

International River Basins and Inter-State
Conflict: the Potential for Cooperation

Miriam R. Lowl

This paper is an inquiry into the conduct and resolution of riparian disputes in protracted conflict settings in arid and semi-arid regions. We aim to answer two broad questions: what guides the behaviour of states in international river basins and what determines the potential for cooperation among adversaries in the utilization of scarce water resources?¹

The empirical material is drawn from the dispute over the Jordan River waters among Israel, Jordan, Syria, and Lebanon since 1949. For comparative evidence we analyze three other cases of riparian dispute in protracted conflict settings: the conflicts in the Euphrates, Indus, and Nile basins.

We begin with brief historical narratives of each of the four conflicts. Second, we use the case studies to answer three research questions that focus on the potential for conflict resolution, and are responses to functionalism, neo-functionalism, and regime theory. Finally, we consider the role played in the disputes by the following variables: 1) resource need, 2) relative power, 3) character of riparian relations and, 4) efforts at conflict resolution. We want to determine the importance of these variables in promoting or impeding cooperation.

Our central argument is that outcomes in river basins reflect relative power resources. Cooperation is not achieved unless the dominant power in the basin accepts it, and it will do so only if it serves to gain as a result. Furthermore, riparian disputes function as microcosms of the protracted rivalries with which they co-exist. Resolving the former tends to require the prior resolution of the latter, and not vice versa, as political functionalists and numerous foreign policy specialists would have us believe.

Jordan Waters Conflict

The Jordan river basin is an elongated valley in the central Middle East. Covering an area of 2730 square kilometres, it lies within the pre-June 1967 territories of Israel, Jordan, Lebanon, and Syria. About 80% of the basin is located in present-day Israel and Jordan, and they are the most dependent on its waters. The river system supplies Israel with one-third of its total water consumption and Jordan with three-quarters.

The Upper Jordan River's northern sources flow in three tributaries that rise in pre-1967 Lebanon (Hasbani), Syria (Baniyas), and Israel (Dan). A major tributary that joins the lower Jordan River from the east -- the Yarmouk -- rises in Syria, and flows through Jordanian and Israeli territory, as well. The Lower Jordan River has formed the boundary line between Israel and Jordan for at least part of its distance, eventually discharging into the Dead Sea. In the 1950s, and prior to major development schemes using the river's resources, the Jordan delivered about 1800 mcm (million cubic metres) of water into the Dead Sea, on an annual basis. Today, it discharges an average of about 210 mcm.

In the early 50s, after the first Arab-Israel war and the migration of vast numbers of Palestine refugees into Jordan, the kingdom was having to cope with severe population pressures and resource constraints. It began to study the possibilities of developing the Jordan Valley region using the river water. It solicited funds for that purpose. Israel, which was also having to cope with an influx of people -- Jews from the diaspora -- looked to the river system, as well, to meet its development needs. It objected to Jordan's efforts to utilize the Jordan River unilaterally.

The government of the United States became involved, and in 1953, sent a certain Eric Johnston to the region to advocate and promote the idea of basin-wide development of the river system, for the benefit of all riparian states, under some

system of supranational authority or management. Despite the fact that the Unified Plan was eventually accepted by both parties on a technical basis, it fell through on political grounds. The Arab-Israeli conflict determined all that was possible between the adversaries.

In the absence of a basin-wide scheme, Israel and Jordan embarked upon independent projects. On several occasions and especially when tensions were high in the region, efforts were made to deprive the enemy of essential water resources, and hydraulic installations were treated as military targets. The June 1967 war was a major turning point insofar as the Jordan system was concerned. Israel seized control of the two northern headwaters in Syrian and Lebanese hands, and gained far greater direct access to both the Yarmouk River and the lower Jordan River. As the upstream riparian on the main trunk of the Jordan, Israel could now control the flow downstream.

As of the mid-1960s, Israel has been diverting a large portion of the Upper Jordan waters into its own national water system. Jordan has been making use of the Yarmouk waters to irrigate its portion of the Jordan valley. However, due to the absence of storage facilities on the Yarmouk, Jordan has not been able to exploit as much of the waters as it needs.

