

WATER ISSUES BETWEEN TURKEY, SYRIA AND IRAQ

A STUDY BY THE TURKISH MINISTRY OF FOREIGN AFFAIRS, DEPARTMENT OF REGIONAL AND TRANSBOUNDARY WATERS

I. THE WATER PROBLEM IN THE MIDDLE EAST

A. THE GENERAL SITUATION

Water has come to the forefront as a problem in relations between the countries of the Middle East in the recent years. It also occupies an important place on the agenda of several international organisations. The main characteristics of the problem may be expressed as follows:

- Current water resources in the Middle East have become insufficient to meet needs
- The scarcity of water will continue to increase in future as the population grows and consumption per head increases
- As a result, water is likely to become the cause of conflict among the countries of the region.

The keen interest and sensitivity of Arab countries on water issues stem from the fact that almost all the Arab countries are downstream riparian states and they lack water resources. Therefore there is a natural convergence of interest among them to obtain more extensive rights for the downstream countries wherever they may be.

As to Israel, another Middle Eastern country which has problems connected with water, the question has many facets: international water experts point out that the Occupied Territories, especially the Golan Heights and the West Bank, are of vital importance to Israel from a water resources point of view. This assessment is confirmed by Israeli officials. Israel controls the tributaries of the Jordan River and utilises the waters of this river to the maximum level. Similarly, in the occupied West Bank, underground water resources are greatly utilised by Israel. Forty percent of the annual water requirement of Israel is supplied by these underground water sources¹. Within this framework, the majority of all the water resources which Israel uses come from the adjacent Arab territories under Israeli occupation.² If Israel loses its control of these territories during the process of the Middle East peace negotiations, this might lead to a serious deprivation of water resources for Israel. Although Israeli officials say that they may make some territorial concessions to the surrounding Arab countries, they openly state that these water resources are indispensable for Israel³. Water, in this context, is becoming a determining factor for the establishment of peace between Israel and its Arab neighbours.

B. TURKEY'S POSITION RELATING TO WATER RESOURCES

It will be appropriate to underline at the outset that Turkey, contrary to prevailing belief, is not a country rich in water resources. Furthermore, it is not the richest country of the region in water resources.

Turkey is not a country which has excess water capacity. Although Turkey has at present more water resources than some of its neighbours, it is a country which will find itself in a position of shortage in the near future. Turkey's average annual runoff is about 186bn cubic meters (m³). The amount available for consumption from this capacity is mere 110bn m³, including 12bn m³ of ground water. Taking into consideration Turkey's population of 60 million, the quantity of water per capita will be 1833m³.⁴ Countries regarded as rich in water resources, have 8000-10,000m³ of water per capita per year. In other words, the available water per capita in Turkey is about one-fifth of the water-rich countries. The

impression that Turkey has excess water derives from the fact that it is not at present in a position to fully utilise its water resources. Today Turkey utilises only 25.9bn m³ of its available capacity of 110bn m³.⁵ The remaining portion of 84.1bn m³ is not surplus to Turkey's requirements, but an amount which cannot yet be allocated to its needs.

In various international publications, the available water per capita per year in Iraq and Syria is given as 5192m³ and 2362m³, respectively.⁶ These figures are probably calculated taking into account the total water potential of those countries, whereas the per capita water figures available for consumption in water-rich and some Middle Eastern countries are given in Table 1.

TABLE 1

WATER QUANTITIES PER CAPITA IN SOME WATER-RICH AND MIDDLE EASTERN COUNTRIES

(Cubic metres per year per capita)

Countries	Years	
	<u>1993</u>	<u>2020</u>
Water-rich countries ⁵	10000	8000
Iraq ⁶	2110	950
Turkey ⁶	1830	980
Syria ⁶	1420	780
Israel ⁷	300	150
Jordan ⁷	250	90
Palestine ⁷	100	40

As can be seen from Table 1, the annual per capita water figure for Iraq is higher than that for Turkey while the figure for Syria is not so much less than that of Turkey. These figures indicate that Turkey does not have abundant water resources to be allocated to meet the needs of the other Middle Eastern countries.

Turkey's position reflecting the exact situation of the Euphrates and the Tigris rivers is explained in the following paragraphs.

