(HYDROLOGIST) ARNON MEDZINI
HAIFA, ISRAEL
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L. Models from Geopolitical Science for the Explanation of Disputes

L1. Factors Contributing to the Realise Importance of the Euphrates for its co-Riparian States.

The conflict over the Euphrates water is a good example of a conflict ostensibly over fresh water which on analysis can be seen as just one of many variables offending the international politics of the riparians. The political economy of the catchment, in which Euphrates water is a significant element is complex, as are the ideological, national and security aspirations of the political entities that occupy the Euphrates basin. In such conflicts one cannot determine which factor is foremost in influencing the approach of an individual riparian at any given time; whether a dispute over fresh water resources has led to a political conflict, or vice versa, or whether other economic, security or ideological factors have exacerbated the conflict over water, or again vice versa. In order to deal with such complexity at a very elementary level, at least three major factors that appear to shape riparian water use conflicts need to be addressed namely, economic interests, foreign political interests, and domestic policy.

Economic interests

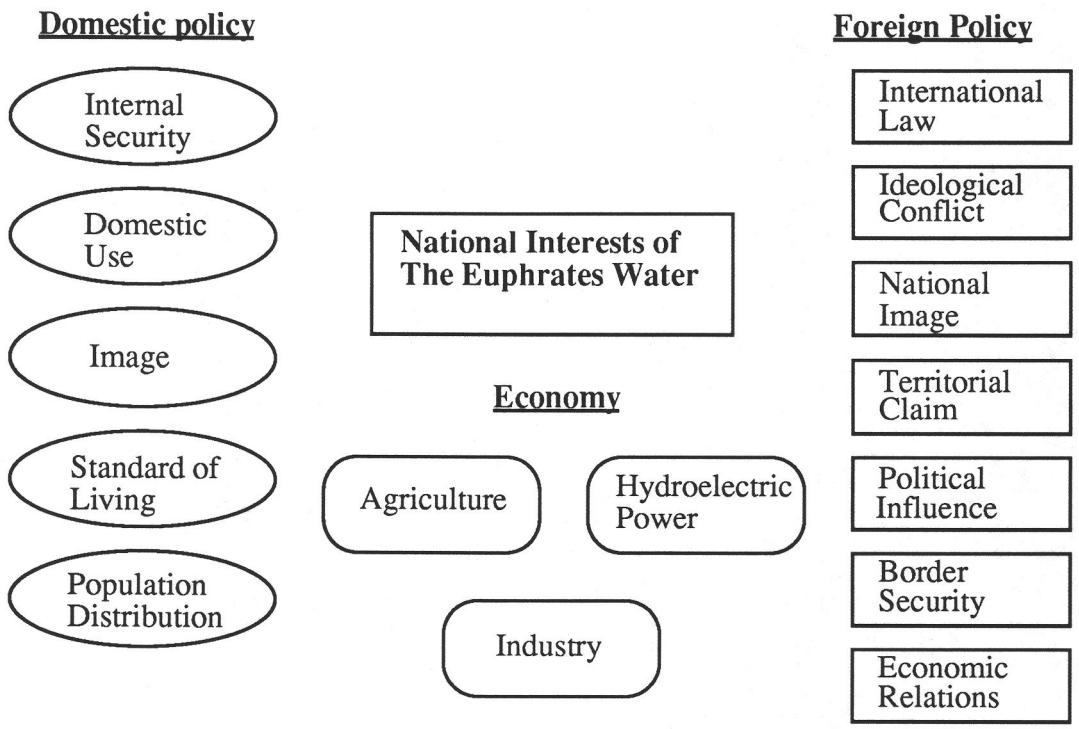
The economic factor has been of great importance in setting priorities. The three most important economic factors in developing the Euphrates basin are food security, the creation of hydroelectric power and the development of industry. Agricultural demands for water always dominate water allocation budgets in arid and semi-arid countries (80 per cent in Turkey and about 77 per cent in Iraq; see table F1.4 and F3.12). On the other hand, the economic returns to agriculture are relatively low compared with those for industry. The move to industrialize has enjoyed a high priority in government planned expenditure of all the riparian states, and when industry develops, the amount of water required increases. But food security is perceived by the governments of the riparian states as an issue of national security. Non agricultural uses such as production of hydroelectric power will also have influence on the water budget of rivers through the evaporative losses from reservoirs, as with the water consumption consequences of the increased demographic pressure and the increasing standard of living for their population. Energy is considered as a crucial factor for rapid development, and the welfare of society and therefore the energy consumption has increased in all the riparian

countries very dramatically. However the hydroelectric potential from the Euphrates river is very limited in Syria and Iraq.

Foreign policy

Clearly the decisions involved in plans for international river development are mostly political and can only be adequately addressed in political terms. Domestic and international politics are the most important features of international river basin development and have to be addressed in any analysis *(Rogers, 1991, 14)*. Factors such as national image, international law and linkage with other issues such as territorial claims, border security, ideological conflict and economic relations, that influence a country' position in matters concerning water resource utilisation (See figure L1): for example, Turkey claims that both Baghdad and Damascus wish to amplify the water issue to deflect attention from their other problems *(Tekeli, 1990, 212)*.

Figure L1:
Factors Contributing to the realise importance of the Euphrates River



National Image: The concern for a positive national image may be one of the most important factors in deciding how to deal with international water issues. Turkey attaches great importance to the GAP project not only because of its economic and

sociological benefits, but also as a matter of national prestige. On the other hand, Syria and Iraq's autocratic regimes do not like to be dependent on non-Arab power, especially for the supply of water that appears to be a very important resource not only of strategically and economically but also from socio psychological point of view *(Ergil, 1991, 52)*. Vulnerability to water scarcity contradicts a national image of powerful leadership. An image of weakness that would become more obvious through palpable water shortages could be politically destilabilizing.