Toward the end of the 1970s, the kingdom was facing severe socio-economic constraints; it again sought international assistance to develop the river system and build a dam on the Yarmouk. Once again, the United States became involved, tried to promote a basin-wide accord, and failed.

Because of the combination of population pressure, variable and unpredictable climatic conditions (including consecutive years of drought), and the absence of additional fresh water resources to develop, both Israel and Jordan have had to focus on small-scale, piecemeal water projects in an effort to meet their growing needs. Such projects, albeit necessary, are limited in scope and effectiveness. Despite a looming water crisis in the general region, the adversarial relations make it

very difficult for the parties to put their resources together and help each other, even in a way that would help themselves.

Other Riparian Disputes

As in the Jordan basin, in the Euphrates, Indus, and Nile River basins, conflict has emerged among the riparian states over the allocation and utilization of the rivers' resources.* All four riparian disputes are located in arid or semi-arid regions, where resource scarcity is a fact of life. In all four cases and for some or all of the riparians, dependence on the river system is great. For at least some of the states in each basin, unimpeded access to the water resources is linked to national security concerns. And while basin-wide, integrated development has been advocated as the optimal means for sharing the waters of an international river, in none of the cases have the basin states elected this solution. This has been due to a variety of geopolitical and security-related concerns.

While the three cases share with the Jordan dispute certain basic similarities, there are significant differences in conditions and variables that account for the variation in outcomes. First, in the Nile basin, there is no protracted conflict over multiple issues among the riparian states as there is in the Jordan, Indus, and to a somewhat lesser extent, Euphrates basins. Second, in all but the Nile case, the upstream riparian is also the dominant power in the basin. In the Nile basin, the inverse is the case. Third, agreement over access to the basin's water resources has been achieved in two of the four cases -- the Indus and Nile. However, in neither has the solution reached been optimal, (in the sense used above).

Euphrates Basin:

The Euphrates River rises in southeastern Turkey and follows a course of 2,333 kilometres through Turkey, Syria, and Iraq before emptying into the Shatt al-Arab waterway. It drains a basin of 444,000 square kilometres, 28% of which lies in Turkey, the uppermost riparian, 17% in Syria, the middle riparian, and

40% in Iraq, the downstream riparian. The average annual discharge of the river is 31.8 bcm, 88% of which is generated in Turkey, and virtually all of the remaining 12% in Syria. Of the three riparians, Turkey is the best off in terms of water supply: average annual rainfall is adequate for rainfed agriculture. In contrast, more than half the area of Syria is desert and semi-desert; and the Euphrates alone accounts for as much as 86% of the water available to the country. Almost 2/3 of the total land area of Iraq is desert; agricultural production is highly dependent on the Tigris and Euphrates for irrigation water.

Until the mid-1960s, it was only Iraq that made large-scale use of the river. In the mid- to late-60s, however, Syria and Turkey began to devise considerable unilateral projects to harness the river for irrigation and hydro-electric power production. Most significant were the construction of a dam at Tabqa in Syria (1968-73) and a series of dams in southeastern Anatolia -- Keban (1965-73), Karakaya (1976-87), and Ataturk (1983-92). Because these projects promised to deplete the quantity and quality of downstream water supplies, a tripartite agreement on water distribution was imperative. But inter-state relations proved to be a formidable obstacle to cooperation. Without delay, the issue of sharing water brought to the fore other sources of tension simmering between Turkey and Syria on the one hand, and Syria and Iraq on the other.

In the initial stages of talks (mid-60s), Turkey made agreement on the Euphrates waters conditional upon an inclusive agreement on the distribution of the water of all rivers common to it and Syria: implicit was the need for Syria to recognize Turkish sovereignty over Alexandretta, through which the Orontes River flows.

Between 1966 and 1975, Syria and Iraq held periodic bilateral talks and argued over technical matters. Iraq insisted on its claim to acquired rights, but Syria maintained that potential needs were at least as important. On a number of occasions during this period, the water flow downstream was

reduced by one or both upstream states. By the mid-70s however, technical considerations seemed to fall by the wayside and the political rivalry between the two B'athi leaderships of opposing tendencies overshadowed all other concerns. Not only did the conflict over water resources aggravate political tensions between the two downstream states, but it quickly proved to be a chessboard for the larger issues governing regional and inter-Arab politics.

