

Water: A source of conflict of cooperation in the Middle East?

A SCRAMBLE FOR WATER RESOURCES IS UNDER WAY IN THE MIDDLE EAST



In the advanced industrial countries of the northern hemisphere water resources are so abundant that they are more or less taken for granted. In the Eastern Mediterranean and Middle East the picture is very different. Almost all Middle Eastern countries are short of water.

The water resources of Middle East bring life and economic prosperity to the communities they pass by

Satisfactory means of allocating water between neighboring countries have to be devised if the scramble for water is not to become another item for further poisoning the relations among the riparian states of the Middle-Eastern water resources.

At the center of the Middle East's agenda on water are three far-flung river basins with names famous for millennia - the Nile, the Jordan, and the basin of the Tigris and Euphrates. The three rivers supply the Middle East with most of its fresh water. Each river basin varies considerably from the others. Their problems are distinct and therefore require different solutions and approaches.

THE ISSUE IS COMPLETELY SEPARATE FROM THE MIDDLE EAST PEACE PROCESS

Water has already emerged as an important theme in the search for a Middle East peace settlement between the Arabs and Israelis. Both sides want to ensure that a sufficient supply of water in the years ahead. Because Turkey is often regarded as a water-rich country, the Euphrates is sometimes seen as a panacea for the water problems of the countries to Turkey's south. Both ideas rest on misconceptions. Turkey's water resources are much more limited than generally supposed and the search for a satisfactory settlement in the Euphrates-Tigris basin is a complete separate issue from the quest for peace in the Middle East.

THE EUPHRATES-TIGRIS BASIN

MODERN TECHNOLOGY IS REVIVING THE 'FERTILE CRESCENT'

Thousands of years ago, water from these two great rivers helped create the 'fertile crescent' where the first civilizations of the Middle East arose. Today, the Tigris and Euphrates flow through three countries - Turkey, Syria, and Iraq. Harnessed by modern technology, the rivers have the potential to make agriculture flourish on a scale undreamed of in ancient times. The result is that water, long taken for granted, is becoming a scarce commodity. The anticipated combined demand for water from the three countries is actually greater than the total water volume of the two rivers. Though the Euphrates-Tigris basin contains more water, both on the surface and underground, than the other river basins of the Middle East, the water resources of each country vary considerably. Iraq has more water than Turkey, but Syria has less.

So these three countries face a challenge. They need to devise an arrangement for using the water of the Euphrates-Tigris River Basin which is equitable and will stand the test of time. That means overcoming disagreements, grudges, and prejudices and learning to work together.

THE FACTS

HOW MUCH WATER DO THESE COUNTRIES ACTUALLY HAVE?

A common misconception that needs to be dispelled at the outset of any discussion is the idea that Turkey has water and the Arab countries don't. In fact Turkey's water resources are far from abundant. Turkey has only about a fifth of the water available in water-rich regions such as North America and western Europe. Water rich countries are ones which have 10,000 cubic meters of water per capita yearly. This is well above the 1,830 cubic meters per capita in Turkey.

Total annual rainfall yields 501 billion cubic meters of water in Turkey each year, but just under two thirds of this is lost through evaporation. That leaves a total of 186 billion cubic meters of surface run-off, of which only 98 billion cubic meters can be put to economic use. This is supplemented by a further 12 billion cubic meters of underground water.

Table 1

Annual Water Quantities Per Capita

in Some Water-Rich and Middle Eastern Countries

(m³ / capita / year)

<u>Countries</u>	<u>1993</u>
Water-rich Countries	10000
Iraq	2110
Turkey	1830
Syria	1420
Israel	300
Jordan	250
Palestine	100

So why is Turkey often thought of as having a water surplus? The reason is simple. Infrastructural constraints mean that only 40 billion cubic meters of water can actually be used at present. The remaining 70 billion cubic meters are currently unused, but they represent a resource which Turkey's economy needs and plans to draw upon with increasing efficiency in the future.

THE TIGRIS AND THE EUPHRATES

THE TIGRIS AND EUPHRATES FORM A COMPLEX WATER SYSTEM

The Tigris and Euphrates are two of the longest and most famous rivers in the world. Both rise in the high mountains of northeastern Anatolia and flow down through Turkey, Syria, and Iraq and eventually join to form the Shatt Al-Arab 200 km before they flow into the Gulf. Between them they account for about 28.5 per cent of Turkey's total surface water flow. However the geography of the two rivers is very different.