International law: the basic principles of international law in the matter of international rivers are based on equity and natural justice. But as discussed in chapter K, international law does not provide any institutions that automatically put in place operational procedures to implement the legal principles. The international law for international rivers is not mandatory and can not compel states to solve international conflicts. However, the set of principles is widely accepted among riparian countries. The development of non-binding international legal principles can be an important factor in enabling a country to become involved in negotiations and principles of international law could function as basic guidelines for the management of the Euphrates basin states for sharing water equitably. As discussed in chapter K3, Turkey has drawn attention to the differences between "international" and "transboundary" water courses, and has claimed privileges concerning the water sharing as a Euphrates upstream state. Turkey also claims that according the international law, the waters of the Euphrates and the Tigris rivers have to be considered as one single basin, and the sharing of the water among the riparian states should be achieved accordingly. On the other hand, Syria and Iraq consider the Euphrates river as international (common) waters and demand that they be shared according to "common use" or "according to their own needs." Syria's interests will relate to the international law, mostly concerning the reference that deals with "availability of alternative resources" because it is falling short of water resources compared with Turkey and Iraq. Iraq claims for Euphrates water relate to the articles dealing with "prior uses" and "historical rights" and the articles dealing with "population factor". It seems that the Turkish declarations of "absolute territorial integrity" has been declared mostly for internal proposes, but as long as Iraq and Syria sustain their demand's based on lower riparian position, Turkey will insist on its advantage as upper riparian state.

Linkage with other issues: the linkage between the waters of a river basin and other bilateral or multilateral issues is one way in which countries may be able to extract concessions from their neighbours. As discussed in chapter J3, the relations among the Euphrates riparian states are highly influenced by other factors such as territorial claims, border security arrangements, economic interests and ideological conflicts. All these

factors that do not relate directly to the water of the Euphrates river, but they are on the agenda of most meetings and other communications between the political leaders involved, and have the most important role in bi-or trilateral negotiations among the riparian nations. For example, president Saddam of Iraq demanded in 1990 a formal sharing of the Euphrates water, with a trilateral agreement before any economic agreement would be reached with Turkey *(Tekeli, 1990, 210)*. In addition, Saddam's decision to send in 1990 his oil minister to Turkey to negotiate over the water issue, can be seen as a reminder of the common interests involved in maintaining good relations. A number of issues are adversely affecting Turkey Syrian relations and the most important is the Syrian support of the PKK which started immediatly after Turkey's creation of the Ataturk Dam and its talk of the "stolen province of Alexandretta". Shortly after the Gulf Crisis erupted, Syria adopted a pro-western approach and as a result, the Turkish-Syrian relations improved. Another example of linkage presented by Nasrallah (1990) is that Turkish actions on the Euphrates could be seen as political manoeuvres in association with United States interests to continuing to pressure Syria outside from Lebanon *(Nasrallah, 1990, 16)*.

Iraq and Turkey have fewer linkage issues to threaten their relations. They have no territorial claims against each other. Up to Iraq's invasion of Kuwait in August 1990, they had considerably strong economic and political relations as well as common interests against the Kurds in northern Iraq, enables them to create good relations.

Iraq and Syria's relations has been heavily influenced by the ideological conflict between the two Ba'ath regimesof the two countries, the personal hostility among leaders, closing the pipeline connecting Iraq with the Mediterranean sea, the Syrian support of Iran during the Iran-Iraq war and its coalition with UN during the Iran-Iraq Golf war (see chapter J3.3).

Domestic political factors

There are some important factors that have to be taken into account while setting priorities and resources concerning development plans of the country (see figure L1). Examples are plans for population dispersion, mainly because rural to urban migration accounts for about one third to one half of the growth of the main cities in Turkey and Iraq, plans for improving the standard of living for the population in rural areas, and matters concerning internal security (mainly in Turkey). Also the personal prestige of the riparian leaders involved while they setting priorities concerning the water development plans. An internal dispute will likely develop between entrenched rural agricultural interests, fighting to retain an advantageous position vis-a-vis growing urban and industrial interests. On the other hand, if a government fails to secure food supplies, whether from internal or external sources, an atmosphere of political disquiet will

emerge. A natural political alliance has arisen between the countries' political leaderships and their rural communities. The former want to ensure national security, and the rural communities want to provide food for national needs *(Allan, 1992, 5)*.

L2. **The Cognitive Mapping**

One approach to help analyse the important of the three factors by each riparian state is that of "cognitive mapping". With this approach one can obtain a type of mental map or cognitive structure of issues as seen by the relevant actor *(Frey & Naff, 1985, 74)*. The comparison of the cognitive maps of an issue held by each major actor is instructive for locating critical differences that may be determining policy and behaviour, and for ascertaining weather the issues are real That is, whether the perceptions are similar and the problems lie in conflicting interests or whether at least a significant part of the conflict is due to the utilization of discrepant cognitive maps that might be harmonised by negotiation, information, or other means. The mapping permits a basic analysis of power. A full application of this technique allows for the mapping of all the riparians in the Euphrates basin, the designs of critical sub national actors, and the relationship of decision-makers to issue complexity and to the image of the policy environment.

The cognitive mapping will examine the factors of national interests of the three riparian states at three periods of time: before the construction of the main dams, when mainly natural factors determined on the availability of water to the three riparian; the period between the 1960's to 1990's - which is characterised by rapid development by all the riparian countries, and the future period, in which the riparian development plans will be completed.