C. WATER DISPUTES IN THE EUPHRATES-TIGRIS BASIN

1. THE EUPHRATES

Originating from Turkey and flowing through Syria and Iraq, the Euphrates river joins the Tigris in Iraq and becomes the Shatt-al-Arab waterway which flows into the Persian Gulf. The Euphrates is composed of two main tributaries, the Karasu and the Murat, both originating in Eastern Anatolia and having numerous smaller tributaries.

The total water potential of the Euphrates basin and the consumption figures estimated by each of the three riparian countries, in respect of the projects which they plan to develop, are shown in Table 2 on the next page.

TABLE 2

WATER POTENTIAL OF THE EUPHRATES BASIN AND CONSUMPTION TARGETS OF ITS RIPARIANS

(In billion cubic metres per year)

(Consumption target percentages are out of 35.58 bn ma)

Countries	Water Potential	Consumption Targets
Turkey	31.58 (88.70 %)	18.42 (51.90 %)
Syria	4.00 (11.30 %)	11.50 (32.30 %)
Iraq	0.00 (0.00 %)	23.00 (64.60 %)
Total	35.58 (100.00 %)	52.92

According to this table, 88.7 per cent of the total water potential of the Euphrates basin originates in Turkey and the remainder, only 11.3 per cent, originates in Syria. Iraq's contribution to the runoff is nil. While the contribution of these two downstream countries to the water potential of the Euphrates is such a modest percentage, Syria has been demanding 22 per cent of the water and Iraq 43 per cent. Turkey envisages utilising only 35 percent of the total flow, compared to its contribution of 88.7 percent.

Another point worth making from Table 2 is that the total amount of water planned to be utilised by the three riparian countries exceeds the total flow capacity of the Euphrates by 17.3bn m³. Obviously, it is impossible to meet this demand as far as the river's potential is concerned.

2. THE TIGRIS

The Tigris, originating from Hazar lake, forms a 40km-length of border between Turkey and Syria. After crossing Iraqi territory it joins the Euphrates to form the Shatt-al-Arab waterway in Iraq and then flows into the Persian Gulf. Its main tributaries in Turkey are the Botan, Batmansu, Karpansu and the Greater Zap rivers.

As can be seen in Table 3 on the next page, the total water potential of the basin is shared by Turkey and Iraq. Their contributions are 51.9 per cent and 48.1 percent, respectively. As is the case for the Euphrates basin, the consumption targets put forward by Syria and Iraq are also much higher than the water potential originating from their lands. Turkey, on the other hand, envisages utilising relatively a small portion of the water coming out in its own territory. As with the Euphrates basin, the amount of water, planned to be used by the three riparian countries of the Tigris river exceeds the total capacity of this river by an amount of 5.8bn m³.

It is appropriate to point out another important fact relating to the Tigris river. Because Turkey utilises virtually none of the Tigris's water, Iraq alone has been utilising its entire annual capacity of 48bn m³. When Turkey proposed a transfer of water from the Tigris to the Euphrates, with a view to alleviating the water shortage of the latter, Iraq rejected this

proposal. This cannot be regarded as equitable utilisation. In fact, many scholars and water experts see the solution to the Euphrates's insufficiency of water in a transfer of part of the Tigris's flows*. A widely shared view is that, if such a transfer is carried out, then all irrigation projects planned for the Euphrates by the three riparian countries can be implemented. This is an additional indication that the water problem around the Euphrates is artificial. In other words, there is a reasonable way of overcoming the difficulties stemming from the lack of sufficient water in the Euphrates basin, but some riparian countries block this solution for reasons that are difficult to explain.

TABLE 3

WATER POTENTIAL OF THE TIGRIS BASIN AND CONSUMPTION TARGETS OF ITS RIPARIANS

(In billion cubic metres per year)

(Consumption target percentages are out of 48.67 bn m³)

Countries	Water Potential	Consumption Targets
Turkey	25.24 (51.90 %)	6.87 (14.10 %)
Syria	0.00 (0.00 %)	2.60 (5.30 %)
Iraq	23.43 (48.10 %)	23.00 (92.50 %)
Total	48.67 (100.00 %)	54.47

In addition, there are differences between the figures for land irrigable by the Euphrates as given by Syria and Iraq on the one hand, and international water experts on the other (see Table 4). In publications pertaining to irrigation, lands are divided into six categories. The first three categories of lands are the most efficient and can yield maximum production with irrigation. The fourth category of land is of marginal value. A yield can be obtained from the fifth category only with a considerable amount of investment. Finally, sixth category land is infertile even with irrigation. 8.