What is more, the contribution from each riparian country also varies sharply. Turkey contributes 31 billion cubic meters or about 89 per cent of the annual flow of 35 billion cubic meters of the Euphrates. The remaining eleven per cent comes from Syria. Iraq makes no contribution to the run-off.

When it comes to the Tigris, the picture is entirely different. 52 per cent of the total average run-off of 49 billion cubic meters comes from Turkey. Iraq contributes all the rest. No Syrian waters drain into the Tigris.

HOW MUCH WATER DO THEY WANT?

EXISTING DEMANDS FOR THE RIVER WATER ARE UNREALISTIC

As to claims upon the water from the rivers, the picture changes once again. Syria wants 32 per cent of the Euphrates but only 5.4 per cent of the Tigris. Iraq is asking for 65 per cent of the water potential of the Euphrates and 92.5 per cent of the Tigris. Turkey plans to use about 52 per cent of Euphrates - to which it contributes 89 per cent - and 14.1 per cent of the Tigris, to which it contributes 52 per cent.

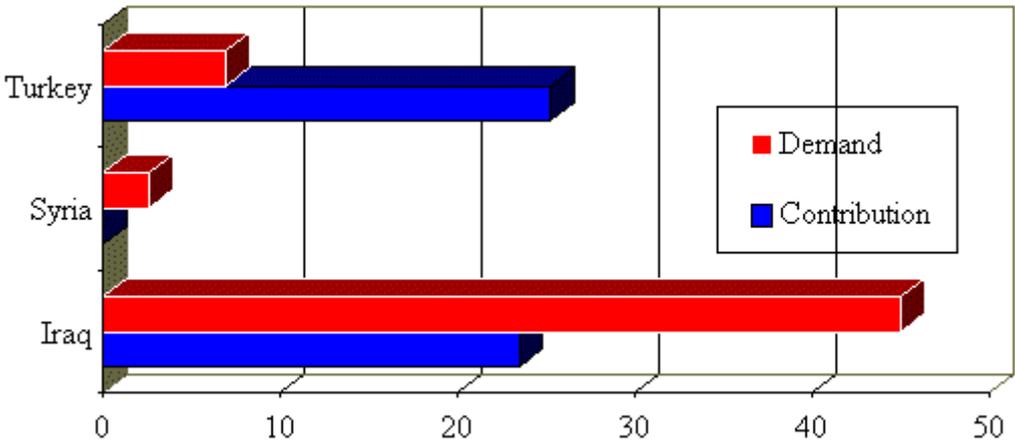


Figure 1-Contribution of Turkey, Syria and Iraq to the Euphrates and Their Demands
(in Billion cubic meters per year)

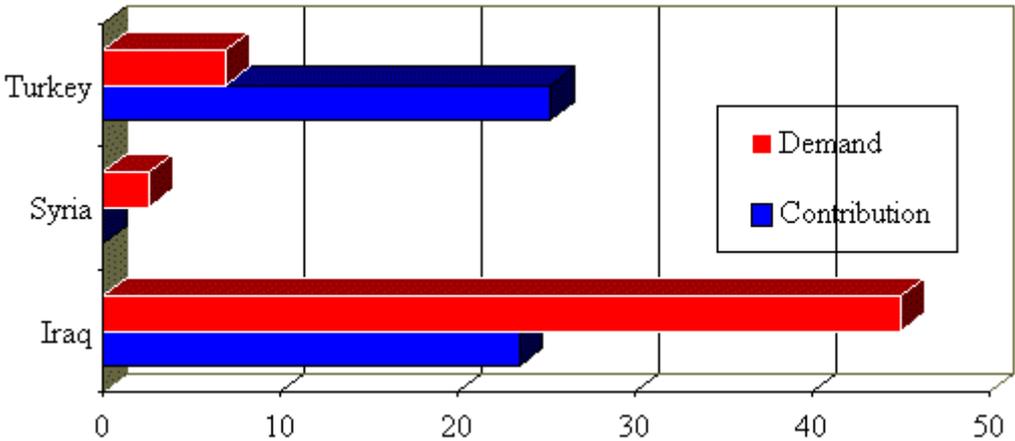


Figure 2-Contribution of Turkey, Syria and Iraq to the Tigris and Their Demands
(in Billion cubic meters per year)

The combined demands of the riparian countries thus amount to 148 per cent of the total flow capacity of the Euphrates and 111 per cent of that of the Tigris. These expectations are obviously unrealistic. The demands of Iraq and Syria tacitly assume that Turkey releases all the flow of the river without utilizing any of it.

