

## HYDRO WARS THE STRUGGLE FOR WATER AND SURVIVAL IN THE EUPHRATES-TIGRIS RIVER BASIN

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In 1995, World Bank Vice President Ismail Serageldin famously prophesied the following: “If the wars of this century were fought over oil, the wars of the next century will be fought over water.” Since the middle of the twentieth century, disagreements between the Republic of Turkey, the Syrian Arab Republic, and the Republic of Iraq over the usage of the Euphrates and Tigris rivers have been frequent. This conflict over water will likely escalate by 2025, when Turkey—the nation in which the sources of both rivers are located—will suffer from water shortages of its own. This could lead to protests and low-level conflict among the citizens of the respective nations and even to a full-scale war between Turkey, Syria, and Iraq. Syria, whose relations with Turkey are considerably strained, may seek to mobilize the Kurds of Turkey against the Turkish Government, citing the destruction of the Kurdish territory as an appropriate cause for an uprising. The mobilization of the Kurds would give Syria a powerful hand in a potential conflict by turning a sizeable minority population against its own government. This future shortage of water—in conjunction with Turkey’s pro-Western and pro-Israeli ideals, seen as early as 1948, when Turkey was the first Arab nation to recognize the State of Israel—suggests that there is a high likelihood that a war among the three nations will occur.

Classical realism can be used to frame the looming Euphrates-Tigris conflict, specifically considering Thucydides’ belief that “the strong [Turkey] do what they have the power to do and the weak [Syria, Iraq] accept what they have to accept” (Doyle 83). Though states in the Middle East have always faced water shortages, the de-

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crease in water availability as the populations of Turkey, Syria and Iraq grow makes the probability of war among the three nations increasingly high. As such, Turkey must keep its riparian neighbors in mind when making policy decisions in order to avoid the militaristic balancing that could be exhibited by Syria and Iraq.

Turkey's Southeastern Anatolia Development Project (GAP) has amplified disagreements over water in an unstable region already facing water shortages. This paper argues that Turkey's enormous and costly plan to generate electricity, improve irrigation, and redevelop its southeastern region under the GAP has failed. I will examine this "hydropolitical security complex," as Michael Schulz describes it, by focusing on the effects of the GAP, Turkey-Syria relations, and Syria's support of the Kurdistan Workers' Party (PKK) since the 1980s (Schulz 91). Relations between Turkey and Iraq have also been affected by the GAP, but additionally by the recent Gulf War and U.S. involvement in the region, and a discussion of Turkey-Iraq relations is beyond the scope of this paper. The structure of this text is as follows: first, a discussion of the Euphrates and Tigris rivers themselves; second, the importance of water to the Middle East in general and to Turkey, Syria, and Iraq specifically; third, a look at the GAP and several of its dams; fourth, the effects of the GAP project; fifth, Turkey-Syria relations and the interplay between water and the PKK; and finally, the future of Turkey-Syria relations and the steps that must be taken in order to prevent a war over water.

## THE EUPHRATES-TIGRIS RIVER BASIN

### The Euphrates River

Turkey is the nation farthest upstream on both the Euphrates and Tigris rivers. It is well known for being water-rich, while its riparian neighbors, Syria and Iraq, are petroleum rich. The Euphrates River is the longest river in southwest Asia west of the Indus. Its source is in eastern Turkey, where it flows through the rest of Turkey, Syria, and Iraq until it combines with other bodies

of water to form the Shatt al-Arab waterway, an extremely crucial chokepoint that flows into the Persian Gulf. Control of the Shatt al-Arab has been the focal point of many conflicts in the Middle East, including the 1980–1988 Iran–Iraq War. Two tributaries, the Karasu and the Murat, form the Euphrates River. The Karasu is located north of Erzurum; the Murat is located on the slopes of Mount Ala, which is north of Lake Van in eastern Turkey. The two tributaries join northwest of Elazig to form the Euphrates and to cut through the Taurus Mountains, which divide the Mediterranean coast from the Anatolian plateau in southern Turkey. The river then cuts into Syria at Karkamis, which is downstream from Turkey’s Birecik. After flowing southeast across Syria, the Euphrates reaches its delta near Hit in Iraq. Near Nasiriya, the river turns into channels. While some drain into Lake Hammar; the rest join the Tigris River near Qurna to form the Shatt al-Arab, which combines with the Karun River and finally enters the Persian Gulf (Kolars and Mitchell 1-4).