While all the Turkish land to be irrigated by the Euphrates is of the first, second and third categories, these categories of land in Syria represent only 48 percent of the agricultural land which is contemplated to be irrigated with Euphrates water 9. It will not only be uneconomical but inequitable to utilise scarce water resources to irrigate infertile lands at the expense of fertile lands.

TABLE 4**LANDS IN SYRIA AND IRAQ IRRIGABLE FROM EUPHRATES FLOWS**

(in million hectares)

(Comparison of Figures Given by Syria and Iraq with Independent Sources)

Reference	Syria	Iraq
Official Statement (Univ. of Michigan)	0.77	1.95
Prof. John Kolars	0.37-0.39	-1.29
USAID Report	0.32	-
Ewan W. Anderson (Univ. of Wales)	0.2-0.5	-
Peter Beaumont (Univ. of Wales)	0.4-0.8	-

Both Syria and Iraq demand considerable amounts of water for their less fertile lands in the Euphrates river basin where there exists a water scarcity problem. In this situation, there emerges a water requirement which is much higher than the river's average annual flow of 31.58bn m³. When this matter is brought to the attention of Syria and Iraq, they propose that the amount of water that is lacking be deducted, proportionally, from each country's demand. Turkey finds it difficult to agree with this approach and points out that the quantity of water needed for irrigation should be determined by applying identical criteria to all three countries. Syria and Iraq state that each country must be free to choose the criteria it will use to determine its own water needs and that these should not be questioned by the other riparian states. In a democratic country like Turkey, it would be very difficult for a government to explain to the public such an arbitrary way of determining water needs.

3. ANOTHER ISSUE OF DISPUTE: THE ORONTES (AL 'ASI) RIVER

Rising in Lebanon, the Orontes river passes through Syria and flows into the Mediterranean in the Turkish province of Hatay. It flows for 40km in Lebanon, 120km in Syria and 88km in Turkey. In Lebanon, there are two water regulators on the Orontes, and in Syria there are two dams, the Destan and Maherde, in addition to a water regulator in the town of Jisr Ash-Shugur. Both Syria and, to a lesser extent, Lebanon have been intensively utilising this river for irrigation purposes. Syria has been making use of 90 per cent of the total flow which reaches an annual average of 1.2bn m³ at the Turkish-Syrian border. Out of this total capacity, only a meagre 120m m³ enters Turkey after it is heavily used by Syria¹¹. However, this amount will further decrease to about 25m m³ if Syria's planned reservoirs of Ziezoun and Kastoun are built in addition to the existing dams on the river. Eighty million cubic meters of water from the Orontes has been earmarked for Lebanon, in accordance with an agreement made between Syria and Lebanon, 20 September, 1994.

Many lessons can be drawn from the comparison between the Euphrates and the Orontes in respect of both the water released to the downstream countries and its utilisation. While Syria and Iraq accuse Turkey of reducing the amount of water in the Euphrates, in the Orontes, where Syria is an upstream country, she utilises almost the whole of the water of the river and releases to Turkey only a meagre amount.

4. SYRIAN AND IRAQI OBJECTIONS TO THE TURKISH DAMS ON THE EUPHRATES

Syria and Iraq have strongly opposed all water installations that Turkey has planned or implemented on the Euphrates and the Tigris. Their objections centre on the argument that these installations would reduce the quantity of water flowing to their countries. A clear example of such attitudes can be seen in the construction of the Keban and Karakaya dams

in the 1960s and 1970s. They stated at that time that the erection of these dams would inflict damage on their countries.

Furthermore, Syria and Iraq have accused Turkey of not notifying them in advance about the planned water installations in conformity with the 'Draft Articles of the Proposed Convention on the Non-navigational Use of Trans-boundary Watercourses' by the United Nations International Law Commission (ILC), which has not yet attained a binding legal status.

Nevertheless, all necessary data pertaining to Turkey's planned water schemes, have been conveyed to Syria and Iraq during the Joint Technical Committee (JTC) meetings held by the three countries. This mechanism, which was foreseen as a forum to discuss regional water matters, was set up with a protocol of the Joint Economic Committee at meetings held between Turkey and Iraq in 1980. Syria joined this mechanism in 1983.