This is despite the fact that Turkey has more reason to depend on the waters of the Tigris and the Euphrates for both energy production and irrigation than either Syria or Iraq. Both of Turkey's southern neighbors are petroleum producers. Turkey produces little petrol of its own and instead relies on water for power production. Turkey's farming industry and its population are vastly larger than that of either Syria or Iraq and as a result it needs more water for irrigation.

Syria claims that up to 770,000 hectares of its land could be irrigated with water from the Euphrates. Iraq has a larger irrigable area, but, as is the case with Syria, most of it is low-lying and afflicted by deposits of gypsum and salt. Physical geography means that both Syria and Iraq has relatively little scope for storing river water behind high dams. What Iraq can do however is to tap the waters of the Tigris by using canals and so employing water which would otherwise go unused. The Tharthar canal, for example, already links the Euphrates and the Tigris. Turkey makes almost no use of the waters of the Tigris for the time being.

The key to eventual agreement on water issues between Turkey, Iraq, and Syria could well be to bring the Tigris firmly into the overall picture by transferring of Tigris's flow into the Euphrates. Combining the waters of the Euphrates and the Tigris would make it possible for all three countries to go ahead with their irrigation plans along the Euphrates river.

Turkey's claim on water for irrigation is a strong one. It has approximately seven times more irrigable land in the Euphrates and Tigris basin than Syria does - about 2,5 million hectares of lands. Turkey is planning to irrigate 1.7 million ha from the Euphrates and the Tigris under the GAP (Southeastern Anatolia Project). This is just above two thirds of the high quality land which will benefit from irrigation with water from the Euphrates and Tigris. What Syria and Iraq are proposing would amount, in effect, to diverting water away from fertile fields to areas of high salt and gypsum concentrations.

THE SOUTHEASTERN ANATOLIA PROJECT

THE WATERS OF THE EUPHRATES AND TIGRIS ARE WORKING AN ECONOMIC MIRACLE

For many decades, southeastern Anatolia was the least economically developed region in Turkey, lagging far behind the rest of the country. Thanks to the Southeastern Anatolia Project (GAP) this situation is now starting to change.



Now new crops can be introduced in this, once arid region.

Originally designed and planned in the 1960s, GAP intends to harness the potential of the Euphrates and Tigris Rivers and their tributaries by building 22 high dams and 19 hydro-power plants. These will generate 27 billion kWh of electricity a year and irrigate 1.7 million hectares of farm land. The plains around Urfa and Harran are being irrigated with water from the Euphrates piped through twin tunnels, 26 km long each, opened in 1994. The impact on the economy of the region is dramatic. Many Turkish crops will double or even triple. GAP will provide food self-sufficiency in Turkey and will create 3.3 million jobs. By the year 2000, southeast Anatolia should begin to enjoy an era of unprecedented wealth and prosperity. The contrast between it and Turkey's regions will decline.

AN INSTITUTIONAL FRAMEWORK IS EMERGING

TURKEY, SYRIA AND IRAQ HAVE ALREADY EVOLVED SOME MECHANISMS FOR DIALOGUE

Because the issues involved in the hydro-power schemes along the Tigris and Euphrates are so complex and far-reaching, the three countries involved have already had to find ways of structuring the dialogue between them.

The most important institutional forum for the three countries is the Joint Technical Committee (JTC), a body originally set up in 1980 for discussing the water issues between Turkey and Iraq. Syria joined in 1983. Since 1983, Turkey, Syria, and Iraq have held sixteen ministerial and official meetings of the JTC.

Water issues were included in a section of a Protocol signed by Turkey and Syria on July 17th 1987. This commits Turkey to releasing a monthly average of 500 cubic meters of water a second to Syria. Turkey has consistently abided by it ever since. The Protocol runs as follows:-

"During the filling period of the Atatürk Dam Reservoir and until the final allocation of the waters of the Euphrates among the riparian countries, the Turkish Side undertakes to release a yearly average of more than 500 cubic meters a second at the Turkish/Syrian border and in cases where the monthly flow falls below the level of 500 cubic meters, the Turkish side agrees to make up the difference during the following month."