Until today, no progress has been made at reaching a tripartite agreement on water-sharing. The upstream riparian hopes to complete its massive water resource management schemes in southeastern Anatolia. These projects would only be curtailed by a basin-wide accord. The middle and downstream riparians, which would gain considerably from a basin-wide accord, continue to have difficulty sitting at the same table, to say nothing of their inability to ally against the upstream and hegemonic riparian. Furthermore, there has been little, if any, outside encouragement for regional cooperation.

Indus Basin:

One of the largest river systems in the world, the Indus is shared by four states, but principally India and Pakistan, and is composed of the Indus river itself, five major tributaries and two minor ones. India contains part of the headwaters of all five principal tributaries. None of the tributaries rise in Pakistan, but all except for one enter the country. The Indus River system including the seven tributaries covers a length of 8480 kilometres, and has a combined annual discharge of 97 bcm.

The riparian conflict in the basin focuses upon the Punjab, that was divided by the 1947 partition boundary into West Punjab (Pakistan) and East Punjab (India). This rich, densely populated agricultural region is traversed by the Indus and its five main tributaries. At the time of partition, the Punjab was criss-crossed by an extensive system of canals which had, for

decades, provided irrigation water for about 12 million acres of land. Nonetheless, the international boundary between the newly-constituted states of India and Pakistan was determined on the basis of confessionalism, since the immediate concern at the time was the separation of the Hindu and Muslim communities. The boundary cut across the Indus rivers and canal system which had been developed under the conception of a single administration. All headwaters of the Indus system now rose in India -- even those which were of no irrigation use to it, but upon which Pakistan, the downstream riparian, was heavily dependent.

India, as the upstream riparian, was in no hurry to make agreement. Pakistan, however, was under pressure because of both its acute dependence on the waters and its inferior riparian position. Moreover, because strategic advantage lay with India, Pakistan could not resort to force to re-establish usage when India would cut off or decrease the flow to its downstream riparian, as it was wont to do periodically.

In 1951, David Lilienthal of the Tennessee Valley Authority became involved in the dispute. He understood Pakistan's acute dependence on the river system. He advocated integrated development of the rivers' waters and suggested that tensions could be reduced if the water issue were treated as a technical problem, rather than a political issue. At his instigation, the World Bank announced that it would be prepared to negotiate the Indus question.

India and Pakistan agreed to separate the water dispute from the other partition-related issues, and accepted the Bank's mediation. They both made it clear, however, that they would not accept an integrated system: India had little to benefit from that, and Pakistan did not want to be dependent on India's good will.

Between 1952 and 1960, there were more-or-less continuous negotiations among the three parties. The Indus Waters Treaty was signed in September 1960 and was based upon the Bank's proposal: Pakistan had priority over the western rivers, India

over the eastern rivers: 81% of the water was allocated to Pakistan, and the remaining 19% to India. The plan was formulated on the basis of no interdependence -- the antithesis of integrated development; neither party trusted the other enough to construct and operate a single integrated system. In essence, the plan extended the process of partition; it resulted in the territorial division of the rivers.

Nile Basin:

The vast catchment area of the Nile basin -- 3.1 million square kilometres -- is shared by nine states: Burundi, Rwanda, Tanzania, Kenya, Zaire, Uganda, Ethiopia, the Sudan and Egypt. The river system is composed of two major tributaries, the White and Blue Niles, that rise in Lake Victoria and Lake Tana (Ethiopia) respectively, meet at Khartoum, and continue northward through the Sudan and Egypt to the Mediterranean Sea. Together, they follow a course of 8,000 kilometres, and the annual average discharge at Aswan (Egypt) is 84 bcm. All riparian states, except for Egypt, make some contribution to the river flow.