The thickness of the lines in figures.L2 - L4. indicates the perceived strength of the association among issue elements and the arrows suggest the general direction of perceived causal flows. A crucial amission from some cognitive maps is that the overall importance (the evaluation or utility) of the cognitive realm being mapped is not indicated. In the present instance, however, since "natural interests" is a main component and is obviously of utmost importance, this limitation is not significant *(Naff & Matson, 1984, 185)*. The more connected or embedded a cognitive element, the more significant it is and more resistant it is to alteration or replacement.

L2.1 **Turkey's Interests of the Euphrates Water**

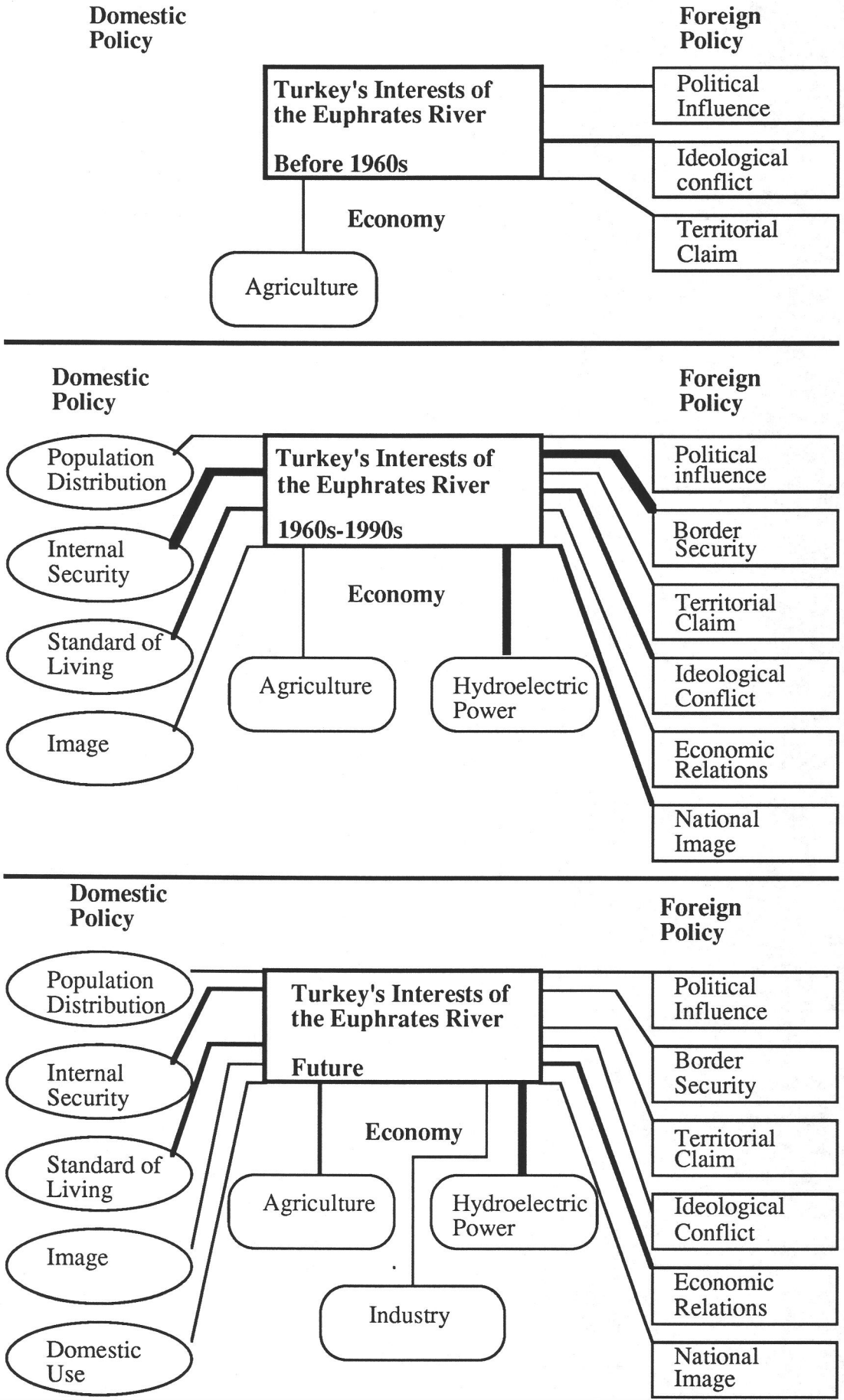
We shall apply the cognitive mapping approach first to Turkey. South-eastern Anatolia is the least developed region in Turkey. Per capita regional product was in 1985

45 per cent of the per capita gross domestic product of Turkey. This is the main reason for the out migration from the area. The population density is below the national average *(Morvaridi, 1990, 308)*. Turkey hopes that by improving the local level of living and by urbanisation, that the out migration to the main cities will slow down *(Tekeli, 1990, 206)*. Another factor relates to Turkey's development plans for the area concerning internal security issues. The GAP region contains the bulk of Turkey's Kurdish population. The region is a target for cross-border attacks by militant Kurds from Iraq and from Syria. Turkey hopes that this difficult political situation can be stabilised by improving the local level of living. This also may weaken the support of local population for the Kurdish separatist movement *(Waterbury, 1990, 9)*. As a result, it would simply not be possible for Turkey to renounce the project at this stage. The project will affect Syria and Iraq's water supply, and together with this, the balance of power in the Middle East, both economically and politically (Manisah, 1990, 7).

At present, the improvement of the economy is the main concern for Turkey *(Inan, 1990, 5)*. The Ataturk Dam and the GAP project are currently the most important projects in Turkey to date. It is also the most costly. With the dynamism generated by this project, Turkey wishes to be an economic super-power in the Middle East. Turkey aims to utilise its agricultural and hydroelectric potential to its maximum potential.