## The Tigris River

The Tigris River is the second longest river in southwest Asia. It originates in eastern Turkey near Lake Hazar and flows southeast to Cizre. It then flows through Syria for 32 kilometers before flowing into Iraq. Between Tikrit and Samarra, the river enters its delta and forms “the eastern part of the complex Tigris-Euphrates system, which both waters and drains the lowlands of Mesopotamia,” according to Kolars and Mitchell (6). Numerous tributaries enter the Tigris during its flow through Iraq. It then joins with the Euphrates River near Qurna and continues as the Shatt al-Arab for 179 kilometers until it reaches the Persian Gulf (6).

## The History: Dams, Hydroelectric Power Generation, and Irrigation in Turkey

The usage of dams dates back to ancient times, as early as 3000 B.C.E. In Turkey, these systems were mainly urban water works,

unlike the irrigation and flood control systems that existed in Egypt and Mesopotamia (Kolars and Mitchell 8). However, Turkey's desire to utilize its water resources for the generation of power began in 1935, with the creation of the Electrical Resources Survey and Development Administration. This independent agency was created to survey water resources in Turkey to find those suitable for generation power and producing electricity (Turan 192). Shortly after World War II, Turkey began to align itself with the West and used the United States' funds and international agencies to stimulate economic development. The General Directorate of State Hydraulic Works (DSI) was established in 1953 with the mission of constructing dams for power generation and irrigation. İltur Turan notes that the DSI has played an immense role in the "development and utilization of Turkey's water resources from its very beginning" (Turan). Until 1950, Turkey possessed only three dams with standard irrigation or power generation capabilities. The numbers have risen drastically since then: six more dams in the 1950s, twenty-six from 1960–1969, thirty-one from 1970–1979, sixty-nine from 1980–1989, and thirty-seven from 1990–1997 (Turan).

Turkey's use of hydroelectric power generation was an initiative in response to the temporary military takeover of Turkey in 1960. The leaders of this takeover supported drastic industrialization coupled with economic planning. Though Turkey has, over the past century, adopted a very pro-Western foreign policy, it chose to "reduce dependence on the outside world," resulting in the decision to "emphasize the utilization of domestic sources for the generation of power" (Turan 193). This outlook is also one of the factors that influenced Turkey's original desire to fund the entire project by itself. The Keban Dam, completed in 1975, is one of the best examples of early hydroelectric power generation in Turkey. It nearly doubled the electricity produced in Turkey at the time (194).

Turan holds that five factors contributed to Turkey's implementation of irrigation projects. First, rapid population growth after World II led to an increased demand for food. Irrigation served to boost agricultural production. Second, loss of land, due to import substitution-oriented industrialization, led to "conversions in

land use where prime agricultural land was often taken over by industrial users" (195). Third, industrialization led to the need for more raw materials. Fourth, economic reforms from 1980-1983 made "irrigation more important in the minds of the bureaucrats traditionally involved in the making of water policy" (196). Fifth, population growth led to "socioeconomic and political pathologies, for which the expansion of irrigated farming was perceived as a cure" (Turan). The brief history of dams, hydroelectric power generation, and irrigation given above is an adequate starting point for the discussion of the Atatürk and Ilisu Dams, two of the most controversial dams in the Southeastern Anatolia Development Project because of their sheer size and impact upon neighboring communities.