Although there are nine riparians in the basin, it is only Egypt and the Sudan which, until today, have considerable need for its waters, and only they have been involved in the question of water rights. The Sudan's dependence on the river system is great; Egypt's is absolute. (The inhabitants of the Nile Valley rely exclusively on the river for their survival.) The states furthest upstream have little or no interest in the river waters, despite their superior riparian position. In contrast, Ethiopia, which occupies a strategic position at the headwaters of the Blue Nile, has put off harnessing the waters and uses the river as a geopolitical bargaining chip with its water-scarce downstream neighbours.

Soon after the first World War, both downstream states had development plans for the river. It soon became imperative for them to reach a formal agreement on water allocation. The first Nile Waters Agreement was signed in 1929. The terms were

renegotiated in the 1950s, once Egypt stepped up its plans to build the Aswan High Dam. Egypt sought a substantial increase in its share, basing its argument on its absolute dependence on irrigated agriculture, the fact that the Nile was its unique source of water and, its larger population and higher growth rate. The Sudan however, sought to assure its own future needs.

Egypt and the Sudan signed the Agreement for the Full Utilization of the Nile Waters on November 8, 1959. By its terms, Egypt's share was a total of 55.5 bcm and the Sudan's 18.5 bcm. This represented a ratio of 3:1 in Egypt's favour, as opposed to the 1929 ratio of 12:1. For the most part, the agreement has been faithfully applied until now, and both riparians have without exception received their designated shares. Construction of the Aswan High Dam began in 1960 and was completed in 1970. It would provide over-year storage and adequate summer water for Egypt's commercial agriculture, and Sudan with enough additional water to increase its irrigated area threefold.

Unlike in the other three basins, the situation in the Nile basin is considered, for the time being, a low-level conflict. This is in part because of the nature of dependence on and usage of the waters of the river system. It is also because of the fact that the two neediest, downstream states have a long history of interaction, punctuated by the domination of the weaker (upstream) by the stronger (downstream), and the resultant feelings of vulnerability on the one hand, and 'hegemony' on the other.

The Potential for Conflict Resolution

Now that we have outlined in broad strokes the four riparian disputes, it remains to answer our research questions about the potential for conflict resolution in international river basins characterized by protracted conflict.

When a riparian dispute coalesces with a larger inter-state conflict, is it reasonable to aim to resolve the former as the first step to resolution of the latter? In other words, is

the argument of Political Functionalists feasible: can we expect to achieve overall political cooperation among hostile states via an on-going process of functional arrangements for the satisfaction of particular tasks of shared interest?

The answer is "not necessarily". In the history of the dispute over the Jordan waters, there were attempts on two occasions to promote functional arrangements and establish a regime for sharing water resources in the basin. In the cases of both the Johnston mission in the 1950s and the Maqarin Dam scheme at the end of the 1970s, the United States' Government lent tremendous support to the projects, in the hope that they would be catalysts to peace in the region. It expected this would happen in the fashion suggested by the Functionalists: on-going practical cooperation in issues of mutual concern would blur animosities by virtue of a new perception of shared needs, eventually leading to overall political cooperation. However, U.S.-sponsored efforts were not successful. In neither episode was the context one in which all parties perceived an equitable distribution of benefits, nor were there sufficient inducements to bring all parties to the bargaining table.

If we borrow the language of game theory and consider the Functionalist formula as one of iterative games, we note that each player -- but especially the one who has the least to lose -- is in a position to refuse to play any particular game. That is a truism of the game. In the Jordan basin, it was this veto power of the strongest and least needy that resulted in the breakdown of efforts to achieve functional cooperation. More correctly, the player -- Syria in the mid-50s, for example -- exercised its veto power because the payoff structure of the particular game was not compatible with cooperation. Essentially, the (strongest and least needy) player perceived that, as far as it was concerned, the costs of cooperating would outweigh the benefits.

Eric Johnston's lengthy mediation effort was fraught with difficulties. Throughout the negotiating process, there was constant disagreement over quantities of water and transfers of

water, as well as conflicting views of rights, needs, and international legal precedents. Of the four riparians, Israel and Jordan had the greatest need for the Jordan waters. Lebanon and Syria, on the other hand, could have used a portion of the river's waters for domestic purposes, but given their favourable position as upstream riparians and the fact that they each had other fairly abundant national rivers, they considered the river system primarily as a geopolitically strategic resource vis-à-vis Israel, downstream. Eventually, both sides admitted that the plan was acceptable on technical grounds. However, the Arab League was against it for political reasons. And Jordan, the most needy of the Arab riparians, had no clout in inter-Arab politics. The mediation effort came to a halt.