Turkey is poor in petroleum but rich in surplus water. It hopes to harness the Euphrates river in order to generate electric energy for its expanding economy. GAP's hydroelectric generating capacity will increase Turkey's present total power generation by 70 per cent *(NewSpot, 28 June 1990, 2)*. Turkey also anticipates a great opportunity for electricity export. Meanwhile Turkey is for all practical purposes self-sufficient in food, and it wishes to remain so in the future. The present agricultural production in the GAP area is limited to one harvest every two year. With irrigation and modern technology, the soil and climate can sustain two or three harvests annually *(Tekeli, 1990, 208)*. However, Turkey expects to profit from the export of crops grown in the irrigated areas of GAP, because South-East Turkey is located in a geographical position to deliver fresh and packaged foods to both the Middle Eastern countries and Europe cheaper and in better condition than any other supplier. Markets have also been identified in neighbouring countries and Turkey plans to export agricultural products to Iraq and Syria which face food deficits (the Turkish export to Iraq at 1988 was 986 million US $, and the export to Syria Was 110 million. *Eregul, 1990, 11*). When GAP is completed, it is estimated that Turkey will produce enough food to feed 80 million people, and 3.3 million extra jobs will be created countrywide.

Figure L2: Turkey's Interests of the Euphrates River



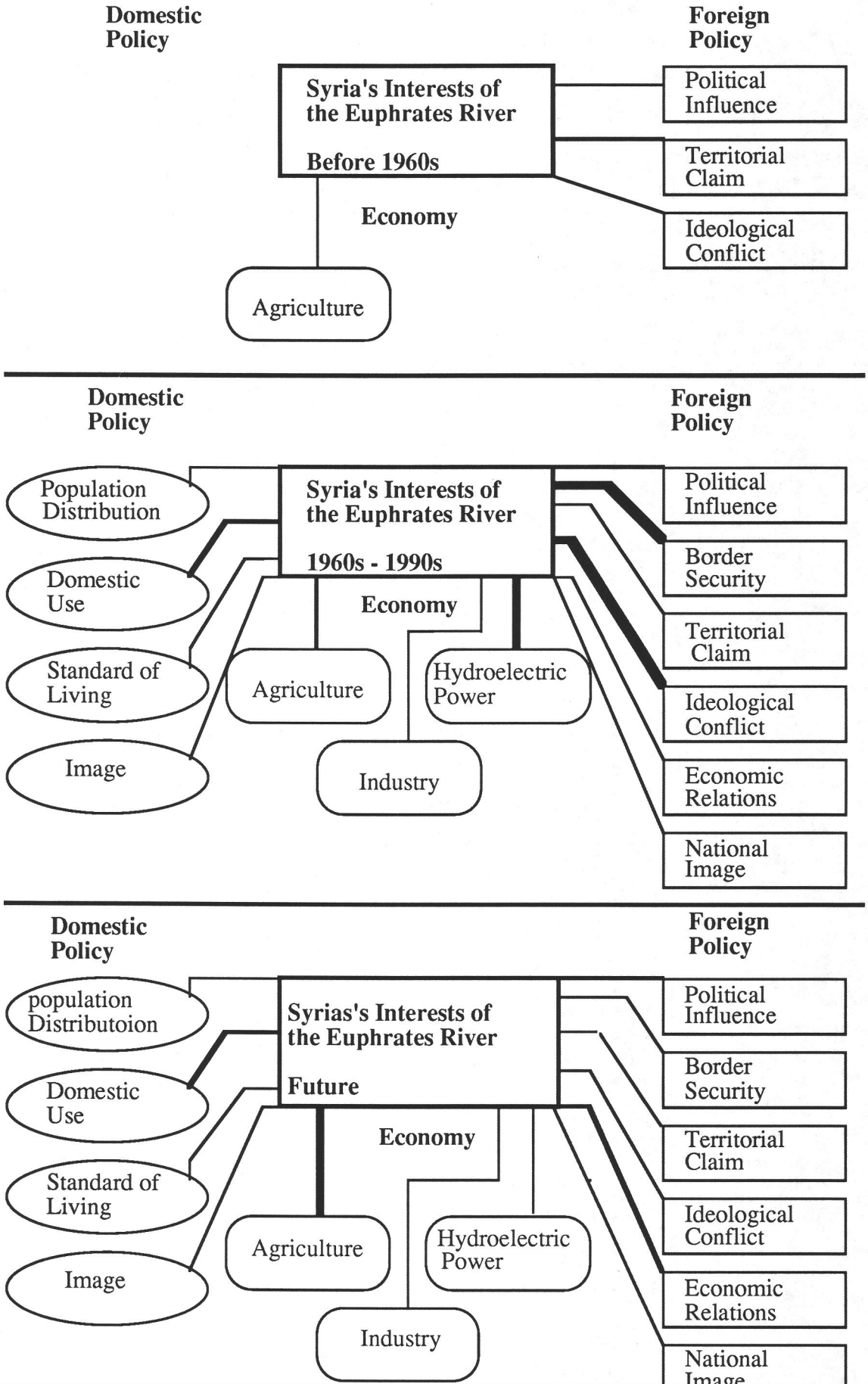
The increase in agricultural production may also be expected to start a "chain reaction" in other sectors of the regional economy, so Turkey percieves that it cannot tolerate any limitation on its economy by any delay in the GAP project *(Inan, 1990, 5)*. However, the most vital element in Turkey's economic approach to the region is the achievement of long-term stability in the Middle East.