## THE SOUTHEASTERN ANATOLIA DEVELOPMENT PROJECT

Turkey's Southeastern Anatolia Development Project (GAP) is one of the largest dam and development projects in the world. It is comprised of twenty-two dam projects combined with nineteen hydropower plants in the southeast region of the country. The Kurds who call this region home have been struggling with the Turkish Government for autonomy for years. Consequentially, it would be difficult for the Turkish Government to influence the regional reaction to its GAP project, regardless of its impact. Thus, the GAP has a human development facet that includes "economic and social quality-of-life improvements, such as transportation, non-farm employment opportunities, and improved education and health services" (Kolars and Mitchell 19). Turkey's intentions for the project, other than electricity production, were to stop periodic flooding, create electricity, irrigate dry cultivated areas, and reduce poverty and underdevelopment in Turkey (Schulz 99). The project was initiated in 1977 by the DSI at an estimated cost of \$32 billion. The projected date of completion was originally 2010, but is now 2047 due to financial issues (Sahan et al.). As of 2006, only fifty percent of the GAP project had been completed, and the Turkish government needed an additional \$16 billion to finish it

(Benmayor). The GAP region spans nine provinces in the southeast of Turkey: Adiyaman, Batman, Diyarbakir, Gaziantep, Kilis, Mardin, Siirt, Sanliurfa, and Sirnak. This land constitutes 9.7 percent of the total territory of Turkey (“General Information of GAP and Ataturk Dam”). Residents of the region represent about ten percent of Turkey’s total population. The GAP is expected to double Turkey’s annual production of hydroelectric power and to irrigate 1.7 million hectares of land in the southeast region (Sansal). Though the project’s proposed irrigation and hydroelectric power plans will benefit the region, the project may also reduce Euphrates water flow to Syria by forty percent and to Iraq by up to eighty percent (Berman 3). These figures suggest that Turkey will be responsible for much of the decrease in quantity of water per capita in both Syria and Iraq. As the nation in control of the headwaters of both rivers, Turkey has a duty to consider the external effects of its actions.

### Atatürk Dam

Work on the Atatürk Dam began in 1983 and was completed in 1990. It is one of the largest dams in the world, and is seen as the focal point of the entire GAP project. The Atatürk Dam is located on the border of the Adiyaman and Sanliurfa provinces on the Euphrates River. It has an embankment 605 feet high and 5,971 feet long. Water from the river is fed to power-generating units with a capacity of 2,400 megawatts (Sansal). The creation of the Atatürk Dam was one of Turkey’s earliest efforts to subtly manipulate its neighbors. Turan points out that the start of construction was meant to coincide with the high point of the Iran-Iraq War, which, having neutralized Iraq and also Syria, prevented both from directly resisting the project (199). The construction of the Atatürk Dam led Syria to support the PKK prior to its denunciation of the group in the late 1990s as a means of resisting Turkey’s claim over the Euphrates and Tigris Rivers.

Continuing its policy of not supporting projects where riparian states had not formed an agreement, the World Bank refused

to give financial support to Turkey for the construction of the dam. This policy was reinforced by World Bank Policy 7.50 for Projects on International Waterways (1994) and by the United Nations 1997 Watercourses Convention on the Non-Navigational Uses of International Waters. Policy 7.50 offered a statement from the World Bank, holding that it would not support projects opposed by riparian states (Sahan 31). The UN Convention of 1997 emphasized a need for “agreement between watercourse states to avoid conflict” (UN General Assembly). The Convention states that “Watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of Significant Harm to other Watercourse States...In the case of the Euphrates-Tigris Rivers, Turkey has not ratified [this] treaty and both Syria and Iraq have protested” (UN General Assembly 3). Though the filling of the Atatürk Dam in 1990 caused a significant shortage of water in Syria and Iraq, Turkey, however, did notify both nations of its intent.