SYRIAN AND IRAQI OPPOSITION

SYRIA AND IRAQ PUT FORWARD UNACCEPTABLE CLAIMS

Both Syria and Iraq are strongly opposed to all Turkey's development projects on the Euphrates and the Tigris. They maintain that they enjoy rights over the rivers going back to ancient times and that as the Tigris and the Euphrates are both international water courses, they should be classified as shared resources.

The essence of their approach is that each country is entitled to calculate its own water requirements unilaterally and that these figures are then used as the basis for allocating the river flow.

Specific allegations on the waters issue made against Turkey by the Syrians and Iraqis include:

- They say that Turkey failed to inform them in advance about its plans on the rivers and did not follow the customary practices of international law on international watercourses.
- They claim that Turkey's hydro-power projects reduce the amount of water flowing into their countries and harm agriculture and power projects in countries further downstream.
- They allege Turkey releases polluted water across the frontier.

THESE CLAIMS DON'T STAND UP TO INVESTIGATION

These allegations are fairly easily disproved. For example, where exchanging information is concerned, full data on its water projects has always been passed by Turkey to both Syria and Iraq at meetings of the Joint Technical Committee of the three countries where 'exchange of information' always headed the agenda.

A TAMED EUPHRATES WITH A REGULAR FLOW BENEFITS TURKEY'S NEIGHBORS TOO

Claims that the flow of the Euphrates to Iraq and Syria has declined are also untrue. The dams have made an important difference, but it is not one which works to the disadvantage of Turkey's southern neighbors. The Euphrates has been tamed and its flow regularized. Until the dams were built, there were sharp fluctuations between different seasons. In winter and spring, there used to be floods, followed in summer by a drought in which the flow of water dwindled to a trickle.

Since the dams were completed, Syria and Iraq enjoy guaranteed stable flows of river water. Even in the driest summers, the flow continues. For example, 1988 and 1989 were the driest years of the last half century. At the height of the summer, the flow of the Euphrates was a mere 50 cubic meters a second, but precisely because of the existence of the Keban and Karakaya Reservoirs, Turkey was able to go on releasing water to Syria and Iraq at satisfactory levels.

TURKEY FULFILLS HER PLEDGE

TURKEY IS ACTUALLY RELEASING MORE THAN DOUBLE THE WATER IT PROMISES

Turkey has abided fully by the commitment it made in 1987 to release a yearly average of 500 cubic meters a second, summer and winter. In practice the flow often considerably exceeds this. In 1995, for example, the annual average flow was around 830 cubic meters a second. In the first half of 1996, Turkey has been releasing water to Syria at between 1147 cubic meters and 1684 cubic meters a second, far above the amount specified in the 1987 Protocol.

TURKEY PUTS ITS WORD TO THE TEST

Turkey's pledge to supply at least 500 cubic meters a second on a monthly basis of water from the Euphrates to Syria and Iraq was put to the test early in 1990 when the Atatürk Dam was being filled. This meant that the flow of the Euphrates had to be temporarily interrupted for technical reasons. A month before the filling process got under way, Turkey notified Syria that the river flow would be stopped for a one-month period. During the month before the operation got under way, the flow from the Keban and Karakaya Reservoirs was stepped up to 768 cubic meters a second. During the month-long water storage process, an extra 60 cubic meters a second were released from catchments downstream from the Atatürk Dam.

As a result, during the 81 days between 23 November 1989 and 13 February 1990, the waters of the Euphrates were released to Syria at an average rate of 509.12 cubic meters a second. Even at the most difficult stage of the filling of the Atatürk Dam, Turkey had more than kept its word.

REGULATION DAMS

Syria and Iraq's objections do not stop with the Atatürk Dam. They have also complained about two dams being built lower down the Euphrates at Birecik and Karkamış. Both of these projects are 'regulation' dams, i.e. ones whose function is to regulate the flow of waters so as to protect the ecology of areas of the watercourse downstream from the Atatürk Dam at times when the flow of water from it is at its peak.

Both countries have built their own regulation dams and they are familiar with how they work. Syria's regulation dam is the Al-Baath dam, just below the Tabqa Dam, while Iraq has the Badush dam below the Saddam dam on the Tigris and the Baghdadi dam downstream to Qadissiya dam on the Euphrates. They should therefore be aware that these new dams will actually enable Turkey to release more regulated water at the Syrian Border than would otherwise have been impossible.