The dams so far constructed and the ones to be constructed by Turkey on the Euphrates and the Tigris would not only contribute to its own energy and irrigation needs, but also serve to provide a regulated water supply to its neighbours. Turkish dams on the Euphrates have been found efficient by internationally renowned scholars, due to their effective reservoirs, low evaporation losses and geographical and topographic characteristics¹². The water flow of these rivers fluctuates greatly from one season to another. In summer months the average flow of these rivers ranges between 150-200 m³ per second (m³/s). On the other hand, in spring it reaches the level of 5000 m³/s or more. This means strong floods in the spring and droughts in the summer. These big fluctuations have been regulated by the construction of dams on the Euphrates and Turkey's neighbours will not feel the effects of a probable drought and will receive regular and stable water flows.

A. OBJECTIONS TO THE IMPOUNDING OF THE ATATÜRK DAM

The most important objection directed against Turkey's dams on the Euphrates and Tigris was made during the initial impounding of the Atatürk Dam.

Turkey's decision to partially interrupt the water flow for one month during the impounding of the Atatürk Dam in January 1990 was interpreted, especially in Arab circles, as an act deliberately aimed to deprive its neighbours of water and cause them damage.

Turkey took all the necessary measures for the impounding of the Atatürk Dam so as not to cause significant harm to the downstream riparians, Syria and Iraq¹³. It should be conceded that this practice is a technical necessity for the construction of any dam. Syria was informed in reasonable time that the river flow would be interrupted for a period of one month. Before the impounding period. Turkey released more water than its commitment of 500 m³/s, as stipulated in the provisions of a protocol with Syria, signed in 1987. Turkey thus created an opportunity for the downstream countries to accumulate additional water in their own reservoirs. In this context 768 m³/s was released at the Turkish-Syrian border within this period, starting 23 November 1989 and ending at the beginning of the impounding process 13 January 1990. Water from the tributaries which join the Euphrates between the Atatürk Dam and the Turkish-Syrian border also continued to flow into Syria during the impounding period, from 13 January to 12 February 1990. Thus, the total amount of water crossing the border between 23 November 1989 and 12 February 1990 amounted to 3.6bn m³, corresponding to an average of 509 m³/s. Therefore, even in this period of 82 days, which also covers the one month impounding period, Syria received more water than the committed quantity of 500 m³/s. (See Table 5.)

The quantity of water in the Atatürk Dam reached 15bn m³ during the period January 1990 to September 1991. In the same period 27bn m³ of water was released to the downstream riparian countries at the rate of 500 m³/s. As these figures indicate, Turkey could have filled the dam more quickly if it had completely cut water flow to its southern neighbours.

Not doing so is proof of Turkey's good intentions and of its sensitivity in not causing damage to its neighbours.

B. OBJECTIONS TO THE CONSTRUCTION OF THE BIRECIK DAM

Several objections were also directed against the Birecik Dam, a part of the Southeast Anatolia Project (GAP).

Turkey's southern neighbours, Syria and Iraq, have objected to the construction of this dam on the pretext that it will harm and reduce their water supply. The Turkish Ministry of Foreign Affairs received notes from the Iraqi Embassy (17 March 1993) and the Syrian Embassy (18 July 1993) stating their countries' objections. The reason for the construction of the Birecik Dam is as follows:

The water of the Euphrates river is regulated by means of the big reservoirs of the Keban and the Atatürk dams. However, the waters, released from the hydroelectric power plants of those dams also need to be regulated, especially during the times when the water flow is at its peak, so that the ecology of the downstream areas can be protected. Dams constructed to harness the waters released from large dams and hydroelectric power plants, are called after-bay (regulation) dams. The Birecik Dam, in conformity with the above mentioned purpose, is designed to regulate the waters released from the Atatürk Dam and its hydroelectric power plant and the transfer downstream. The Al-Ba'ath Dam, located downstream of the Tabqa Dam in Syria, the Badush Dam, situated downstream of the Saddam Dam, and the Baghdadi Dam, positioned immediately after the Qadissiya Dam, are all after-bay dams.

During periods of low demand for power, only one of the eight hydroelectric power plant units of the Atatürk Dam will be operated, while during periods of high demand, all eight units will be operated. Hence, the amount of water to be released from the hydroelectric power plant might vary between 200 m³/s and 2000 m³/s in one day depending upon the energy demand and the state of the interconnected system.

It is planned to ensure a more regular flow to downstream countries by regulating the Atatürk Dam's outflows with the Birecik Dam. So the construction of the Birecik Dam will serve the interests of the downstream countries as much as it will serve Turkey's interests.

