consist of *inter alia* reporting, review and evaluation procedures.

an equitable and sustainable way. All three states must urgently improve their cooperative management of the Euphrates and the Tigris basin to prevent further damage to the ecosystems of the rivers and to secure water supply for future generations. The following section shall give an overview of the elements which should be considered when negotiating a future framework.<sup>298</sup>

#### **a. General Remarks on Issues Essential for a Successful and Above All Sustainable Water Agreement**

In general it is pivotal for an agreement to be drafted in clear, precise and unambiguous language. This not only helps to prevent disputes over interpretation but also greatly facilitates the implementation of an agreement.<sup>299</sup> Furthermore, a treaty should be flexible enough to provide for its provisions to be adjusted, in particular with regard to natural impacts such as climate change. States should, however, be careful not to make it too flexible since this can also become a barrier to successful implementation.<sup>300</sup> Finally, state practice demonstrates that a broad and comprehensive approach towards overall basin management has proven to be more successful than a narrow one, focusing only on particular water issues. A sustainable and successful cooperative management concept is premised on a broad approach taking into account all aspects involved with the sharing of a common water resource, such as *inter alia* needs, uses, climate change, the hydrological cycle and the ecosystem.<sup>301</sup>

---

<sup>298</sup> The overview is largely based on a checklist developed by Vinogradov, Wouters and Jones who have identified the most important elements of the majority of watercourse agreements; Vinogradov/ Wouters/ Jones, see note 297.

<sup>299</sup> Vinogradov/ Wouters/ Jones, see note 297, 45.

<sup>300</sup> Agreements with a wording that is too flexible run the risk of being contested easily. Nevertheless agreements should provide for a certain degree of flexibility so that they can be adapted when new issues emerge or situations change.

<sup>301</sup> Houdret/ Kramer/ Carius, see note 295, 19.

## b. Key Components

In particular, to provide for a sustainable agreement, experts have identified the most important elements to be considered in negotiations:<sup>302</sup>

### – Scope

It is important to determine the exact scope of an agreement by providing for a clear definition of the waters covered by treaty provisions.<sup>303</sup> With regard to the Euphrates and the Tigris the riparians thus need to decide whether or not the rivers should be regarded as one or two separate watercourse systems. Although the question needs to be decided, it should be noted that a successful cooperative management concept is not dependent on its outcome. Iraq, Syria and Turkey are free to decide whether they would rather negotiate two (associated) agreements for the rivers or one unified one.<sup>304</sup>

### – Substantive Rules

Every agreement centers on substantive rules (and principles) laying down the rights and obligations of its signatories. As noted earlier, international water law stipulates certain obligations for states sharing a watercourse (above all equitable and reasonable utilization; obligation to prevent harm). Riparians should draw from this framework of rights and obligations and incorporate it into their agreements by applying it to the specific situation. Of particular importance for a successful and sustainable agreement is finding a ratio of how to equitably and reasonably utilize a shared river, since any party who perceives a treaty to be inequitable will most likely attempt to obstruct its implementation.<sup>305</sup> An agreement which does not integrate these established rules of law will thus, in all likelihood, not be very successful.

An equitable and reasonable utilization is based on finding a framework for the allocation of existing and future uses. This framework

---

<sup>302</sup> Based on the checklist developed by Vinogradov, Wouters and Jones who have identified the most important elements of the majority of watercourse agreements, Vinogradov/ Wouters/ Jones, see note 297. The checklist has partially been adapted to the specificities of the Euphrates and Tigris region.

<sup>303</sup> Ibid., 46.

<sup>304</sup> Trondalen, see note 33, 196.