Especially during the years prior to the war of June, 1967, the "Question of Palestine" lay at the heart of all interactions and governed all that was possible between Arab and Israeli. As some of the "cognitive" approaches to the study of cooperation rightly point out, "historically-situated" states respond to their environment in light of their very particular normative and ideological constraints.³ In the Jordan basin, neither party could treat the possibility for sharing water as a straight-forward, unambiguous issue. Implicit in water-use arrangements would be formal acceptance of the other and its rights as a political entity. However, withholding recognition because of questioned legitimacy was part and parcel of the inter-state conflict. The combination of the nature of the larger political rivalry and the fact that the Arabs perceived that, as a collectivity, they had little to gain materially and much to lose politically from a regional water-sharing scheme with Israel prevented the more powerful Arab states from accepting a regime in the basin.

Again, in the early 1980s, efforts to achieve functional cooperation -- this time, on the Yarmouk River -- came to nought, because of the veto of the stronger Arab riparian, which was also the least needy of the three concerned states, and its

perception of the pavoit structure. Syria would not approve the Maqarin Dam project, since it would entail cooperation with Israel and would be located within reach of Israeli artillery. Moreover, being the upstream riparian, Syria was in the most advantageous position. There could be no cooperation in a river basin without its acquiescence, unless it was coerced by a militarily stronger downstream state or third party. This is true of international river basins, in general.

As in the case of the Johnston mission, the Maqarin Dam issue indicates that regional political conflict exacerbates the water problems of states in arid regions, by virtue of the fact that it impedes the ideal solution to riparian disputes. In the Jordan basin, regimes for the regional development of water resources could not be realized, in part, because of the 'cognitive' variables at play in the larger inter-state conflict. Regimes do not materialize when political rivalry engages visceral concerns that would necessarily be ignored by functional cooperation. In the Jordan basin, to any but the most needy state, there was not sufficient inducement to renege on basic organizing principles to achieve what a functional arrangement had to offer. Anticipated long-term political losses outweighed immediate material gains. The optimal resolution of riparian dispute requires, at the outset, the resolution of the larger political rivalry, and not vice versa.

The way in which the dispute over the Indus waters was resolved substantiates this argument, as well. Soon after the World Bank became involved in trying to negotiate a water-sharing agreement between India and Pakistan, it realized that because of the historically-conditioned framework, it was not going to reach a cooperative solution to the riparian dispute. Hence, it sought resolution via non-cooperation. In practice, this meant that the river system was divided into two parts -- one for India, one for Pakistan. There was to be no interdependence and no interaction. Essentially, this solution was the antithesis of that proposed by the Functionalists.

Given the experiences in resolving riparian dispute in both the Jordan and the Indus basins, the Realist critics of Functionalism are correct: states that are adversaries in the "high politics" of war and diplomacy do not allow extensive collaboration in the sphere of "low politics", centered around economics and welfare. In fact, the spill-over effect runs in the opposite direction of that suggested by Political Functionalists: economics and welfare collaboration are retarded by "high politics" conflicts between states.⁴

Related to the question above and to the Functionalist argument, is it possible to de-link or isolate issues under the circumstances of co-existence of a riparian dispute and a protracted political rivalry, so that the former could be resolved without reference to the latter?

The response to the preceding question would suggest that here too, our answer must tend toward the negative. In the Jordan basin, the riparian conflict has been intimately bound up with the larger political rivalry throughout the history of the water dispute. Both were treated as one and the same by the riparian states. More correctly, the riparian dispute was regarded as a manifestation, or dimension, of the inter-state conflict. The failure to resolve the riparian dispute in the Jordan basin indicates that de-linking is often exceedingly difficult.