TABLE 5

EUPHRATES DISCHARGES AT THE TURKISH-SYRIAN BORDER DURING THE INITIAL IMPOUNDING OF THE ATATÜRK DAM

(23 November 1989 - 12 February 1990)

Period	Discharge (m ³ /s)	No. Days	Flow (bn m ³)
23-30/11/89	625	8	0.432
1-31/12/89	818	31	2.190
1-13/1/90	740	13	0.831
Sub-total		52 days	3.453 bn m ³
14-31/1/90	65	18	0.102
1-12/2/90	50	12	0.052
Sub-total		30 days	0.154 bn m ³
Total		82 days	3.607 bn m ³
Flow per day: (3.607bn m ³) / (82 days) = 43,457,831 m ³ /day			
Flow per second: (43,457,831 m ³ /day) / (86,400s) = 509.12 m ³ /s			

5. RECENT NEGOTIATIONS BETWEEN TURKEY, SYRIA AND IRAQ CONCERNING THE EUPHRATES-TIGRIS BASIN

A. NEGOTIATIONS HELD BETWEEN 19-20 JANUARY 1993

During the visit to Damascus of the then Prime Minister, Süleyman Demirel, 19-20 January 1993, Syria expressed the opinion that the JTC, after 16 meetings, had not met expectations and proposed that the issue be taken up at a political level. Thus, an agreement was reached to start negotiations headed by top level officials from the foreign ministries of both countries. It was also agreed that those negotiations be conducted in coordination with Turkish and Syrian Foreign Ministers.

B. MEETING OF 17-20 MAY 1993 BETWEEN TURKEY AND SYRIA

In this framework, a Syrian delegation came to Ankara for negotiations, 17-20 May 1993. No breakthrough was achieved and not even a press release was issued at the end of these negotiations, mainly due to the Syrian efforts to misinterpret the text of the non-binding draft articles of the ILC's 'Convention on the Non-navigational Use of Trans-boundary Watercourses', as well as the 1987 Protocol. Furthermore, during the meeting, Turkey proposed that the Orontes river should also be included in the negotiations, but Syria refused to discuss this issue. Consequently, it was concluded that the next meeting would be held 21-24 June, with the participation of Iraq.

C. THE MEETING HELD WITH IRAQ ON 21 JUNE 1993

The Iraqi delegation attended, but Syria, without giving any reason, did not participate in this meeting. During the said meeting, the Iraqi delegation expressed some arbitrary demands. The Iraqi's ideal so reiterated its notion of the mathematical division of Euphrates flow and demanded that the quantity of water released by Turkey be increased to 700 m³/s.

D. NOTES GIVEN BY SYRIA AND IRAQ ON THE CONSTRUCTION OF THE BIRECIK DAM

A note related to the construction of the Birecik after-bay dam was given to the Turkish Embassy in Damascus on 3 December 1995. In its note, Syria alleged that the flow of the Euphrates would be reduced by this dam and that the waters of the Euphrates have been polluted by Turkish irrigation activities.

Turkey answered the Syrian note, 31 December 1995, rejecting the Syrian allegations.

Iraq submitted a note, 8 January 1996, in the same vein as that of the Syrian note. Turkey responded to the Iraqi note with one of its own, 25 January 1996, rejecting the Iraqi arguments.

II. SYRIAN AND IRAQI ARGUMENTS CONCERNING THE EUPHRATES-TIGRIS BASIN AND TURKEY'S POSITION

A. ARGUMENTS OF IRAQ

The views expressed by the Iraqi authorities and by various press and publications regarding the Euphrates-Tigris basin are summarised in the following paragraphs.

Iraq maintains that it has Acquired Rights relating to its 'ancestral irrigation' from the Euphrates and Tigris rivers. According to Iraq, there exists two dimensions to these Acquired Rights. One outlines the fact that for thousands of years these rivers have given life to the inhabitants of Mesopotamia and thus constitute an acquired right for this people. Therefore no upstream riparian country is entitled to take away the rights of these

inhabitants. The second dimension of these Acquired Rights stems from the existing irrigation and water installations. Iraq has 1.9 million hectares of agricultural land in the Euphrates basin, including the ancestral irrigation systems left from Sumerian times.

During the initial impounding of the Atatürk Dam, Iraq accused Turkey of violating international law by not informing Baghdad in a timely manner and by reducing the amount of flow below the agreed level. Thus, Iraqis have been subjected to a very difficult situation as a result of these actions¹⁴. In addition to that, Turkey will cause damage to the downstream riparian states, by building new dams and irrigation systems.

