International Water Conflict and Cooperation: The Role of Power Relations among Riparians[*]

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Abstract

This paper analzyes a special kind of an environmental conflict – water disputes over international fresh water resources. In order to present a thorough explanation of this phenomenon, the paper discusses the Turkish-Syrian water conflict through following variables: (1) type of conflict (strategic versus symbolic); (2) structural variables that include both (a) regional power distribution between disputants and regional countries, and, (b) issue-power distribution; and (3) linkage variables that include a number of tactics to tie a simple water dispute to other issue/issues. It was found that Turkey, although it has maintained the power dominance in the Euphrates-Tigris Basin, tends toward a voluntary form of cooperation. The cooperative behavior of Turkey and Syria in water resource policy has been attributed to the Syrian and Turkish successful use of credible linkages, and to the mostly strategic character of the conflict rather than to Turkey's hegemonic status.

Keywords: Water conflict, The Euphrates-Tigris river basin, cooperation, structural variables, linkages

1. Introduction

The political significance of cooperation over international fresh water resources, rivers in this study, stems from water's unique importance and three other characteristics of water. These are scarcity, maldistribution, and sharing (see Frey, 1993). Many scholars have focused on the increasing scarcity of fresh water resources, and, consequently, have identified its scarcity as a major obstacle to cooperation. Recently, Gleditsch et al. (2006) distinguished among three categories of river relations (upstream/downstream, border demarking, and mixed) and demonstrated that a shared basin is positively and significantly related to conflict, while a river boundary is not. Downstream countries have countervailing strategies at their disposal and may contest upstream hegemony (Zeitoun and Warner, 2006; Warner, 2008).

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Hensel et al. (2006), on the other hand, found that militarized disputes will be more likely in water scarce regions, especially if the claimants place a high degree of value on the river. These authors, among the militarized disputes, included two disputes between Syria and Turkey over the Euphrates as well as two disputes between Syria and Israel over Jordan River diversion projects. Obviously, the Euphrates-Tigris basin has been described in some studies in the 1990s as a key battleground for potential water wars.

Despite the compelling nature of the 'water war thesis', it provides too narrow an approach in which to interpret international relations that involve water issues (Postel and Wolf, 2001). Furlong, for instance, calls for a more grounded and holistic analysis of the politics of shared watercourses (2006). The strategic reality of water is that 'under circumstances of scarcity, it becomes a *highly symbolic* [emphasis added], contagious, aggregated, intense, salient, complicated, zero-sum, power- and prestige-packed issue, highly prone to conflict and extremely difficult to resolve' (Naff, 1992, 438).

Some scholars (Barnett, 2000, 2001; Lonergan, 1997; Urdal, 2005; Warner, 2008; Harris and Alatout, 2010) have criticized the hydraulic imperative hypothesis due to its exclusive focus on the Middle East. Although the region is very vulnerable to water shortages, the same problems, if not worse, appear in other parts of the world, including Europe. The research conducted so far has shown that, although environmental issues do cause international and domestic conflicts, they are of the kind that are generally settled by negotiation and compromise and do not lead to taking up arms (see Goldsotone, 2002). Admittedly, the insecurity of states does not stem, solely or even primarily, from environmental factors (Urdal, 2005).

In this study, cooperation over international rivers is analyzed by using a three-fold set of independent variables: (1) *type of conflict* (strategic versus symbolic); (2) *structural variables* that include both (a) *regional power distribution* between disputants and regional countries such as differences in military capabilities, economic performance, and relative geopolitical position), and, (b) *issue-power distribution* (such as hydro-geographical position, distribution of water resources, acceptance of international norms, rules, and institutions and so forth); and, (3) *linkage variables* that include the tactics of tying a simple water dispute to other issue/issues. Finally, the *involvement of various international organizations* is considered as an intervening variable.

The essential question is whether water is seen primarily as a just commodity or primarily as a public good, which implies also its sharing. The depth of this gap may vary from case to case. In symbolic conflicts, instead of tangible interests, non-material factors dominate; most frequently those expressed through images, perceptions, or frames (Rotham, 2001). Under this condition, direct cooperation is less likely to occur (Rouyer, 1997). This dichotomy of perceptions makes water negotiations very difficult (Salman and Uprety, 1999, 300). In order to assess the character of a particular conflict, it is useful to rely primary on the content analysis of pertinent literature sources and governmental statements.