L2.2 Syria's Interests of the Euphrates Water

Syria Euphrates basin, comprising the two provinces of Raqqa and Deir ez Zor, is part of the country's vast but under populated and underdeveloped Eastern hinterland. Only 8.3 per cent of the Syrian population live in these arid provinces *(Hinnebusch, 1989, 233)*., to which the Syrian government hoped to transfer about two million people. The Syrian authorities also great hopes for the Euphrates Dam project and not only on its economic contribution. The project was also expected to help create a new class of skilled manpower and personnel who would ultimately be of great benefit to the country's development. This implied establishing new cities, towns, the provision of health care, education, communications and other social services in a rural area to provide a socio-economic infrastructure to help redress the growing urbanisation of the country *(The Arab Economist, April 1978, 18)*. The fastest rate of urbanisation has put a strain on services and infrastructure in the cities and has led to the growth of shanty towns along the edges of large urban centres such as Damascus and Aleppo. The urban growth is fuelled by a continuing influx of people from the countryside *(Lewis, 1987, 15)*.

Agriculture dominates the Syrian economy and society. The agricultural sector employed in 1980 about 32 per cent of the Syrian labour force (see table L2). Syria has the potential to feed its accelerating population and even export the basic food products such as wheat and barley. Food security has become one of the most important elements in developing the economy of Syria However, in 1988 food made up 71 per cent of the country's overall imports, which resulted mainly from the rapid rise in population *(Syrie & Monde Arabe, 1988, no. 408, 1)*. The aim of the Syrian government is to achieve food self-sufficiency. Expansion of the irrigated areas to reduce dependence upon unreliable rain fed cultivation, full employment and national social well-being are stated goals of the Syrian government.

Figure L3: Syria's Interests of the Euphrates River

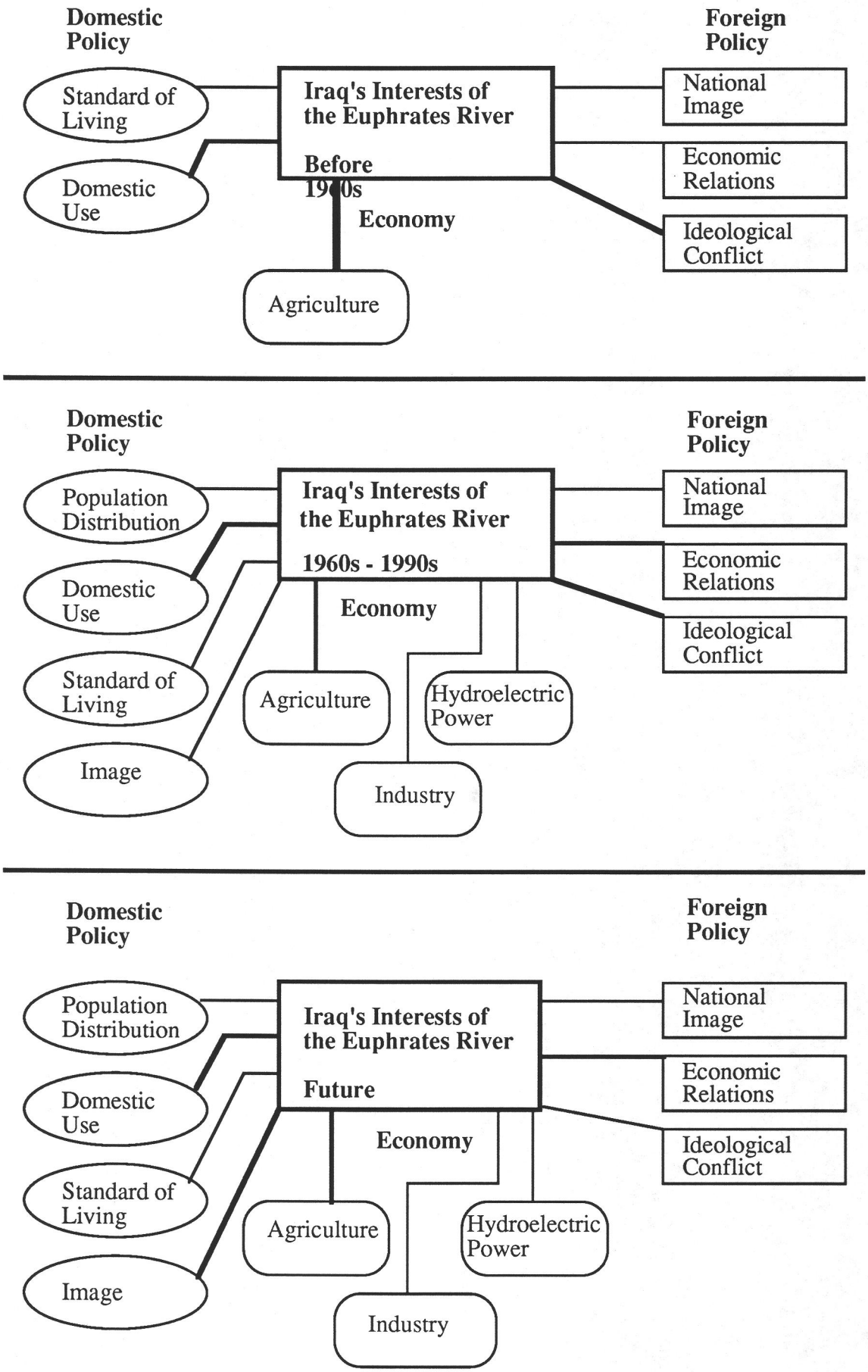


Syria was until recently petroleum poor. Since the late 1980's she has been able to expand oil production. Increases in the generation of electricity are to be regarded as the key to much of Syria's future industrial development. After the completion of the Euphrates dam, the 800 MW hydro-electric power station was expected to generate 80 per cent of the country's electric power *(Meyer, 1978, 49)*. This was an important economic asset in a country poor in energy resources.