Iraqi officials have also declared that the waters of the Euphrates and Tigris must be shared among the riparians through a mathematical formula, as follows:

- each of the riparian states will notify the others of its water demand for each of its completed projects as well as for the projects under construction or planned
- hydrologic data will be exchanged on the Euphrates and Tigris waters
- after gathering all relevant data, the JTC will, first, calculate the demand for water of the projects in operation, then for the projects under construction and, last, for the planned projects. The determination of needs for these projects will be made separately.

Under the 1987 Protocol, Turkey has undertaken to supply a monthly average flow of 500 m³/s at the Syrian border until the impounding of Atatürk Dam is completed¹⁵. The Iraqi authorities argue that the Protocol has lost its validity due to the fact that the impounding of the Atatürk Dam has been completed. Therefore, the final allocation must be made and an amount of more than 500 m³/s should now be released to the downstream countries. This amount should not be less than 700 m³/s. Taking into account the fact that the annual average flow of Euphrates is about 1000 m³/s, Turkey should keep for itself only one-third of the flow and allow Syria and Iraq to share the remaining two-thirds. In the opinion of the Iraqi authorities and various press circles, an allocation of this type would represent an "equitable and reasonable" approach¹⁶.

B. ARGUMENTS OF SYRIA

Syrian officials and press circles claim that Syria possesses acquired rights, dating from antique periods, over the rivers that pass through Syrian territory.

On the other hand, Syria claims that the Euphrates and Tigris rivers are 'international watercourses' which can be classified as 'shared resources'. The waters of those rivers must be shared among the riparian states according to a quota to be determined. They further claim that such an allocation should be realised through a simple 'mathematical formula' which foresees that:

- each riparian State shall declare its demands on each river separately
- the capacities of both rivers (in each riparian state) shall be calculated
- if the total demand does not exceed the total supply, the water shall be shared according to the stated figures
- if the total demand for water declared by the three riparians exceeds the water potential of a given river, the exceeding amount should be deducted proportionally from the demand of each riparian state.

Syria further claims that, during the initial impounding of the Atatürk Dam, Turkey acted against the spirit of good neighbourliness and caused significant damage to Syrian

agriculture, as well as hydroelectric generation and water supply facilities¹⁷. Syria believes that, by such actions, Turkey aims to exert political pressure on its neighbours.

Syrian officials maintain that the Peace Pipeline Project and other water selling schemes can be interpreted as a product of Turkey's dream of gaining a leadership position in the Middle East. Syria further argues that the secret ideal of Turkey is to dominate the countries of the region economically and politically by making them dependent on water. Besides, Turkey's effort to export water by pipeline while not releasing a sufficient amount to its neighbours, is itself as a contradiction.

Syria requests that the ILC's studies be finalised and that rules and regulations be established as soon as possible. In this way, inter-state disputes about sharing the water of this international watercourse should be resolved in international bodies, such as International Court of Justice, and within an institutional framework of dialogue or arbitration¹⁸.

Syria demands that international observers be present at negotiations between the basin states and, in accordance with the opinions of those observers, the UN should enforce mandatory sanctions on those countries which hinder sharing procedures established at these negotiations¹⁹.

C. TURKEY'S VIEWS ON THE ARGUMENTS OF ITS NEIGHBOURS

The concept of acquired rights raised by both countries is a claim put forward in order to make Turkey release a greater amount of water and to make it accept such thinking.

On the other hand, many scholars believe that the acquired rights theory alone does not carry much significance. Professor Stephen C. McCaffrey, who became the rapporteur of ILC as of 1985, points out the following:

"A downstream State that was first to develop its water resources could not foreclose later development by an upstream State by demonstrating that the later development would cause it harm; under the doctrine of equitable utilisation, the fact that a downstream State was 'first to develop' (and thus had made prior uses that would be adversely affected by new upstream uses) would be merely one of a number of factors to be taken into consideration in arriving at an equitable allocation of the uses and benefits of the watercourse."²⁰

McCaffrey's observation indicates that acquired rights can not be invoked to limit the utilisation of water by upstream riparians. In other words, 'the historical and acquired rights' claimed by Syria and, especially, Iraq are inadequate in the sense that prior uses of water by downstream countries represent only one of many factors to be taken into account in reaching an equitable utilisation of a trans-boundary river.