Structural variables describe the distribution of power capabilities among units within a system. These permeate most aspects of transnational environmental water conflicts and may determine a particular form of cooperation (*voluntary*, *induced* or *imposed cooperation*) as well as transition from one form to the other (Vuković, 2008). Thus, under the condition of complex interdependence, weaker parties can achieve the condition of *voluntary cooperation*, by relying on international existing regimes and various linkage tactics (Keohane and Nye, 1989).
Finally, environmental water conflicts have a common theme: *linkage* – a process aspect of a system. This aspect of international politics is addressed in terms of its effectiveness in regard to international environmental cooperation. This effect may be both detrimental (Mueller, 1979; Schwarzer, 1998) and beneficial (Tollison and Willett, 1979; Sebenius, 1983; Lohman, 1997), depending on the credibility of used linkages. In this study, the following linkages are analyzed: (1) the *linkage of issue dimensions* (various water contested issues); (2) the *linkage across issue areas* (security, economy, and environment); (3) the *domestic-international* (*bilateral*) *politics linkage*; and, (4) the *actor linkage* (variety of both state and non-state players acting domestically or internationally).

This paper analyzes the long-lasting water conflict in the Euphrates River Basin. The conflict analysis shows that the water disputes among Turkey and Syria involve dynamics that include a complex network of interactions between domestic and international policy concerns.

2. The Case of the Euphrates Basin

The Euphrates river basin encompasses three countries (over 100 million people) in the Middle East ─ Turkey, Syria, and Iraq. Studies of this vast watershed, made over almost a century, have produced differing and even conflicting data about the dimensions of the Euphrates and its tributaries.

What are the particular geographical and political aspects of the Euphrates river basin which might give rise to conflict over its waters? First, there is a great contrast between the riparian country which contributes almost all the water to the Euphrates but uses significantly less (Turkey) and those who contribute nothing to the Euphrates but use a great portion of its water (Iraq). Second, sharing the water of the Euphrates has become urgent due to rapid population growth, and, consequently, the needs of the farming economies of the riparian countries, have turned the Euphrates waters into a greatly demanded but scarce, resource. Third, Iraq has possessed historical rights to the Euphrates waters for 6000 years as heir to the ancient civilization of Mesopotamia (Kliot, 1994). Fourth, the relations among the Euphrates basin countries have gone through periods of crisis and tension in the past, a fact which creates difficulties in the negotiation process among them. Fifth, Turkey has the potential to become a multi-regional power. Turkey, for instance, acted unilaterally by building a gigantic water-project on the Euphrates river without the prior consent of the other riparians. Sixth, international law in this area is too ambiguous to be an effective tool in resolving water-related disputes.

The facts speak themselves. Each time when Turkey subsequently completed a major dam (for instance, the Karakaya or the Ataturk dam), a hegemonistic discourse gained prominence in the Middle East. A similar scenario began to happen after 2005, when Turkey decided to continue the construction of the Ilisu Dam on the Tigris river.

2.1. The "GAP" Hydro-Project

Resolution of disputes over the Euphrates waters has emerged over the past decades as the important issue for peace and stability in the basin. Starting in the 1950s, water sharing has gradually become a major concern of the basin, particularly of the downstream states. The 'Southeast Anatolia Development Project' in Turkey, or simply GAP (*Guneydogy Anadoly Projesi*), which combines a number of giant irrigation and energy projects with a total of 22 dams, has exacerbated these concerns both for Syria and Iraq. The GAP project includes the construction of 19 hydropower plants and three dams for the irrigation of 1.8 million hectares of farmland.

In 1981, Turkey utilized only 11.5 percent of its potential production (Kolars and Mitchell, 1992). After the construction of the Karakaya Dam (1987) and the Ataturk Dam (1992), Turkey significantly increased its electric power production and met its growing needs for electricity (Kolars, 1986). In 1999, 74.3 percent of the total investment in the energy sector within GAP had been completed (and only 12.2 percent of its agricultural component).

However, the transformation of GAP from a largely hydroelectric project to an integrated, regional (within Turkey) development program, that began in the mid-1980s, has further increased the anxiety of both Syria (laying midstream) and Iraq (laying downstream). The increasing consumptive use of water by Turkey magnified concerns for not only the quantity but also the quality of water flowing into Syria and Iraq.