## Ilisu Dam

The contract for the controversial Ilisu Dam was signed in August 2007. The dam will be built on the Tigris River, forty-five kilometers from the Syrian border, and will take seven years to complete. It will be Turkey’s second largest reservoir and fourth largest in terms of electricity production. The reservoir will contain eleven billion cubic liters, power six 200-megawatt generators, and have a generating capacity of 3,833 billion kilowatts (Turkish Daily News, “Contract over controversial dam to be signed today”). This project is highly controversial because it will flood the area of Hasankeyf, a culturally important ancient city where an archeological dig is currently taking place. Furthermore, the dam will force fifteen to twenty thousand Kurds from fifty-two villages and fifteen towns to resettle (Warner). The pressure that Kurds in Turkey and in other Arab nations could put on the Turkish government in response may create even more of a rift between Turkey and its Kurdish minority population.

## The Downside

Negative effects of the GAP project fall into four categories: environmental damage, health hazards, consequences for cultural preservation, and domestic politics. The Illisu reservoir will significantly reduce the auto-purification capacity of the Tigris, preventing it from cleansing itself of the solid waste and wastewater that it receives from major cities (Bosshard). Excessive irrigation has led to an increase in salinization, and four million hectares out of the entire 7.4-hectare GAP region now have a problem with increased bedrock exposure. Soil erosion affects 72.3 percent of the region (Sahan 7). The Illisu reservoir may also infest the region with waterborne illnesses such as malaria and leishmaniosis (Bosshard 4).

As mentioned above, the Ilisu Dam will flood Hasankeyf, which is the only town in Anatolia that has survived intact since the Middle Ages. The city was awarded complete archeological protection by the Turkish Department of Culture on April 14, 1978 (Bosshard 4). This clearly presents a problem. The Ilisu dam will violate the Turkish government's prior decision regarding regional protection of Hasankeyf. Furthermore, GAP as a whole has led to severe domestic tension in the southeast. In April 2008, an argument over water led to the murder of five brothers. Ali Karakecili, a family member of the murdered brothers, told the Turkish Daily News that the GAP promised water, wealth, and development to the region, but that if appropriate measures are not taken, the situation could end in a proverbial blood bath: "instead of sending money, more focus should be paid to education" (Turkish Daily News). One hundred people drowned in the latter half of the 1990s in irrigation canals. Furthermore, the Birecik Dam submerged forty-six settlements under water. The project also affects women in the region, who cannot inherit land or property and are therefore unable to receive individual compensation during resettlement. As of 2001, resettlement was necessary for nine dams; eighty-eight subvillages, four districts, and a town were affected by the GAP project. Eighty-seven percent of the families resettled

themselves, and only thirteen percent wanted government-assisted resettlement (Sahan 8-9).

The GAP project aims to redevelop Southeastern Anatolia, but is doing much harm in the process. The fact that only 13 percent of families desired government-assisted resettlement proves that many Turkish citizens distrust their own government. Needless to say, Turkey has a serious problem on its hands that must be delicately handled, lest a conflict with its riparian neighbors or civil war occurs.

## THE ROLE OF DIMINISHING WATER RESOURCES

In order to understand Turkey's motives to pursue the GAP, it is important to recognize both the world's need for water and the effects of population growth. As Turkey's population continues to grow exponentially, the government needs to find ways to deliver water to its citizens. Projects like the GAP provide one way to deliver water for irrigation, production, and consumption.

The severe impact of population growth is made clear in a 2000 report written by the U.S. National Intelligence Council and scientific experts, which concluded that "by 2015, nearly half of the world's population—more than three billion people—will be in countries lacking sufficient water, and that even more genetically modified crops or projects to desalt sea water will not substantially help" (Sciolino). The gravity of this situation only increases after considering that many of Turkey's landlocked neighbors rely on Turkey to provide them with access to fresh water. While most nations in the Middle East mainly use water for consumption and irrigation, Turkey's GAP seeks to use water for both irrigation and energy production.