In this context, the Iraqi claim that the Tigris's flow of 48bn m³ is its ancestral right becomes unfounded. Basing its case upon this 'right', Iraq rejects the proposal to transfer water from the Tigris to Euphrates, which could be a vital element for the realisation of the irrigation projects of the three riparian countries on the Euphrates.

The concept of sharing common water resources through a mathematical formula has been put forward by Iraq in order to guarantee the utilisation of water for its projects. Syria with a similar approach, supported this idea. This concept is in contradiction with the principle of equitable utilisation, which is the core idea of codification exercises in this field. On the other hand, the idea of regarding trans-boundary water as a shared resource is not widely supported in codification exercises on trans-boundary waters. Due to the objections of many members, the expression 'shared natural resources' was dropped from the ILC's report to the UN General Assembly on the work of its thirty-ninth session, held in 1987.²¹ Consequently, this term has not been used in the subsequent ILC reports.

The acquisitions relating to the initial impounding of the Atatürk Dam are completely unfounded. During this period, Turkey released to the downstream riparian countries an amount of water greater than it was committed to release. (See Table 5.)

The filling of a dam is purely a technical matter and Syria did the same thing when it impounded the Tabqa Dam on the Euphrates river in 1975. Iraq vehemently protested this filling process and the two countries managed (but only just) to pull back from the brink of war through the mediation of Arab states, namely Saudi Arabia and Kuwait.

Another crucial point is that irrigable lands declared by Syria and Iraq as per their irrigation projects, do not reflect the real situation. As explained before, many international scholars and water experts have stated that the amount of irrigable land in both Syria and Iraq is, in fact, far below the amount declared.

III. A MUTUALLY SATISFYING CRITERIA FOR ALLOCATING TRANS-BOUNDARY WATERS

It goes without saying that an agreement can be reached on the allocation of the Euphrates-Tigris basin waters based on criteria satisfactory to the three countries.

The principle of equitable utilisation seems to be the one most widely accepted in international law for allocating waters of a trans-boundary river. In order to reach such an allocation, the countries should take certain factors into consideration, such as socio-economic, hydrological and geopolitical conditions. These factors are not exhaustive and if other national and natural resources are available to meet the needs of the countries in question, these resources have to be taken into account as well.

In this framework, Turkey has been advocating the necessity of common criteria in allocating the Euphrates-Tigris basin waters, based on scientific and objective rules. In order to utilise water in an equitable manner Turkey has prepared a project which is called the Three-Stage Plan and has proposed it to Syria and Iraq.

This plan will be implemented by a group of engineers of the three countries and will be explained in the following chapter.

However, this plan has been rejected, especially by Iraq, on the basis that it will, to a great extent, hinder its water demand from Euphrates.

The principle of not causing significant harm also enjoys wide support. According to this principle, riparian countries of a trans-boundary river should mutually abstain from causing any significant harm in their utilisation of the watercourse. Turkey has never perceived and used the water of the Euphrates-Tigris basin as a tool to put pressure on the downstream riparian countries. Turkey has paid utmost attention to releasing the amount of water from the Euphrates that it is committed to in conformity with the principle of equitable utilisation.

On the other hand, domestic policies regarding water utilisation in Turkey, Syria and Iraq must be reviewed. Measures to prevent the waste of water and, especially, the application of a rational water pricing system are important aspects of these policies. Individual and collective activities to promote people's awareness in the three countries will no doubt be useful.

Another measure is the treatment and reuse of waste water. This method is widely being used in oil rich countries and Israel, but is not widespread in other Middle Eastern countries due to economic and other difficulties. It is thought that national and regional waste water treatment projects can be realised.

Using the latest irrigation technology is also an important factor. Due to the utilisation of primitive agricultural irrigation methods, there is a great deal of water wasted, especially in arid and semi-arid regions which suffer from water scarcity. Emphasis should also be given to the selection and characteristics of crops.