Hence, it seemed that conflict over the Euphrates waters would be almost inevitable. The reason is that 'integrated river basin development seldom takes place in international basins because the riparians compete with each other and adopt methods of consumptive water utilization which curtail other riparian rights to the river's waters' (Kliot, 1994). In addition, the claims and counterclaims of Turkey, Syria, and Iraq are in many ways mutually incompatible, complicated by ethnic conflicts and historic memories.

Yet, the GAP project in southeast Turkey has not only economic, but also political importance (Carkogly and Eder, 2001a). The project contributes to the most important political goal – sustained and stable growth of democracy which requires both culture and affluence (Sunar, 1996, 141). Thus, during the Ozal reign (1983-1993), or Ozalism, the immediate issue was economic (Sunar, 1996). Ozal's project of economic reconstruction of Turkey incorporated the economic aspect of the Kurdish problem (Abramowitz, 1993).

Undoubtedly, the GAP project, located in the Kurdish populated area, should ease the tensions between Turkey's Government and Kurds. The consequences of the project have been significant ─ perhaps less than a complete solution to the region's problems but certainly more than accommodation of Kurdish demands.

2.1.1. The GAP Project and Interests of Syria and Iraq

Along with the Nile, the Euphrates-Tigris system is the only river system that offers economically exploitable water supplies in the Middle East. The so-called 'twin' rivers – The Tigris and Euphrates rivers – represent over one quarter of Turkey's freshwater resources (28%), and, a similar percentage of Turkey's hydropotential (Bilen, 2000). Also, vast amounts of water go to the irrigation systems.

Despite these facts, the amount of water per capita in all countries of the Euphrates Basin (Turkey 2110 m^3/yr; Syria 1450 m^3/yr; and Iraq 2110 m^3/yr) is around or higher than the limit of scarcity ─ 1000 m^3/yr. Many countries in their neighborhoods are below the limit of scarcity: for instance, Jordan and Israel with only 250 and 300 m^3/yr, respectively. Yet, Syria has harshly criticized the Turkish GAP project.

The 'Ataturk Dam', completed in 1991, was seen as a clear example of so-called 'water imperialism', where Turkey's water consumption patterns will pose significant threats to future agricultural plans of both Syria and Iraq. Both countries have large desert and semi-desert areas composing about one half the land of Syria and two thirds of Iraq (Lowi, 1999, 382). In addition, Syria needs the Euphrates river for much desired hydro power, and, presumably, Syria's ability to generate hydropower will be curtailed by the depleted water levels (Lowi, 1999, 383).

Turkish officials, however, have claimed categorically that Syria and Iraq would always have enough water to meet their needs and that both downstream countries will benefit due to constant discharge over time. Namely, given the high seasonal oscillations of the Euphrates flow, water storage is the crucial task in the basin (Guner, 1997). Yet, at the inauguration of the Ataturk Dam on the Euphrates in July 1992, Turkish Prime Minister Suleyman Demirel sparked the anxieties of Turkey's neighbors. He asserted that Turkey had the right to do whatever it wants with its waters (Kemp and Harkavy, 1997). Despite Iraqi and Syrian protests, the Turkish government reduced the flow of the Euphrates for thirty days in January 1990 in order to fill the reservoir behind the Ataturk Dam.

In addition to the foregoing, there is a great deal of controversy about the way the 'irrigable land' figures are calculated and whether or not there has been strategic manipulation of these data. The land class dictates the water consumption. As Carkogly and Eder point out, the amount and degree of irrigable land has been a particularly thorny issue among the disputing parties (2001). The land classification systems of both Iraq and Syria differ widely from that used by Turkey, which makes reaching a consensus especially difficult. While all of the Turkish lands to be irrigated by the Euphrates River are of the first, second, and third categories, the similar categories of lands in Syria, represent only forty-eight percent of the agricultural lands which are to be irrigated with the Euphrates waters. Therefore, it will not only be uneconomical, but it will also be inequitable, to utilize scarce water resources to irrigate infertile lands at the expense of fertile lands. Estimates of Syria's arable land differ, for instance, between 0.4 to 0.7 million hectares depending on calculations, but Syria has declared that it wants to use an annual average 11.3 billion cubic meters (Bm^3/yr) from the Euphrates. The Euphrates has a total water potential of 35.58 Bm^3/yr, well below the water needed for irrigation of this less fertile land.