L2.3 Iraq's Interests of the Euphrates Water

Iraq's economic potential is enormous. It has one of the largest oil reserves in the world, it has a large area of fertile land relative to its domestic needs, it has vast quantities of phosphates besides other raw materials, and abundant supplies of water. Despite its dependency upon earning from petroleum export, almost all industry is based upon food processing and textiles. The agricultural sector has employed in 1987 33 per cent of the labour force *(Fisher, 1989, 465)*, and the agriculture accounted for less than 10 per cent of the country's GNP. Iraq has traditionally irrigated about a million ha with Euphrates water as well as using it for domestic purposes. The Iraqi government wishes to reduce the country's dependence on oil exports as the main supplier of foreign exchange. However, despite its high agricultural potential, Iraq is not self-sufficient in food production. In 1990, 90 per cent of its food was imported and food imports comprised 25 per cent of the total imports *(Hussain, 1990, 237)*. The increases in rural to urban migration and a high birth rate were the important reason for the increased deterioration of the agricultural sector. Of the three Euphrates riparian states, Iraq had in 1990 the largest area of irrigated land within the Euphrates basin and the largest number of inhabitants living within the Euphrates valley. The poor standard of living in agricultural areas of Iraq has generated a strong rural to urban migration *(Mofid, 1990, 50)*. This trend created a need to import hundreds of thousands of agricultural workers mainly from Egypt to replace the shortage of agricultured workers. By improving the farmers' standards of living, Iraq hopes to decrease the migration rate, and to prevent the expansion of slums surrounding Baghdad. Another internal security factor is related to the Iraqi plans for improving the standard of living, while the Sunni administration in Baghdad hopes will help it gain the Shia population's support *(EIU, 1990, 8)*. The government of Iraq also wishes to prevent food shortage that is politically embarrassing, and which aggravate problems of inflation and reliance on uncertain foreign sources. Importing food also impairs national security.

Figure L4: Iraq's Interests of the Euphrates Water



The eight years' wars with Iran caused Iraq to make more effort to improve agricultural self-sufficiency and reduce its food import bill, but the UN economic embargo in 1990 might have given Iraq its biggest push yet towards achieving it.

L3. **Matrix Model**

With such basic information on the status of the three riparian it is possible to analyse the factors influencing their past and future relationships. Whatever the specific water controversy among the riparians, its ultimate resolution depends on the power relationships involved. For this aim we have to address two more factors: The riparian position within the drainage basin, and the factor of projectable strategic power. Information on these power relationships enables the deployment of the conceptual frameworks for modelling water conflicts. Power relationships can be placed into a power matrix *(Naff & Matson, 1974, 192; Frey and Naff, 1985, 79)*. The matrix models contain the five above basic factors that form riparian water conflicts: riparian position within the drainage basin, projectable strategic power, economic interests, external and internal politics. Each of these components has been given a subjective quantitative weight ranging from a value of five (very significant) to one (small significance), and they are then inserted into the matrix for the Euphrates river system and applied to the co-riparian. The matrix model, as well as the cognitive mapping, will examine the power relationships among the riparian states at three periods among 1960 to the present: before 1960s - before the construction of the main dams, when only natural factors determined on the availability of water to the three riparian. There were neither water storage structures interfering with the natural flow, nor irrigation uses at level to create competitive water demands. Secondly, the period between the 1960s to 1990s - which is characterised by of rapid development by all the riparian countries, and the future matrixes - period in which the riparian development plans will be completed. In this period new geopolitical positions are being established which will determine the potential of the negotiating strengths of the tree riparian.

The Riparian Positions Within the Drainage Basin

In general, upstream position of a riparian gives clear potential power advantages *(Frey & Naff, 1985, 76)*, and the upstream state may be in good position to dictate the quantity of water that she is going to use and amount of water that will be left for the lower riparian. From this position one can usually take action that can be contested or

countered by a downstream opponent only with considerably increased difficulty or cost. The upstream state can face lower riparian states with facts, the alteration of which would be far more demanding than the decisions made by, and water managing activity of an upstream riparian. An upstream country can also affect the quality of a downstream country's water by diverting or polluting it, but the downstream country cannot reciprocate hydrologically. In this respect it seems also that the upstream states have certain privileges and rights in the context of international law. The geostrategically favourable location of Turkey in the region has not diminished with time, rather it has been enhanced. In the past, the strategic value of Turkey has usually been seen as a buffer between the Middle-East and Europe. However this roll, which was valid for exemple during the Cold War, is no longer relevant. Today, the economy is Turkey's main concern that is exemplified by the GAP project. With the dynamism initiated by this project, Turkey aims to become an economic and political superpower in the Middle East. Turkey in this context, as an upstream state of the Euphrates river, would prefer non-binding understandings concerning the allocation and management of Euphrates water. Any obligation or commitment would necessarily involve concessions to the downstream states. Iraq, in contrast, as a lower Euphrates riparian, is in a very vulnerable position concerning Euphrates water vis-a-vis Turkey and Syria. This is the reason Iraq is the most eager to arrive at binding commitments, that would only bind the two upstream states Turkey & Syria. Syria, as the second midstream riparian user of the Euphrates, would want binding understanding with Turkey because it will be affected by Turkey's development plans, and loose understandings with Iraq, as its upstream state *(Waterbury, 1990, 15)*.

Projectable Strategic Power

Projectable strategic power is defined as nations military capability.