IV. TURKEY'S POLICY FOR THE UTILISATION OF THE WATERS OF THE EUPHRATES-TIGRIS BASIN (The THREE - STAGED PLAN)

Turkey has offered Syria and Iraq a plan for the more rational utilisation of the waters of the basin. The full name of the plan is the Three-Staged Plan for Optimum, Equitable and Reasonable Utilisation of the Trans-boundary Watercourses of the Euphrates-Tigris Basin²². It was first introduced during the fifth meeting of the JTC, the tripartite meeting at ministerial level on 26 June 1990 and bilateral talks with Syria and Iraq in 1993. The plan, briefly called the Three-Staged Plan, aims to achieve a solution satisfactory to all parties. The stages of the plan are as follows:

STAGE 1 - INVENTORY STUDIES OF WATER RESOURCES

These will cover the following activities:

I. The exchange of all available data (levels and discharges) of the selected gauging stations below:

Experts of the three countries would agree upon the nomination of representative meteorological stations in the Euphrates-Tigris basin and exchange data about them as well as all available data from them concerning evaporation, temperature, rainfall and snowfall (if available) on a monthly basis.

Gauging Stations

Countries on Euphrates on Tigris

Turkey Belkizkoy Cizre

Syria Kadahiya -

Abu Kemal -

Iraq Husabia Fishkabour

Nasiriya Mosul, Kut

II. The checking of above mentioned data.

III. The joint measurement of the discharges at the above mentioned stations in different seasons, if necessary.

IV. The evaluation and correction of the measurements.

V. The exchange and checking of data about the quality of water.

VI. The calculation of natural flows at various stations after the estimation of water uses and water losses at various sites.

STAGE 2 - INVENTORY STUDIES OF LAND RESOURCES

These will cover the following activities:

- I. The exchange of information concerning soil classification methods and drainage criteria practised in each country.
- II. The checking of soil conditions for projects that are planned, under construction or in operation.
- III. If the studies indicated under item II. could not be carried out for reasons accepted to all sides, the soil categories shall be determined to the extent possible.
- IV. The study and discussion of the crop pattern determined according to soil classification and drainage conditions for projects planned, under construction and in operation.
- V. The calculation of irrigation and leaching water requirements based on studies carried out in the above mentioned items for the projects planned, under construction and in operation.

STAGE 3 - EVALUATION OF WATER AND LAND RESOURCES

These will cover the following activities:

- I. The discussion and determination of irrigation type and system for the planned projects so as to minimise water losses and to investigate the possibility of modernisation and rehabilitation of the projects in operation.
- II. The determination of total water consumption for all projects in each country, including municipal and industrial water supply, evaporation losses from reservoirs and the conveyance losses from irrigation schemes, based on the project-wide studies under item 2 v.
- III. The setting up of a simulation model to analyse the water demand and supply balance, considering the water transfer opportunity from Tigris to Euphrates.
- IV. The discussion of methods and criteria for determining the economical viability of the planned projects.

The plan based on above mentioned basic principles has two essential features:

- I. The Euphrates and the Tigris have to be considered together as forming one single trans-boundary watercourse system with the two rivers joined, not just joined at their natural confluence, the Shatt-al-Arab waterway, but also by a man-made canal, the Tharthar canal, connecting the two rivers in Iraq. Consequently, all existing and future agricultural water uses need not necessarily be derived from the Euphrates. Irrigation water for areas fed by Euphrates, may also be supplied from the Tigris.
- II. The inventory of water and land resources should be drawn up and evaluated jointly since the methods used in each country for data collection, interpretation and evaluation show disparities from country to country and are not readily applicable to trans-boundary watercourses. Finally, necessary means and measures should be determined to attain the most reasonable and optimum utilisation of resources on the basis of the above mentioned studies. Turkey believes that an equitable, rational and optimum utilisation of water resources can be achieved through a scientific study which will determine the true water needs of each riparian country.

The steps taken in this direction will create a positive atmosphere which will be conducive to the co-operative use of not only water, but also other natural resources, for mutual benefit. Thus, these steps will also promote confidence between the states of the region.

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12 Kolars, John F. (1994), *op. cit.*, p. 137.

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14 Mr. W. El Zahawi, Senior Undersecretary of State, Ministry of Foreign Affairs (Iraq), speaking at a round table discussion on 'The Euphrates Water Issue' at the Arab Research Centre, London, 19 February 1990.

15 The relevant article of the Protocol, dated 17 July 1987, signed between the Republic of Turkey and the Arab Republic of Syria, is as follows: "During the filling up period of the Atatürk Dam reservoir and until the final allocation of the waters of Euphrates among the three riparian countries, the Turkish Side undertakes to release a yearly average of more than 500 m³/s at the Turkish-Syrian border and in cases where the monthly flow falls below the level of 500 m³/s, the Turkish Side agrees to make up the difference during the following month", (The Official Gazette of Turkey, December 10th, 1987)

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