When this matter was brought to the attention of Syria and Iraq, they proposed that the water deficiency should be resolved by each country reducing its demand for water. Turkey finds it difficult to agree with this approach and points out that the quantity of the water needed for irrigation should be determined by applying identical criteria to all of the three countries. However, Syria and Iraq state that each country must be free to choose the criteria it will use to determine its own water needs and these statements 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 its public such an arbitrary way of determining water needs.

Part of the problem, as the situation is seen in Ankara, is that Syrian irrigation methods date back 4000 years to Summerian times. In a bad year, this can cause as much as fifty percent evaporation (Venter, 1998). Currently, such practices are unacceptable because it leads to a high level of salinity in the ground and an increase in the level of soluble gypsum deposits, both of which impede farming.

It is notable that both Iraq and Syria have always been ahead of Turkey in the development of irrigated agriculture: by the mid-sixties, Iraq was irrigating more than *five times* as much land as Syria and nearly *ten times* as much as Turkey. What has become clear from the dispute is that the differences between Turkey and the two Arab states are essentially about regional power and not water.

It is about who controls the flow and, at the core of it, the economy of an entire region (Venter, 1998, 131).
Apparently, the high level of mistrust among the region's countries and the risk of a politically motivated embargo all explain the insistence of these riparian countries on food self-sufficiency. In this particular environmental conflict, Syria and Iraq can respond essentially in two different ways: (1) to eliminate and reduce an environmental threat, acting unilaterally or cooperatively, and, (2) to reduce its vulnerability, acting unilaterally or cooperatively (see Soroos, 1994). Thus, insecurity is considered here as a combination of a threat and a vulnerability (see Buzan, 1983).

Although there are a number of ways to define vulnerability (Cutter, 1996) and sensitivity, the theory of interdependence (Keohane and Nye, 1977) could be analytically very useful for this analysis of Syrian and Iraqi responses to the Turkish allocation of the Euphrates. Reducing vulnerability based on the agricultural dependence on abundant water supplies in the Euphrates triangle is, however, a difficult task.

The slow pace of 're-configuration' of agriculture, as Biswas and co-workers call it, is influenced by several factors (1997). First of all, the principle of acquired rights in the use of international water resources provides incentives neither to conserve water nor to use it more efficiently. Second, the agrarian sectors of Middle Eastern societies have all nurtured vested interest over time. There are also political costs of re-configuration. For instance, Syria's Ba'ath Party regime is often described as relying on a peasant base. Occasional dry cycles make the livelihood of the peasantry very difficult. Thus, during the three-year drought cycle between 1996 and 1999, a 'majority of the arable lands suffered desertification, and as a result livestock was affected due to the lack of natural pastures' (Arabic News, 6 December 1999). Finally, contrary to the Iraqi richness in oil, Syria is poor in other natural resources that could be used to decrease its vulnerability in terms of food-security. However, as we have seen, food security and water demands go well beyond the capacity of the Euphrates.

2.2. Countries' Positions on the Euphrates Basin

Turkey, Syria, and Iraq have not even been able to agree on defining the river system. While Turkey sees the Euphrates-Tigris system as a 'transboundary water system', Syria and Iraq call it 'international water'. While Turkey claims sovereign rights over the Euphrates and Tigris on the basis of being the upstream country, Syria and Iraq argue that all riparian states should have equal rights over international waters. Turkey says that since most of the waters are generated within its territory, it has priority on use (Carkoglu and Eder, 2001b).
Turkey's position is also that the two rivers should be seen as a single water system since they join before reaching the Persian Gulf. The Euphrates-Tigris system, then, includes for countries: Turkey (28 per cent), Syria (17 per cent), Iraq (40 per cent) and Iran (28 per cent). Turkey contributes most of the this basin's flow – almost 88 per cent (Hakki 2006). Obviously, Turkey has a clear political interest to threat the Tigris and the Euphrates as an integrated watershed.

As some of the legal bases for making claims to transboundary waters rely on a notion of 'contributions' to the waters from a particular territory, to consider the rivers conjointly ensures that Turkey figures as the majority contributor, providing an estimated 52.9% to both rivers. If the rivers were considered separately, Turkey would figure as contributing an overwhelming majority on the Euphrates (90%), but only approximately 40% to the Tigris. Under this principle, Iraq would have effective claim to Tigris waters, contributing 60% (Harris, 2005, 2007). Given that the Tigris represents about 150% of the flow of the Euphrates, Turkey has a clear interest in being able to assert majority contributions to the conjoint system (Harris and Alatout, 2010, 151).