The factor of projectable power, refer to a nation's ability to threaten its potential opponents credibly and thus to shape their behaviour in this analysis concerning water issues. The ability to project military power such as air power, artillery and missiles against diversionary water works have special significance, as well as the defensive capabilities against such force. There is however, no systematic analysis of the strategic and military implication of large scale water projects. It may be that the development and existence of large scale dams and reservoirs significantly affects the military and strategic postures of proximate nations. Large-scale water installations are dangerously vulnerable, no matter how well protected. Nations with such installations may tend to be more cautious in their international behaviour, since the potential costs of military conflict are so high *(Naff & Matson, 1984, 194)*. At the same time the contribution of reservoirs and dams in the upper riparian state gives it economic and military bargaining

power. It enables the upper riparian to manipulate the stream or to condition agreements on water sometimes taking into account other issues affecting the states involved. Nasrallah (1990) claims that the Arab states will have to act in concert over the water issue if they wish to prevent themselves from being caught in position of strategic inferiority *(Nasarallah, 1990, 16)*.

Table. L1:

Model Matrix of changing role of the Euphrates among the riparian countries

	Riparian position	Strategic power	Economic interest	Political-interest External	Internal	Total
a) before 1960's						
Turkey	5	5	2	2	2	16
Syria	3	3	2	2	2	12
Iraq	1	4	5	3	4	17
b) 1960's-1990's						
Turkey	5	5	4	4	4	22
Syria	3	3	4	3	3	16
Iraq	1	4	4	3	3	15
c) Future						
Turkey	5	5	5	5	5	25
Syria	3	4	4	4	4	19
Iraq	1	3	3	3	3	13

The Riparian Position Within the Drainage Basin

Turkey - as the most military powerful country of the Euphrates basin in the early 1990s owned itself to feel sufficiently secure to act as it pleased with the development programmes of the Euphrates river, without serious fear of military retaliation from the downstream countries. Examples are Ozel's hinting to Syria in 1987 that Turkey might cut off the flow of the Euphrates flow into Syria unless Damascus will stop its support to the Kurdish rebels of the PKK *(MEED, 13 October 1989, 4)*, and Demirel's 1991 description of the Euphrates water as a "national resource" similar to oil, added with warnings to Turkey's neighbours not to interfere in Turkey's national resources policies *(The Middle East, August 1991, 30)*, reflect the state's confidence in its military power regarding its downstream neighbours. Syria, on the other hand, was forced in 1975 by

international pressure, mainly from Saudi-Arabia and USSR, as well as a fear of military attaches from Iraq, to release water from the Tabqa reservoir for the benefit of Iraq.

Turkey, with the advantage of being located as an upstream state, with storage capacity in the three major dams on the Euphrates, that providing about 90 billion m3, which is equal to approximately three times the river's natural flow. These structures have the effect of reducing the flow of the river to the lower riparian states, and attract five points in the matrix model. Syria as the second riparian state, but only has storage capacity for 13.8 million m3, that is less than half of the annual natural flow, and therefore has only limited power to influence the river flow to Iraq. Even if Turkey will reduce the flow of the water in the river, it will not reduce the flow to a level that would affect Syria's agricultural development plans. Therefore Syria will get three points. Iraq as the lower riparian state will be heavily influenced by both Turkey and Syria's development projects. The occasions of a period of drought in the upper Euphrates will first harm the river flow to Iraq, as happened in 1984 *(Fisher, 1991, 480)*. Iraq faces more than just the question of inadequate water supplies. Iraq will also face high river water salinity - an inevitable consequence of the extensive new irrigation schemes upstream in Syria and Turkey. This is the reason that Iraq will get only one point.

Strategic Power

Turkey as the strongest riparian country in the past and the near future will get five points. Iraq was stronger than Syria from a military point of view until the 1991 Gulf War. That is the reason for giving Iraq four points while Syria gains only three points during the period of 1960s-1990s. However, as a result of the Gulf War and the UN sanctions, it seems that in the near future Syria will become stronger than Iraq, as seen in the future matrix. Syria, certainly will not take any military action against Turkey in order to secure its water. Most probably if Syria was to consider to influence again the Turkish regime concerning the Euphrates water, she will do it through other bilateral issues as she has done in the past.

Economic Interest

Before the 1960s Turkey and Syria did not use the river as hydroelectric power source as well as for industry purposes. The use for irrigation was minimal, so their economic expectations from the river were low (see cognitive maps). On the other hand, by 1960, Iraq was already using the river water to irrigate significant areas.

Table L2:

Basic Indicators of Area, land use, Population and Economy

	Turkey	Syria	Iraq
Total surface area (1,000 km2)	779 *a*	185 *a*	438 *a*
Area suitable for agriculture 1990 (1,000 ha)	27,699 *b*	6,149 c	11,800 *d*
Area under cultivation 1990 (1,000 ha)	25,305 *b*	5,626 *c*	3,300 *d*
Irrigated area (1,000 ha)	2,990 *b*	693 *c*	1,560 *d*
Per cent of irrigate area of total cultivation - 1990	12	12	44
Population (1991- millions) *e*	58.6	12.9	19.5
Average annual growth of Population (1980-1990) *a*	2.4	3.6	3.6
Population (2025 - millions) *a*	91	35	48
GNP per capita (US $ 1990) *a*	1,630	1,000	2,870
Contribution of agriculture to GDP 1990 (percentage)	18 *a*	28 *a*	5 *f*
Sectorial distribution of the Labor force (1980) *g*			
Agriculture	58	32	43
Industry	17	32	26
Services	25	36	31
Urban population as a per-cent of total population *a*			
1965	34	40	51
1990	61	50	71
Per capita water availability *h*			
(,000 m3) 1971	4.9	3.0	3.6
(,000 m3) 2000	2.3	1.0	1.3
Euphrates water as per cent of total surface water	32	85	38
Euphrates river Potential Irrigation area (million ha)	1.1	0.5	1.2
Euphrates hydroelectric Potential (MW)	5,346 *i*	885 *j*	660 *k*

Sources: a-World development report, 1992, 218-222, 268, 278; b,-Gulbahar, 1991, 531;c,-Syrian Arab Republic, 1991, 6/4; d-Hussain, 1990, 238; e- World Population Profile, 1991,A/5; f- EIU, 1990-1991, 14; g- Richard & Waterbury, 1990, 17,74; h- The Global 2,000, 1982, 156; I-Bagis , 1989, 52; j- Kolars & Mitchell, 1991, 153; k- The Arab Economist, October 1981, 6.