As of 1999, the Middle East and North Africa were home to five percent of the world's total population but held only 0.9 percent of global water resources (Berman and Whibey). Ilan Berman and Paul Michael Whibey underscore the severity of this situation: "the number of water-scarce countries in the Middle East and North Africa has risen from 3 in 1955 (Bahrain, Jordan, and Ku-

wait) to 11 by 1990 (with the inclusion of Algeria, Israel and the Occupied Territories, Qatar, Saudi Arabia, Somalia, Tunisia, the United Arab Emirates and Yemen). Another 7 are anticipated to join the list by 2025 (Egypt, Ethiopia, Iran, Libya, Morocco, Oman and Syria)" (Berman and Whibey). The lack of fresh water in the region has already reached a crisis-like state and has contributed to several conflicts, including the Iran–Iraq War, which in part was fought over control of the Shatt al-Arab waterway, among other factors including the threat Iraq faced from the Iranian revolution of 1979. The Iran–Iraq War proved to be a struggle for hegemony in the Gulf Region. The same situation may occur as a result of increasing tension between Turkey, Syria, and Iraq over water rights. Turkey's population expanded from 21 million in 1950 to 56.5 million in 1990 and 70 million today. Syria and Iraq are growing apace. This "[implies] increased water requirements" (Berman 95). Turkey's regional obligations are twofold: first, to provide water for its own people and redevelop southeastern Anatolia, and second, to consider the fate of its neighbors downstream, who already have limited access to water.

### The Euphrates-Tigris Hydropolitical Security Complex

Michael Schulz coined the phrase "the Euphrates-Tigris Hydropolitical Security Complex" to describe the manner in which Turkey's control of the headwaters of the Euphrates and Tigris rivers has affected and will continue to affect relations among Turkey, Syria, and Iraq. He believes that water scarcity in regions such as the Euphrates-Tigris basin has linked national security with hydropolitics, creating this security complex. He defines "the hydropolitical security complex" as "including those states that are geographically part 'owners' and technically users of the rivers and further, as a consequence, consider the rivers as a major national security issue" (97). Turkey is both an owner and a user of the Tigris and the Euphrates, yet the Turkish government believes its riparian neighbors only fall into the latter category. Syria and Iraq both believe they are also "owners," ignoring the criterion that the

state in which the headwaters reside is the only true “owner.” All three nations thus face some sort of threat from this hydro-political security complex, which has grown in complexity because of GAP and Syrian support of the PKK.

Turkey is known for taking a hard stance on control of the Euphrates and Tigris rivers. In the summer of 1992, Turkish Prime Minister Suleyman Demirel proclaimed: “The water resources are Turkey’s. The oil resources are theirs [the Arabs’]. We don’t say we share their oil resources; and they cannot say they share our water resources” (Kazen and Osman). Though Turkey has said countless times that it would “never use the control of water to coerce or threaten,” its control of these headwaters essentially allows it to manipulate and even blackmail Syria and Iraq if necessary (Schulz 119). Both Syria and Iraq believe that the water should be allocated according to a mathematical formula. Turkey, however, rejects the use of a formula and appeals to the International Law Commission. Syria and Iraq claim historic rights to both the Euphrates and Tigris rivers but Turkey sees this as irrelevant. Syria believes that Turkey’s “conception of rational usage” should be ignored. Similarly, Syria believes Turkey’s characterization of the water as Turkish (instead of international) is contradictory. Turkey believes in equitable water use for all three countries based on studies conducted, criticizing “the manner in which Iraq and Syria have mutually agreed to the amounts of water they want to receive” (El-Fadel, et al.). Furthermore, Turkey states its riparian neighbors have poor water systems, which would cause water loss. Iraq has had a relatively calm response to the situation due to its ability to easily access the Tigris River. Iraq also wants to maintain good relations with both Turkey (in order to “market its oil to the West) and Syria (“due to its own Kurdish problem”). Syria, however, holds that Turkey violated international law (El-Fadel, et al.).

Although Turkey has relatively high water wealth in comparison with Syria and Iraq, the Turkish government claims that it is, in fact, not rich with water resources. As such, amid these mounting pressures, it is unlikely that Turkey will change its position. A study conducted by the Turkish Ministry of Foreign Affairs and

the Department of Regional and Transboundary Waters in 1996 sought to debunk the myth concerning Turkey's possession of water in order to ease tension between Turkey, Syria, and Iraq.