Syria and Iraq, however, object to this interpretation, arguing instead that each river basin should be discussed separately and that the rights of the downstream countries cannot be limited by the sovereignty claims of the upstream countries. Iraq has insisted on 'acquired rights' based on 'ancestral irrigation' for millennia. Ironically, although Syria also raised this idea, it opposed a similar argument made by Iraq in claiming some of Syria's water.

Syria has a double standard when the water resources are at stake (Venter, 1998). The Orontes river (*Asi* in Turkish), for instance, is a smaller river with Syrian headwater (325 kilometers of flow in Syria), which eventually makes its way into Turkey. In many ways, the river is tied to the dispute over the Euphrates river. While not a big water way (1.2 Bm^3/yr), the Orontes has always been an important source of water for a fairly large region, in this case, Turkey's disputed Hatay Province. However, this is no longer the case because: Syria drains off so much of the Orontes that only 10 percent of the flow is left by the time it crosses into Turkey. Soon, with the two new dams being built in Syria, that flow will be 2 percent.

Moreover, of the total 210-mile length of the river, only the first 20 miles is Syrian (compared to Lebanon's 70 miles and Turkey's 120) (Venter, 1998, 131). Venter rightly notes that in the Levant double standards tend to prevail. Namely, the basis of the argument put forward by Syria is that since the nations (Syria, Turkey, and Iraq) enjoy about an equal share of the length of the Euphrates, each should be entitled to a third of the water. It should be noted, however, that the Syrian side regards Turkey's disputed Hatay Province (the Sandjak of Alexandretta) as a part of its national territory joined to Turkey in 1939. The mixture of these issues ─ *water* and *territoriality* ─ creates additional conditions for conflict in Turkish-Syrian relations.

Ventor's notion of double standard applies to Turkey as well. After the Treaty of Lausanne, Turkey and Greece signed several protocols regarding the control and management of the *Meric/Evros/Maritza* river which forms the boundary between Turkish and Greek Thrace. After 1951, the two governments with the assistance of the 'Harza Engineering' firm of Chicago, developed a very comprehensive water management plan, including the irrigation of 16,900 ha in Turkey and 11,600 ha in Greece (Kolars, 1994). This plan did not pay attention to the needs of Bulgaria as an upstream-country. Nevertheless, in the summer of 1993, Ankara strongly protested reduced water supplies due to various hydroelectric power plants in Bulgaria.

The unresolved dispute over the Euphrates river reveals that the international law is not binding for all riparian countries and, consequently, it cannot eliminate potential disputes. In 1997, United Nations *Convention on International Watercourses* established for the first time a set of codified principles to guide riparian states in the allocation of international water resources (Rouyer, 2000). Out of 133 countries that voted on the final resolution, 103 voted in favor, 3 voted against, and 27 abstained. Not surprisingly, those that abstained or voted against (Turkey, Burundi and China), were among the most important countries involved in water disputes, which implies that reaching a comprehensive international agreement on transboundary waters will prove very difficult (Carkogly and Eder, 2001b). In addition, many international agreements regulating the use of water resources are ambiguous. This ambiguity, rather than being a random error in decision-making, is occasionally intentional, employed either by using vagueness that ignores an issue or words that can mean difficult things (see Fischhendler, 2008).

For instance, the United Nations *Convention on International Watercourses* suggested four basic propositions that regulate the use of international water resources: (1) the obligation not to cause significant harm; (2) the duty of reasonable and equitable use; (3) the duty to cooperate; and, (4) the obligation of prior notification and negotiation. Presumably, Turkey's rejection, in May 1997, of the General Assembly resolution, for example, was mainly because the document requires prior approval for water projects by the riparian states. This provision potentially subjects Turkish development projects to a Syrian and Iraqi veto. In addition, Article VII of the Convention, claims the state will 'take all appropriate measures to prevent the causing of significant harm to other watercourse state'. Regarding the Euphrates river, the question is whether the return water (polluted to a certain extent) from irrigation in Turkey will harm irrigational use in Syria and Iraq.

On the other hand, Turkey has paid attention to the international water rules concerning the rights of upstream countries, particularly those on equitable use of water. A careful reading of international law reveals that acquired and historical rights cannot deprive an upstream country from its equitable part.