In 1969 Iraq withdrew approximately 45 per cent of the Euphrates water flowing through Iraqi territory *(Beaumont, 1978, 38)*. The Iraqi's economic expectations of the river were therefore high. During the construction of the development projects' 1960's-1990's, Turkey and Syria were already producing hydroelectric power, while Syria was even using water for irrigation and domestic use. Their level of expectations increased.

At that period, Iraq has based its economy on oil exporting and has focused less on the agricultural sector, therefore its expectation from the river decreased. For the future, it seems that the economic factor will become more significant for Turkey, as its plans to produce hydroelectric power are increasing (about 5,350 MW from the river, as well as up to one million ha of irrigation areas (see table L2) The Urfa/Haran irrigation tunnel will start operating most probably in the summer of 1993, thus Turkey will become the major user of the Euphrates water.

Syria will only produce about 885 MW and will irrigate up to half a million ha of area (see table L2). Syria is more dependent on the river as it is the poorest riparian country with limited natural resources with which to trade. Syria has neither large amounts of rainfall as has Turkey, nor a second major stream such as the Tigris, nor a large valuable petroleum deposit like Iraq. The Euphrates provides about 85 per cent of Syria's water. As a result, the use of the Euphrates water is a central element in the Syria's agricultural policy. However, the plans of the Turkish agricultural and electricity authorities, overheads the Syrian schemes in terms of scale. It seems that in the future, the importance of the hydroelectric power potential of the Euphrates river for Syria will decrease because the share of the hydroelectric power of total national electricity production will reduce sharply.

In the future,it seems that for Iraq, the user most vulnerable to water using developments upstream, the Euphrates water will be less significant because of the compensating economic resource of oil. The low hydroelectric power (660 MW) and the existance of the Tigris river which probably will stay (unharmed) by others, along with the development of new irrigation areas along the new "third river". The delivery of less water to the agricultural sector will not be easy to achieve by Iraq, particularly in Iraq's special circumstances (1991-93) of enduring the UN food embargo.These circumstances underline the importance of local agricultural production. When Iraq re-establishes a stable economy based on oil exports, it will also renew its food imports and will not have to concentrate on food security programmes. But Iraq with the external debt of about 100,000 million US $ *(MEED, 27 November, 1992)*, will not become an economic superpower in the near future.

External Political Interests

Before the construction of the main dams on the Euphrates, in the 1970s the river has played a small role in the foreign relations of the riparian states, in spite of the great importance given to the river by Iraq, as the only riparian country making major use of the river (See cognitive maps). During the period of rapid development projects, the Euphrates had become a major component in the external politics of the riparian states, because they have faced a potentially explosive situation over the division of water flow from the river. As a result of it the Euphrates became a burning issue in the Syrian-Turkish as well as in the Iraqi-Syrian relations as happened in 1974 and 1989 crisis. The three riparian agreed in 1980 to establish a Technical Commission for the exchange of information and to assist in finding a solution for the river conflict. Until October 1992, the riparian countries held 16 trilateral meetings based on ministerial levels (see chapter I).

After completion of the development projects, Turkey will hold the most significant position with the highest economic interests, because its far-reaching dam construction and irrigation programmes, will dramatically reduce the river flow to Syria and Iraq. Syria will hold a significant interest in international relations while Iraq will have less interest, as the river plays a less important role in its economy.

Internal Political Interests

Before the 1960s the river was only of minor significance in Turkey and Syria. For Iraq on the other hand it was very important, especially for the agricultural sector (see cognitive maps). The need for population dispersion both in Turkey and Syria, as well as the internal security problem in Turkey has increased their domestic interest in constructing development plans for the river. In the future, it seems that internal political interests will become essential for Turkey, significant for Syria and less important for Iraq. Apparently, Turkey has no clear solution for the internal problem of the Kurdish population in the South-East, expressed in the out migration from the area as well as in the low standard of living there. Both Suliman Demirel and Turgut Ozal see the GAP Project as part of their own personal and professional achievements. They both held important engineering posts in the past especially Demirel as the director of the DSI, and they have remained highly motivated to push the project ahead.

Syria does not face minorities or out migration problems in the Gezira region. The Euphrates project has had a high political priority as a showcase of the Ba'ath regime's developmental ambitions as well as part of the Syrian president's personal prestige.

Iraq on the other hand, is able to find a proper answer to the out migration of rural population from another water resource, and by using income from oil export and by this to achieve the Shia population support- or to control them.

The main hypothesis informing the analysis is that conflict potential is generally highest among riparians with relatively high interest and relatively equal overall ranging, provided there is no higher-ranked actor with strong interest.*(Naff & Matson, 1984, 193)*. According to the matrix model assembled for the Euphrates river, it is unlikely that a military conflict will occur in the future, considering the gaps among the overall ranging of the five factors, and Turkey- the country with the strongest interest is the upstream state (opposite to the situation of the Nile basin).

Iraq and Syria were in conflict over Euphrates water during the 1960s-1990s. According to the matrix model, Turkey would be in the future in a most advantageous position, while Syria would be in a restrained position, and Iraq would be in a poor riparian position. Apparently, there is a little if any possibility for a military conflict. However, it appears that Naff and Matson's claim that Turkey is holding a lower degree of interests *(Naff and Matson, 1984, 193)* should be disregarded.