<sup>305</sup> Vinogradov/ Wouters/ Jones, see note 297, 53.

shall then govern the lawfulness of uses (existing and future).<sup>306</sup> It should, as far as possible, enable all riparians to attain the maximum possible benefits with the greatest satisfaction of all their needs. In order to actually achieve this, riparians need to take into account certain key issues, some of which are specified in the following:<sup>307</sup>

– *Vital Human Needs*

When weighing different uses prior attention should be paid to vital human needs.<sup>308</sup> This requires the identification of a minimum amount of clean water needed to satisfy needs for drinking, domestic and sanitary purposes of the populations living along the banks of the Euphrates and the Tigris.

– *Existing and Proposed Uses*

Moreover the riparians need to identify all existing uses and project their future requirements, such as for example the development of Turkey's agricultural uses in Southern Anatolia upon completion of the GAP. As much as the riparians need to identify existing uses they should also envisage proposed uses. As *Vinogradov* and his colleagues rightfully stress this does not imply the formulation of "a wish list but uses that are economically and environmentally feasible."<sup>309</sup> This would, for example, include calculations with regard to demands of Syria or Iraq for expansion of irrigation.

– *Alternative Resources*

Additionally it is also important to indentify practicable alternative resources to meet the regions' water needs. Possible surface water shortfalls could for example be compensated through recourse to groundwater. This should, however, not be done without considering safeguards to its adequate protection and the aspect of its hydrological interdependence with surface water.

– *Environmental Requirements*

Last but not least riparians should look towards the integration of environmental concerns by identifying the environmental needs of both rivers and their related ecosystems (e.g. indentify the mini-

---

<sup>306</sup> Ibid., 74.

<sup>307</sup> The following issues were identified as key components when determining an equitable and reasonable utilization, see *ibid.*, 74.

<sup>308</sup> See under V. 1. g.

<sup>309</sup> *Vinogradov/ Wouters/ Jones*, see note 297, 74.

imum in-stream flow necessary to protect the watercourse; introduce minimum standards for pollution control).

Finally, it is imperative to ensure that substantive rules are not only proclaimed but are actually also operationalized.<sup>310</sup> In that regard the importance of national water laws and policies must be highlighted. The most advanced international agreement is rendered useless if implementation on the national level is lacking.

– Procedural Rules

Long term successful cooperation cannot be achieved without finding an agreement on procedures to manage the watercourse and implement the substantive obligations. Without clear procedural rules a cooperation agreement can quickly turn into nothing but empty promises.

– Institutional Mechanisms

Many agreements on international watercourses include provisions providing for the establishment of institutional mechanisms in the form of joint bodies or commissions.<sup>311</sup> In fact it is hard to find any legal regime governing a transboundary watercourse which does not provide for some kind of institutional mechanism.<sup>312</sup> They not only promote the peaceful settlement of disputes but are also very helpful when it comes to coordinating management and development efforts between riparian states.

Iraq, Syria and Turkey have already gained some experiences in this regard from the JTC. Even though the JTC was not particularly successful, the example shows that the riparians were at least convinced of the advantages of an institutional mechanism. Today many different types of institutional arrangements and joint bodies with a great variety of forms and functions exist.<sup>313</sup> Albeit the fact that they are always established in relation to specific waters and address very par-

---

<sup>310</sup> Ibid., 53.

<sup>311</sup> Ibid., 57.

<sup>312</sup> Ibid., 62.

<sup>313</sup> The UNECE has distinguished three major types of institutional arrangements in international watercourse agreements: “(a) without designation of an institution to implement the agreement; (b) the appointment of plenipotentiaries (governmental representatives); and (c) the establishment of a joint commission”; see UNECE, “River Basin Commissions and other Institutions for Transboundary Water Cooperation: Capacity for Water Cooperation in Eastern Europe”, *Caucasus and Central Asia* 1 (2009), 10.

ticular issues, experts have identified some principles of organization that are said to increase the efficiency of joint bodies, such as *inter alia* the importance of a broad competence and clearly defined powers.<sup>314</sup> The three riparians of the Euphrates and the Tigris should try to resume the discussions over the JTC and try to find an agreement on form and function of sustainable joint management mechanism(s).<sup>315</sup>