In the 1950s, the Eisenhower Administration did what the Functionalists suggest: it treated the highly-charged psychological environment in the central Middle East as an abstraction in its attempts to resolve some of the tensions in the region. Since these sentiments were viewed as obstacles to cooperation, rather than confront them, it sought to brush them aside. The Arabs and Israelis could not do likewise, for cognitive elements and conflicting organizing principles -- both of which had originated in a particular historical experience -- influenced the way in which they would interact. No doubt, national interests and foreign policy behaviour are responses to

environmental constraints that are normative and ideational in nature, as well as being structural and material.³ They are not based simply on a rational calculus of utility maximization, as the Neo-Functionalists would have us believe.

The solution reached to the Indus waters dispute highlights this point, as well. There, the mediation effort was fairly successful because the third party took into consideration the context of relations in the basin, and understood that historically-formed values and beliefs were bound to affect outcomes. The matter at hand was not a straight-forward, unambiguous issue of sharing water resources. Nonetheless, it was only with a non-cooperative and hence, sub-optimal solution that issues could be de-linked. No doubt, this was due to the nature and intensity of the larger political rivalry.

How, then, can we explain that states engaged in a protracted political conflict have been able, on occasion, to come to technical arrangements -- not unlike "implicit" regimes -- with regard to water resources? Do these arrangements have more general implications for inter-state relations and the potential for peace?

When technical cooperation has been achieved in international river basins and thus, riparian states have proven able to de-link issues, the arrangements concluded are of a very particular sort. To the contracting parties, they are perceived as both vital and indispensable, for they are bound up, in one way or another, with the states' security concerns. In the case of riparian dispute, the factor that will almost invariably lead states to seek technical arrangements is that of acute need for water resources and/or dependence upon a specific, shared body of water. The failure to establish a water-sharing regime would be considered threatening to the state's continued survival. Furthermore, in situations where need is coupled with relatively inferior power resources, the interest in a regime is especially keen. The example of Israel and Jordan is instructive in this regard.

After the breakdown of the Johnston mission in 1955, both Israel and Jordan followed, more-or-less, the guidelines of the Unified Plan with regard to water allocations from the Jordan system, in the absence of an agreement. Until June 1967, Jordan was releasing the quantity of water suggested by the plan from the Yarmouk River for Israeli use, and Israel was releasing Upper Jordan water into the Lower Jordan after having diverted the quantity allocated to it in the plan. Both countries were highly dependent on the river system; neither could do without it. For Israel, the Jordan system represented one-third of the country's total annual consumption of water; for Jordan, it accounted for more than two-thirds. Both countries, but especially the latter, had been anxious to see a basin-wide agreement to the Unified Plan materialize.

For the same reason, Jordan was anxious to reach agreement with Israel and Syria to construct the Magarim Dam. The Yarmouk River is Jordan's only abundant source of surface flow. However, one-third of its total discharge cannot be exploited by the Kingdom, since there are no storage facilities on the river to capture and impound the floodwaters.

In contrast, if a riparian state is not in need of access to the water supply, and/or relative to the other basin states, it has superior power resources, either in terms of military capability or in terms of riparian position as the upstream state, or both, it will have little, if any, incentive to conclude technical arrangements and establish a regime. In the 1950s, neither Lebanon nor Syria had much use for the waters of the Jordan system. For this reason, they were not favourable toward the Unified Plan. Moreover, given that Syria was the most powerful Arab riparian and one of the more influential Arab states, its interests prevailed. Had Lebanon and Syria been dependent on the Jordan waters, they may have been more inclined toward the Unified Plan and striking a bargain, even with the enemy. No doubt, as the upstream states in the basin, they may have tried -- as in fact they did in the mid-1960s -- to utilize

their superior riparian positions and exploit the Jordan waters unilaterally, irrespective of downstream needs. The outcome of their efforts to divert the waters of the Jordan system demonstrates that by the mid-1960s and despite their advantageous riparian position, they were not able to behave as hegemons in the basin. Relative power resources were in the favour of Israel, the mid-stream state.