The historical and acquired rights, claimed by Syria and, especially, Iraq, are inadequate in the sense that prior uses of water by downstream countries represents only one of many factors to be taken into account in reaching an equitable utilization of a transboundary river. Accordingly, this argument is essential for Turkish conduct of the dispute. The Turkish Deputy Premier, for instance, was quoted saying: 'We are ready to deal fairly and generously, but the division of waters will not be *equal* [emphasis added] as the Euphrates like any other Turkish river should be basically used for serving the interests of the Turkish people' (Arabic News, 13 February 2001).
In line with these propositions, Turkey proposed, in 1984, a three-staged plan for optimal, equitable and reasonable utilization of the transboundary watercourses of the Euphrates-Tigris basin (Turkish Ministry of Foreign Affairs, 1995). The plan proposes that the three countries conduct and complete: (1) inventory studies for water resources; (2) inventory studies for land resources; and, (3) evaluation of water and land resources. Therefore, the emphasis is on the objectivity of data gathered in the Euphrates-Tigris Basin, calling for scientific studies.Nevertheless, the success of the Euphrates water-negotiations is far off. Certainly, the main obstacle to achieving a long-lasting agreement over sharing the Euphrates waters is the riparians' insistence on the concept of sovereignty ─ particularly that of Turkey.

3. Political Aspects of the Euphrates River Dispute

A number of facts exist to confirm the thesis that water conflict in the Euphrates Basin is a part of long-term political game between the three co-riparians, particularly between Turkey and Syria. In fact, the water issue is inextricably related to the relations between these states and highly dependent on the actual balance of power. Depending on the political tensions between these countries, the Euphrates waters played a role, as an underlying cause of tensions (see Lowi, 1993). Undoubtedly, the Euphrates has a great power for working either good or evil (Cooley, 1992). This is especially true for Syria because as much as eighty-six percent of its water comes from the Euphrates (Lowi, 2000). Carkogly and Eder assume that Syria used the Kurdish problem in southeastern Anatolia as a major bargaining tool over water, especially since it lacked other types of bargaining power. As early as 1983, Turkey had publicly complained about Syria's support of anti-Turkish groups (2001b). Some scholars believe that the Protocol from 1987 between Turkey and Syria, that allowed to Syrians 500 m^3/s, had an objective to ensure Turkish-Syrian border security. Indeed, the subsequent Protocol in 1987 between the two countries led to the displacement of Kurdish rebel camps away from the Turkish Border and the transfer of PKK headquarters from Syria to the Bekaa Valley in Lebanon (Washington Post, 15 May 1992).

This type of bargaining occurs when the asymmetry of the benefits of cooperation in a river basin development creates an often unbridgeable obstacle to achieving a long-lasting agreement. When water is the only topic of negotiations, gains and losses become apparent in a very real sense (see Biswas et al., 1997). This asymmetry may exist across time, as well as in the relative degrees of dependence on the resource. Thus, during the process of voluntary cooperation, some riparians might be more interested in a quicker solution, while others can choose to wait. When such a scenario exists, a possible response of involved parties could be, what Biswas and co-workers call it, a 'multi-good bargaining' (1997). Some examples are: Iraqi oil for Turkish water, Syrian control of Kurdish insurgents raids into Turkey in partial exchange for Euphrates water, and so forth.

But Turkey's willingness to cooperate did not solve the problem. In 1992, Turkish officials acknowledged that the Iraqi and Syrian regimes were still supporting the PKK as a form of retribution for Turkey's policy regarding the Euphrates (Beschorner, 1992). Moreover, after the end of the Gulf War, the Kurdish problem became more serious to Turkey. The formation of a Kurdish autonomous zone in northern Iraq was followed by the flight of 1.5 million Kurdish refuges from Iraq's army in 1991. This allowed the PKK to launch actions against Turkey from safe havens due to a power vacuum in northern Iraq.

Finally, the October Turkish-Syrian crisis (a military coercion without the direct application of force, or an undeclared war) ended on October 20, 1998, when the two states signed an agreement in Adana. The Syrian government, the primary Kurdish sponsor, agreed to cease all support for the PKK, which had been used since the 1980s as a political card in relations with Turkey. By the terms of the agreement, Syria, for the first time, acknowledged that the PKK was a terrorist organization (Mahmut, 1999). This Syrian-Turkish agreement came partly as a result of the Turkish-Israeli alliance.