– Dispute Avoidance and Settlement Mechanisms

International water law is extremely sensitive to disputes. This is in part due to the general sensitivity of water issues as well as the use of broad rather flexible terminology. It is clear that the mere conclusion of an agreement will not make controversies disappear. Potential signatories need to envisage the possibility of disputes. Riparian states are thus well advised to design a conflict prevention, management and settlement mechanism to be included in their water sharing agreements.<sup>316</sup> International (water) law offers a wide range of different mechanisms which states can draw from, ranging from direct negotiations to third party involvement, comprising optional or mandatory arbitration and adjudication.<sup>317</sup>

---

<sup>314</sup> For more details see *ibid.*, 39 et seq.

<sup>315</sup> Trondalen proposes the establishment of a new overarching international initiative he dubs the Euphrates and Tigris Basin Initiative (ETI), which is basically modeled on the Nile Basin Initiative launched by the riparians of the Nile River in 1999. According to his proposal this initiative shall be “a partnership initiated and led by the riparian States of the two rivers through a Council of Ministers with the full support of the international community, through an international organization such as [for example] the Arab development banks and institutions.” He suggests that for the first phase the ETI shall start with a participatory process of dialogue and trust building which shall then ideally result in the formulation of a shared vision for the Euphrates and Tigris rivers. In a second phase this vision could then be translated into a more concrete program of action; for details see Trondalen, see note 33, 203 et seq.

<sup>316</sup> Vinogradov/ Wouters/ Jones, see note 297, 62.

<sup>317</sup> *Ibid.*, 65 et seq.; for an overview of dispute settlement and prevention mechanisms in international water law, see McCaffrey, see note 61, 506 et seq.



## IX. Conclusion

This is not the first study on the Euphrates and the Tigris rivers expressing the need for urgent action and underscoring the importance of finding a comprehensive trilateral solution (e.g. in form of a binding international agreement). Both rivers are still severely suffering from increasing water demands and deterioration of water quality. However times are changing, after many years of collaboration and frictions one has recently been able to witness a new dynamic of cooperation in the region, expressing itself for example in the relaunch of the JTC as well as the signing of the various MoUs. Unlike previous collaboration efforts the new initiatives seem to be following a more comprehensive approach focusing on multiple issues regarding the social and economic development of the region rather than focusing on water issues alone. Although the broadening of the negotiation agenda has proven beneficial to overcome the water negotiation deadlock and enhance dialogue, it still is a piecemeal approach, which does not necessarily solve the question of finding a sustainable trilateral or possible even multilateral (including other basin states) solution. Yet in the long term perspective improved relations and close socio- and economic ties between the riparian states may indeed pave the way for a comprehensive and sustainable resolution for the sharing of the rivers and a secure water future for the region.

Moreover, EU accession talks with Turkey present another driving factor for the latter to multiply its cooperation efforts.<sup>318</sup> Turkey has started harmonizing its domestic legislation with that of the EU in the field of environment and water resources making EU regulations a determining factor in Turkish water policies.<sup>319</sup> Nevertheless, with the recent turmoil in the Arab world and the fate of Syria being still uncertain, the political relations in the Euphrates and the Tigris region will most likely be influenced which could lead to a setback in cooperation on water issues. This should, however, not narrow the room for opti-

---

<sup>318</sup> For an overview of the EU Water Aquis and Turkey's progress up to date see A. Kibaroglu, "Legislative framework for Water Management in Turkey", see under <<http://mpil.de/red/water>>.

<sup>319</sup> A. Kibaroglu/ A. Kramer, "Turkey's Position toward International Water Law", in: Kibaroglu/ Scheumann/ Kramer, see note 108, 215 et seq. (227); A. Kibaroglu/ V. Sumer, "Diverging Water Management Paradigms between Turkey and the European Union", *Water International* 32 (2007), 739 et seq. (746).

mism. All three states in principle accept the core norms of international water law and have, at least individually, repeatedly stressed the importance of cooperation.