The study noted that Turkey's average annual surface runoff is close to 186 billion cubic meters, while the amount actually available for consumption is only 110 billion cubic meters, including twelve billion cubic meters of groundwater. As of 1995, Turkey's population was roughly sixty million, leaving the amount of water per capita at 1,833 cubic meters. Countries that are objectively rich in water resources have between 8,000 and 10,000 cubic meters of water per capita every year, according to the study; therefore, "the available water per capita in Turkey is about one-fifth of the water-rich countries." The study concludes, "the impression that Turkey has excess water derives from the fact that it is not at present in a position to fully utilize its water resources" (Department of Regional and Transboundary Waters). The study presents the following table to compare water quantities per capita in some water-rich and Middle Eastern countries:

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

According to the table, as the study notes, Iraq possesses a larger quantity of water per capita than Turkey as of 1993. The study fails to mention, however, that by 2020 Iraq will have lost more than half of its quantity of water per capita than Turkey (Wolf). Moreover, Turkey will have slightly more water than Iraq and Syria. Turkey must pursue water development programs with its neighbors in order to sustain human development throughout the Euphrates-Tigris River Basin, not just in Turkey.

## TURKEY-SYRIA RELATIONS

While the hydropolitical security complex concerns all three nations, Turkey-Syria relations are the most prone to violence. For most of the 1980s and 1990s, Turkey-Syria relations were a struggle for relative gains in political and regional power. Each nation had its own tool for manipulating and indirectly pressuring the other; Turkey used its control of the Euphrates and Tigris rivers, and Syria supported the PKK. When Syria officially denounced the PKK at the end of the 1990s, it lost its means of resisting Turkey's GAP through domestic terrorism. That decade also saw a dramatic increase in Turkey's military capabilities. Turkey's moderate alliance with Israel is also extremely threatening to Syria, which has been trying to reclaim the Golan Heights since the 1967 War. While examining the hydropolitical security complex that exists between Turkey and Syria, it is important to look at the Kurds and the PKK, and briefly to discuss the possibility of conflict between both nations.

### Regional Dynamics of Kurdish Politics

The Kurds are the largest non-Turkish ethnic group in Turkey. They primarily reside in eleven provinces in the southeast region, though there are Kurdish villages throughout the rest of Turkey. Though the size of the Kurdish population has never been accounted for because the Turkish government does not consider them to be a separate ethnic group, a 1995 estimate placed the number of Kurds in Turkey anywhere from six million to twelve million (Metz). About half of all Kurds live in Turkey; the rest live in Iran, Iraq, and Syria, among other places. Kurds are thus considered the only minority group that could truly threaten Turkish national unity, power, and policy. As such, the Turkish government has tried to assimilate the Kurds through language suppression but has been unsuccessful (Metz).

Formed in the late 1970s by Abdullah Öcalan, the PKK is a "terrorist organization" that originally "condemned the repressive

exploitation of the Kurds” and supported a revolution to overthrow the Turkish government (Cagaptay and Yegenoglu 1). The PKK intended to set up a “democratic and united Kurdistan” influenced by Marxism and Leninism (Cagaptay and Yegenoglu 1-2). The PKK’s first organized attack was on August 15, 1984, when it coordinated twin attacks in Eruh and Semdinli soon after Turkey reverted to democracy. The PKK’s frequent attacks led newspapers to begin using the word “Kurd” for the first time. In general, the attacks opened people’s eyes to the political and economic problems in the Kurdish provinces (Metz). Alan Makovsky notes the PKK’s impact in Turkey: “No issue is more emotional to Turks than that of the PKK. The separatist group has assaulted Turkey’s territorial integrity, wounded its pride, and shed the blood of thousands of its citizens. According to a Turkish government estimate published in November 1997, more than 35,000 people have died in the fighting” (Makovsky). In 1987, the PKK killed twenty-four people, including fourteen children, in a village in Turkey’s Siirt province. The PKK kidnapped and killed 217 teachers between 1984 and 1987 by shooting, hanging, or suffocating them. It has been responsible for the destruction of the rural education system through its burning rural schools. Between 1996 and 1999, it carried out sixteen suicide bomb attacks. By the end of the 1990s, over 3,600 schools closed in the region due to attacks and arson, and about 100,000 students could not be educated. Illiteracy rates in south-eastern Turkey are still extremely high. The PKK is also accused of burning medical clinics and causing the deaths of countless doctors and nurses (Cagaptay and Yegenoglu 3).