Yet, Turkey does not hide its privileged status in terms of water resources. By controlling the water resources of its Arab neighbors, Turkey feels strong enough to impose its point of view. Thus, despite the fact that Turkey has well developed relations with Israel, Ankara is not ready to deprive itself of water resources in order to include the Syrian position in a comprehensive peace solution.

Syria, interestingly, has the same concerns with both neighbors – Turkey and Israel: (1) territorial demands (the Hatay province in Turkey and the Golan Heights lost to Israel in the 1967 War); (2) support of terrorist organizations fighting Turkey (PPK) and Israel ('Democratic Front for the Liberation of Palestine' and the 'Popular Front for the Liberation of Palestine'); and, (3) water demands (more water from the Euphrates and control of the Jordan River's sources and access to the Lake of Galilee.

However, when the October 1998 crisis was over, Turkish authorities expressed a goodwill course of action. Thus, for instance, the flow of the Euphrates to Syria was significantly increased in 1999 ─ around 700 m^3/s; well above the 500 m^3/s regulated by the 1987 agreement. Obviously, the privileged, upstream position of Turkey defines its carefully designed foreign policy, especially in the Middle East, where Turkey does not want to see an Arab state achieving hegemony. Water is, therefore, inextricably tied to the Turkish Middle East policy (Kirisci, 2001).

On the other hand, the developments after October 1998 have shown a modified course for Syrian foreign policy. Expected finalization of peace talks between the Arab countries, the Palestinians, and Israel may have a role to play in the inter-regional sharing of water resources. Since any pipeline carrying water would have to pass through Syrian territory, Syria will want to extract as much diplomatic, political, and economic leverage as possible from such potentiality (see Olson, 1996). Such a role demands from Syria a strong commitment to give up supporting the PKK and to build stronger relations with its immediate neighbors. Since the GAP project is running on schedule, Syrians may have no time to waste.

A complete explanation of the Syrian-Turkish water dispute requires both: (1) the consideration of the strategic interaction among the players, and, (2) analysis of the context of interaction. The former refers to mutuality of interests or payoff structure, the shadow of the future, and the number of actors (see Oye, 1985). Although these three factors jointly determine the likelihood of cooperation, the 'shadow of the future' seems to be important for an explanation and prediction of cooperation in the Euphrates river basin.

Axelrod and Keohane describe the shadow of the future in this way: 'The future helps to promote cooperation. The more future payoffs are valued relative to current payoffs, the less the incentive to defect today ─ if the other side is likely to retaliate tomorrow' (1984, 234). This claim can be a plausible explanation for Syrian regional foreign policy after 1998. There are four conditions associated with the shadow of the future. Several of these conditions are met in the Euphrates triangle: (1) long time horizons, (2) regularity of stakes, (3) reliability of information about the other's action, and, (4) quick feedback about changes in the other's actions.

As in economic relations, in environmental relations of interdependency, the most important condition is a combination of the first two factors: long time horizons and regularity of stakes. Actors have to expect that their relations will continue over an indefinite period of time; that is the games they play with each other will be repeated (iterated). Generally, neither side in an environmental interaction can neglect the other, or change the nature of the game decisively in a single move.

The Syrian-Turkish water dispute is neither isolated nor all consuming. Thus, the context within which this issue takes place has a significant impact on its politics and its outcomes. As this case illustrates, regional politics includes a rich variety of contexts. And issues, such as the Euphrates water allocation, terrorism, and lost territories are linked and considered simultaneously by the same actors; and, the issues are viewed by participants through the lenses of their expectations about the future.

Axelrod and Keohane, from whose ideas the explanation of this case is derived, contend that ignorance of these phenomena would overlook many of the most interesting questions raised by a game-theoretical perspective on the problem of cooperation (1984). Their list of contextual phenomena includes linkages among issues, multilevel games, complications encountered by strategies of reciprocity in complex situations, and the role of international organizations. In respect to the case analyzed here, the multilevel games concept, as a way of looking at context, may be particularly revealing. This concept distinguishes between three different games that affect one another, so that their outcomes become mutually contingent: (1) issue-linkage, (2) international relations and domestic politics, and, (3) compatibilities and incompatibilities among games.