The centrality of need and of power resources in the quest for cooperation and the possibility of establishing a regime in river basins is brought to the fore by the Euphrates case, as well. Of the three riparian states, Turkey has absolute advantage. In addition to being the upstream riparian, it also is militarily the strongest. Given its hegemonic status in the basin, there is no good reason why it should support the creation of a water regime with Syria and Iraq. Without a regime, it is able to extract the maximum advantage: with a regime, its manoevrability would be constrained. No doubt, Syria and Iraq could gain considerably from a basin-wide accord.

Hence, insofar as international river basins are concerned, we do not find cooperative arrangements where threats to security -- in the form of resource need -- do not inhere, and where they are not advocated or imposed by a hegemon. This insight is brought out repeatedly in examinations of transboundary resource disputes.

Finally, when technical arrangements are established among adversarial states in river basins in arid regions, these have no implications for the end to political rivalry. In fact, they are considered by the riparians as single-play games: specific to the function and limited in scope. Contrary to the predictions of Functionalists and the underlying assumptions of game-theoretic approaches to international politics, neither player makes an effort to enmesh his opponent in an on-going process of interaction.⁶ In the international river basins we have studied, the few instances of technical cooperation and regime formation were responses to over-riding practical

imperatives; they were perceived as indispensable and unavoidable. These arrangements seem to have no conflict resolution potential.

Before concluding, we must reconsider the four principal variables, and elucidate what we have learnt about the roles they play in the evolution of riparian conflict, and their importance in promoting or impeding cooperation in international river basins.

In the Jordan, Indus, and Euphrates basins, the fact of a larger political rivalry between at least two of the riparian states has served as a disincentive to cooperation, especially since, in all cases, the rivalry implicates the core values of states. Reluctance to cooperate with an adversary in seemingly technical matters is, as the Realists point out, a reflection of their "High Politics" conflict. No doubt, the fact of a political rivalry may influence the course and evolution of riparian dispute, and even -- as in the case of the Indus basin -- the type of solution reached. However, in none of the riparian disputes we have studied has the outcome been determined by the political conflict.

In the Jordan basin and to the states most dependent on the river system, the political rivalry recedes in importance when the material gains to be reaped from a regime loom large. To ensure their survival, water-scarce Israel and Jordan have been prepared to 'set aside' the Arab-Israeli conflict on several occasions. However, in the 1950s, for example, access to the Jordan waters was not an issue for Lebanon and Syria. Hence, the fact of the larger political rivalry was brought to the fore and was used as the rationale for non-cooperation.

While the fact of resource need and dependence will prompt states to seek cooperative water-utilization arrangements, relative power resources in the basin will influence both the desire for a regime as well as its creation. To take the Euphrates case as an example, it is important to understand that, irrespective of the political rivalry between Syria and Iraq, a

water-sharing regime in the basin will not take shape, no matter how badly the two downstream states may need one, as long as Turkey, with its hegemonic status both geographically and militarily, does not want one (and is not forced to accept one). Being the upstream riparian, it has no need and no desire to share the Euphrates waters.

The case of the Nile basin provides an instructive example of the importance of this combination of factors, as well. There, the most water-dependent state is also the most powerful. With superior power resources, it has been able to make its vital needs felt. A regime has been established, with Egypt as the main beneficiary.

In the Indus basin, the hegemonic and less needy state was eventually induced to seek a solution -- albeit a non-cooperative one -- to the riparian dispute. The positive and tireless efforts of an impartial third party at an opportune historical moment, and its appreciation of the context of relations, brought pressure to bear on India.

In sum, in the international river basins we have studied, a variant of the theory of hegemonic stability holds true. In all cases, outcomes reflect relative power. Cooperation is not achieved unless the dominant power in the basin accepts it, or has been induced to do so by an external power. Moreover, the hegemon will take the lead in establishing a regime or accept regime change only if it serves to gain, as a result. In the absence of coercion from outside, this occurs in river basins only if: 1) the dominant power's relationship to the water resources in question is one of critical need -- linked to its national security concerns -- and, 2) it is not the upstream riparian. Cooperation in international river basins is brought about by hegemonic powers.

In conclusion, and based on the experiences in four international river basins, the central argument of our study can be re-stated thus: when a riparian dispute in an arid region unfolds within the context of a more comprehensive inter-state