Since the end of the Cold War, the PKK and the Turkish government have competed to win the favor of the Kurds, who have become somewhat of a political and regional football because their allegiance affects whether or not the Turkish government can face minimal opposition in its pursuit of the GAP. The fall of the Soviet Union led Öcalan to change the PKK’s goal from communism to one of Kurdish nationalism. The PKK adopted an Islamic outlook, “taking advantage of Islam’s appeal to conservative Kurds” (Cagaptay and Yegenoglu 3). The Turkish government, on the oth-

er hand, has tried to use its human development program to appeal to the Kurds. This is the route that Turkey should pursue under the GAP, while forming more moderate hydro-development plans with its neighbors.

### Syria's Proxy War and Turkish Brinksmanship

Syria's support for the PKK dates back to the late 1970s, when the organization was supported by the Soviet Union and Syria "in the polarized world of Cold War politics" (Cagaptay and Yegenoglu 2). Throughout the 1980s and 1990s, PKK training camps were built in Syria and Syria-occupied Lebanon. Syria sheltered Öcalan while he was living there, though it explicitly denied that he was residing in Damascus. In early 1998, however, Öcalan gave an interview to a Washington D.C.-based journal at his home in Damascus (Cagaptay and Yegenoglu 4). By the latter half of 1998, Turkey adopted the technique of brinksmanship to force Syria to denounce its support of the PKK. Turkish troops reached the Syrian border and directly threatened Syria with war. Turkish newspapers even had headlines reading, "We will soon say shalom to the Israelis on the Golan Heights," implying that Turkey would campaign through Syria until it reached Israeli territory (Cagaptay and Yegenoglu 4). Damascus immediately expelled Öcalan. Turkey and Syria signed the Adana Accord on October 20, 1998, in which Syria promised to cease the following activities within its territory: PKK propaganda, the supply of weapons and logistical and financial support to the PKK, PKK commercial enterprises, the establishment of PKK camps and "other (PKK) facilities for training and shelter," entry of PKK members or their transit to third countries, and the presence of PKK leader Öcalan (Makovsky 3). Since the Adana Accord, Syria has made a serious effort to repair relations with Turkey, including sentencing several PKK members to thirty months in prison in June 2005 (Makovsky 7). Furthermore, Syrian President Bashar al-Asad has taken greater steps to improve Turkey-Syria relations since the death of his father and former President Hafiz in 2000.

## The Future of Turkey-Syria Relations and GAP

Though the tension stemming from Syria's indirect support of the PKK has cooled since 1998, war between Syria and Turkey still looms, as the region's population grows and water resources dwindle. Should diplomatic proceedings between both nations fail, Syria might consider war with Turkey as a means of securing water for its citizens. Turkey would defend both its people and its resources from a potential Syrian offensive. As mentioned earlier, Turkey improved its military drastically throughout the 1990s, more than doubling its expenditure on military equipment between 1985 and 1996. It acquired about 200 fighter jets and nearly 1,000 M-60 tanks through US support. Furthermore, the Turkish economy grew in the 1990s with Turkey's GDP tripled from 1980 to 1999 (Makovsky 4). Syria, on the other hand, has weakened since the end of the Cold War. The West and Israel believe Syria has plans for the production of nuclear weapons, and Israel destroyed a building in Syria in September 2007 believed to be a nuclear weapons facility. The slightest conflict between Turkey and Syria could potentially lead to massive destruction, especially if Syria were to seek a nuclear Iran as an ally. Furthermore, other nations may be dragged into war in order to defend their allies. Though Turkey has delivered its promise to provide 500 cubic meters/s of water annually to Syria, there is still a demand for more water. According to an article in the Turkish Daily News on January 3, 2008, Syria asked Turkey for more water to help it "combat the country's drought problem" (Turkish Daily News, "Syria Asks for More Euphrates Water").