The relations between Turkey and Syria are an excellent example for all three situations of multilevel games. First, there is a set of different issue-areas such as territorial gains, terrorism, and water dispute which are mutually linked. And, as the evidence suggests, the games played on these three different issue-areas affected one another. Thus, connections between games become important when issue-areas are linked. In other words, 'issue-linkage in this sense involves attempts to gain additional bargaining leverage' (Axelrod and Keohane, 1984, 239). However, there is a high level incompatibility between the principles of equitable use, on one hand, and acquired and historical rights over the Euphrates, on the other side. The compatibility of the water issue and terrorism is also questionable. A special problem is how these issue-linkages relate to domestic politics goals (Carakogly and Eder, 2001a). A well-known phenomenon of 'domestic politics versus international relations', as a possible obstacle for more successful cooperation, is particularly detectable in this water conflict (see Putnam, 1988). Accordingly, the full potential for cooperation between coriparians has not been achieved. In fact, the multiplicity of issue-linkages is neither a necessary nor sufficient condition to enhance cooperation.

Finally, it would be erroneous to state that water concerns played the only role in causing Syria's new foreign policy. Structural variables, or relative balance between neighbors in terms of their power capabilities also matter.

In short: Turkey has become stronger; Syria has become weaker. Both propositions can be easily tested in both the military (Malik, 2002) and economic arenas (Makovski, 1999a).

4. Concluding Remarks

The environmental concerns of the Euphrates Basin countries tend to be important political concerns at both the domestic and international level. The present agreements over water allocation of the Euphrates, together with the enormous drive for development, could lead the riparians of this basin to a certain degree of conflict. The combined demands of Turkey, Syria, and Iraq for Euphrates waters amounts to 52.92 Bm^3/yr ─ a quantity which is definitely not available in the Euphrates.

Although this case may appear to engage only distributional issues, it also reveals important environmental aspects. In fact, distributional and environmental water issues are inextricably tied to each other. In the case of the Euphrates basin, for instance, the damming of the Euphrates river upstream in Turkey not only reduces the flow to downstream users, Syria and Iraq, but also degrades the quality of the agricultural land in Syria if the water flow falls below a certain minimum to maintain that required to flush out salinity. The dispute over the Euphrates river is, however, part of a larger conflict, involving territorial claims and state-sponsored terrorism. The allocation and pollution of the Euphrates river, in conjunction with other factors, may create the conditions leading to conflict, even including violence. Yet, their prominence as conflict-provoking factors, as we saw in this case, varies in time, place, and intensity. At the end point, it depends on the character of alliances created in the region. The separation of the water issue from the wider security concerns, such as the Kurdish issue and a focus on regional under-development and optimal utilization of water resources, could be an instrument in building regional cooperation in the Middle East. Unfortunately, the prevailing wisdom suggests that the solution of an international environmental problem rarely comes before resolving wider political conflicts.

The Euphrates water dispute demonstrates that the logic of this argument does not have to be absolute. Although Turkey and Syria did not overcome their crucial differences, Turkey, in regard to the issue of allocation of the Euphrates waters, agreed to provide more water to Syria. Before this rapprochement, the imposed (by Turkey) form of cooperation in the region was dominant during the 1980s and early 1990s. Although Turkey has maintained power dominance in the Euphrates region (even increasing its power capabilities), this country tends toward a voluntary form of cooperation. The more voluntary cooperative behavior of Turkey and Syria in the water resource policy can be attributed to the Syrian and Turkish successful use of credible linkages and to the mostly strategic character of the conflict, rather than to Turkey's hegemonic status. Proof of this is that Turkey ─ although a hegemon ─ could not impose its 'Three Stage Plan for Management of the Euphrates-Tigris River Basin' (based on a rigorous technical approach). Furthermore, in 2005 Turkey invited European companies to join the building consortium for the Ilisu dam project on the Tigris river. The former Turkish attempts were unsuccessful due to international pressure from NGOs. Thus, this project was no longer a national affair; it became a transnational and international political and financial decision (Warner, 2008).

On the other hand, Syria, as a weaker party, effectively used credible linkages and, equally important, took advantage of recent structural changes in the region, including the Israeli-Turkish partnership, the Gulf War II, and the general 'war on terror'. Finally, from the standpoint of prospects for cooperation, Syrian's timely decision to stop making certain linkages – at least on a temporary basis – is equally important as the linkages in themselves.

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