WATER POLLUTION

Turkey has always been scrupulously careful to avoid pollution in the use it makes of the Euphrates. Syria claims that polluted water has been released from the Euphrates. These claims are surprising and unfounded, not least because as yet only a relatively small area is being irrigated but also the water at present going downstream is unused water.

In the later stages of the GAP, when much more land is under irrigation, this will change as water from the fields returns to the river. Turkey is well aware of the risks involved and will be even more vigilant than it already is in curbing pollution. Various methods exist of doing this. One is to dilute water used to irrigate the plains of Şanlıurfa with 30 per cent of fresh water afterwards. This has the advantage of saving water and using natural resources optimally.

In point of fact, both Syria and Iraq have a poor environmental record where water is concerned. Both countries use the Euphrates to drain off industrial pollution and sewage, thereby creating an alarming level of pollution in the lower courses of the river and the Gulf.

THE RIVER ORONTES

SYRIA'S CLAIMS OVER THE EUPHRATES HAVE TO BE JUDGED AGAINST ITS RECORD ON THE ORONTES

Though relatively insignificant in size compared to the Tigris or the Euphrates, a third river figures in relations between Turkey and Syria. It is the River Orontes, known in Turkish as the Asi Nehri and in Arabic as the al-Asi.

Where the Orontes is concerned, Syria is the 'upstream' country and Turkey the 'downstream' one. Syria's record in sharing the waters of the Orontes contrasts dramatically with what it claims should be happening to the waters of the Euphrates.

SYRIA IS TAKING 90 PER CENT OF THE ORONTES

The Orontes rises in the mountains of Lebanon and flows through that country for 40 km before crossing into Syria. After traveling 325 km through Syria, it arrives in Turkey and runs for a further 88 km through the province of Hatay, going through the ancient city of Antakya, and then into the Mediterranean sea. The annual run-off of the Orontes is about 1.2 billion cubic meters at the frontier between Turkey and Syria.

However Syria has built dams and reservoirs on its section of the Orontes which extract about 90 per cent of the total flow of the river and use them for irrigation and municipal use. Turkey is left with only a meager 120 million cubic meters a year.

What is more, Syria plans to build two further reservoirs on the Orontes at Ziezoun and Kastoun. If they go ahead, they will cut the amount of river water released into Turkey to a mere 25 million cubic meters a year, the volume of a stream rather than a river.

EVERYONE SHOULD GET A FAIR DEAL

NOBODY HAS A FIXED CLAIM TO THE WATER OF THE RIVERS

Turkey believes that the countries along the Euphrates should agree on equitable and reasonable ways of using its resources. Syria and Iraq, by contrast, claim that they have 'acquired rights' over the river, derived from prior usage and historical rights. In other words, they have fixed claims on most of the water in the river and only a very small residue above this amount is to be shared out.

Not surprisingly, the 'acquired rights' doctrine has not been shared very widely elsewhere. Professor Stephen C. McCaffrey, the *rapporteur* of the International Law Commission (ILC) between 1985-1992, remarks:

"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 utilization, the fact that downstream state was 'first to develop' (and thus has 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."

Prior usage of water by downstream countries on a river is just one of many factors which have to be taken into account when trying to reach an agreement on how the waters of a transboundary river can be utilized equitably.

INTERNATIONAL LAW AND TRANSBOUNDARY RIVERS

ONLY LIMITED GUIDELINES HAVE BEEN DEVELOPED SO FAR

Unlike seas, there is as yet relatively little international law governing transboundary rivers and defining the rights and obligations of riparian states. When problems arise, they are almost always settled through bilateral or multilateral agreements which are concluded locally. The International Law Commission of the United Nations is studying the subject and trying to develop guidelines to help settle water-related conflicts.

THE FRAMEWORK CONVENTION

Over a quarter of a century ago, in 1970, the United Nations General Assembly asked the ILC to try to codify and develop international law on the 'Non-Navigational Use of International Watercourses.'

In the summer of 1994, the ILC submitted a set of Draft Articles on the Law of the Non-Navigational Uses of International Watercourses to the UN General Assembly. The finalized text of this draft is being regarded as a Framework Convention and member countries began presenting legal views on the Articles which will be negotiated in the UN. When this process is over, the Framework Convention will be voted upon and adopted. However even when the Framework Convention does come into force, it will not have a direct bearing on possible disputes between countries using a common transboundary watercourse. The Framework Convention will simply be regarded as embodying the latest legal norms and guidelines on the issues involved.