## The New "Face" of the GAP

Financial technicalities and protests have muddled Turkey's efforts to complete the GAP in recent years. Instead of concentrating solely on hydroelectric production and irrigation, the GAP seems to have taken on a new face—one that supports regional re-

development and seeks to improve the quality of life in Southeastern Anatolia, especially in the wake of a destructive conflict with the PKK (Southeastern Anatolia Project Regional Development Administration). It seems as though the Turkish government has seen the faults in its project and intends to correct them. Turkey must continue along this path in order to both redevelop the southeast and prevent conflict with Syria and Iraq. The new Ilisu Dam on the Tigris River will greatly affect Iraq, though the Iraqi government has tried its best to remain relatively neutral. The dam will require the forced resettlement of close to 34,000 people—many of whom are Kurds—and could negatively affect the lives of up to 78,000 people (Smith).

Turkey has also sought and received World Bank support for its non-GAP and water-related regional development plans. As of 2006, Turkey issued grants for two infrastructure development projects: the Saliniurfa-Harran Plains On-Farm and Village Development Project and the GAP Urban Planning Sanitation Project. In June of 2004 the World Bank supported the Anatolia Watershed Rehabilitation Project, “promoting sustainable natural resource management in twenty-eight microcatchments in Anatolia and Turkey’s Black Sea Region [to help] reduce environmental damage and raise incomes of communities affected by resource degradation” (World Bank, “Turkey Receives Support for Watershed Rehabilitation”). In March 2005, many countries in East Europe, including Turkey and the European Commission began working together to create a regional energy market called the Energy Community of South East Europe (ECSEE), supported by the World Bank (World Bank, “Energy Community of South East Europe APL No. 2 Turkey”). In April 2007, the World Bank helped Turkey implement the Electricity Distribution Rehabilitation Project, to “help improve the reliability of power supply to consumers in Turkey supporting the implementation of the electricity distribution network rehabilitation and expansion program” (World Bank, “Electricity Distribution Rehabilitation Project”). If we examine the Euphrates-Tigris hydropolitical security through a realist lens, it seems as if the Turkish Government is taking a more liberal (and

better) approach to fixing the GAP's inability to create electricity, improve irrigation, and redevelop its southeastern region in order to secure the national interests of Turkey and refrain from tipping the balance of power in the region.

The GAP program has negatively impacted Syria, Iraq, and even Turkey itself since it began construction on the Atatürk Dam in 1983. The effects of the project are vast and reach all areas of life, from the destruction of historical landmarks and Kurdish settlements to the deprivation of crucial water resources in Syria and Iraq. Increasing water shortages in the Middle East will almost certainly lead to conflict between Turkey and its neighbors by the middle of the twenty-first century. This hydropolitical security complex must be directly addressed by all three countries, and will require forceful mediation on the part of groups such as the United Nations. The United States, the European Union, and the United Nations must demonstrate to Turkey that a looming water war is both very serious and real. Turkey must continue to pursue alternative means of energy production and irrigation through projects supported by the international community—projects that do not violate World Bank and United Nations policy or human rights. The “quality of life” dimension recently adopted is a good starting point for Turkey. Turkey, Syria, and Iraq must work together to reach an agreement over the water rights of the Euphrates and Tigris Rivers before it is too late. Otherwise, a war for water in the Euphrates-Tigris Basin will likely occur.

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