Some of the Framework Convention's principles have already been widely adopted.

- Article 5 says that transboundary rivers should be used 'in an equitable, reasonable, and optimum manner'.
- Article 6 makes it clear that 'equity' does not mean equal distribution. It rather depends on a wide range of factors which have to be taken into consideration.
- Article 7 says that individual watercourse states must exercise due diligence to make sure that they do not give significant harm to others.

- Articles 8 and 9 call for cooperation and the regular exchange of information between riparian states.

TURKEY'S APPROACH

A THREE STAGED PLAN

The problems of the Euphrates and Tigris basin are not going to go away. Turkey, Syria, and Iraq will always be neighbors and the two great rivers will always flow through them. Convincing formulas, which satisfy not only just all three parties today, but also future generations, will have to be found. Turkey is eager to find ways of reaching a basis for cooperation which will strengthen regional peace and the well-being of the peoples of all three countries. The key step is to identify the real needs that each riparian country has for water and then find ways of meeting them from the resources available.

As a step towards an agreement, Turkey designed a three staged plan for the equitable use of the transboundary watercourses of the Euphrates-Tigris basin. The plan was submitted to the Joint Technical Committee of Turkey, Syria, and Iraq in 1984. So far the Syrians and Iraqis have not responded.

TWO RIVERS - ONE RIVER SYSTEM

Turkey's plan rests on two basic principles.

1. The Euphrates and the Tigris make up a single transboundary river system.
2. The three countries need to work together on preparing and assessing a common inventory of water and land resources in the basin. The reason for this is that the methods of collecting and interpreting data vary considerably and a unified method will have to be applied when working on a transboundary watercourse.

The transboundary character of the Orontes, the Euphrates, and the Tigris has been recognized by the riparian states for three quarters of a century. Recognition is contained in a series of bilateral and multilateral agreements: the 1921 Ankara Agreement; the 1923 Treaty of Lausanne; the 1939 Ankara Agreement; and the 1946 Ankara Agreement. Since 1980, the Agreed Minutes of the Joint Committee for Economic and Technical Cooperation have accepted that the Tigris and Euphrates are 'regional waters.'

The Euphrates and the Tigris are also a single transboundary river system for several reasons.

- After joining at the Shatt al-Arab, they empty into the Gulf as a single river.
- In Iraq they have also been artificially joined via the Tharthar Canal. This means that some Iraqi land irrigated from the Euphrates can also be irrigated with water from the Tigris.

HOW THE WORK SHOULD PROCEED

Turkey proposes that the work of the plan proceeds in three stages.

Stage One - Compiling an Inventory of Water Resources.

An inventory would be made covering the whole range of available data on the rivers and their water, including evaporation, temperature, and rainfall levels. All measurements would be carefully checked.

Stage Two - Compiling an Inventory of Land Resources

Information would then be pooled on land classification and drainage. Appropriate crops and drainage conditions would be identified and corresponding irrigation and flowing water requirements would be established on the basis of them.

Stage Three - Analysis of Water and Land Resources

At this point, potential methods of irrigation would be established in the light of an analysis of water and land resources. Care would be taken to ensure that the systems of irrigation selected minimized water losses. Ways to modernize or upgrade existing irrigation projects would also be considered.

All three countries could thus be sure that an equitable and optimal arrangement had been devised for the use of the river waters, based on firm measures and their clearly identified needs.

ALL THREE COUNTRIES WOULD BENEFIT

A FAIR DEAL IS POSSIBLE FOR EVERYBODY

The Turkish Three Staged Plan has several advantages over a 'free for all' approach based on rivalries and claims by individual countries.

- The plan is designed to conform to the principles designed for transboundary waterways by the ILC and embodied in the Framework Convention.
- Each country would know it was getting a fair deal. It would give each of the countries a solution based on its requirements as established by impartial scientific methods.

If the plan produced a breakthrough in relations between Turkey and its southern neighbors on issues concerning the Tigris and the Euphrates, the benefits would be far-reaching. All three countries would find it much easier to cooperate on other issues. A significant regional tension might disappear from the political map of the Middle East.

Please feel free to direct any comments either on the issue or on the text to drtw@mfa.gov.tr via E-Mail