

# Revisiting the Water Wars Theory: How Reasonable States Really Are

Written by Joseph J. Steinberg

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Do states go to war due to resource competition? Or, do states seek settlements that reflect their long-term interests? Cross-tabulating data from the Issues Correlates of War dataset and Peter H. Gleick's Event Intensity Scale shows that states seek negotiated settlements. Undala Z, Alam used the single case of the Indus Waters Treaty as a case study. I broadened the number of cases to the Jordan River and South Africa, to eliminate any regional bias. A significant number of states have sought negotiated settlements, and have avoided any level of militarized dispute even 15 years later. Significantly, there is only one example of a militarized dispute causing more than one-thousand casualties. There do seem to be a small sample of intractable disputes.

### Introduction

Our research suggests that the renewable resource most likely to stimulate interstate resource war is river water. Water is a critical resource for personal and national survival; furthermore, since river water flows from one area to another, one country's access can be affected by another's actions. (Homer-Dixon 1994)

Opportunity and willingness, according to Benjamin A. Most and Harvey Starr, must both be present for war to occur. Rivers, it seems, are prime opportunities. Human civilization arose near rivers, and the first conflicts over rivers erupted quite soon. This is a depressive notion, most popularly put by Michael T. Klare, that the possibility of conflict will increase as states compete for natural resources. But even Klare cannot doubt instances when settlements were reached, as when Jordan and Israel signed the 1994 peace treaty. Or, when South Africa occupied Lesotho ostensibly to find anti-apartheid guerrillas. What is missing in Klare's necessary condition, a river, is the diplomatic conduct of states and their agents, the willingness component.

Undala Z. Alam's water rationality theory, in which negotiated settlements between rival claimants are the goal of reasonable states seeking long term solutions to intractable water dilemmas, is also an opportunity to add a non-war variable to the question of states' bellicosity. If one wants to ask why states go to war, then perhaps first one should verify that states do indeed take the opportunity rivers afford for ceaseless striving. I will argue that the resource wars theory does not hold up, and that the water rationality theory is a more fitting starting-point for inquiries into why states go to war.

### Theoretical Proposal

The 'resource wars' theory holds that the possibility of conflict will increase as states compete for natural resources. Michael T. Klare (2002) posits three reasons: escalating demand; resource shortages; and, proliferating ownership contests. Undala Z. Alam (2002) adds two more reasons: a wider conflict; bellicose statements. Alam offers another hypothesis, the water rationality theory, for why states do not go to war due to resource competition. The water rationality theory states, that "the issues of water scarcity, competitive use and a wider conflict do not necessarily lead to war, since war cannot guarantee a country's water supply in the long term." Alam offers Indo-Pakistani cooperation in the Indus River region as a case study, to support her counter-argument.

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## Research Design

To test the water rationality theory, I will use both qualitative and quantitative methodologies. Qualitatively, I will test the water rationality theory by comparing Alam's Indus River case with the Jordan River and South African cases. On the quantitative side, I will use the Issue Correlates of War Project datasets, to ascertain the causal relationship between river claims and political events based on Giordano et al's (2002) Friendship/Hostility Index (FHI).

## Literature Review

### *The Jordan River Case*

Thomas Homer-Dixon (1994) identifies the Jordan River case as a prime example of resource capture, or when powerful groups respond to a fall in the quality and quantity of a renewable resource, like water, by changing the distribution of the resource in a way harmful to weaker groups. Two perspectives on the Jordan River case, one looking backwards as the working group on water resources under the auspices of the Middle East peace process began its work, and another from Jordan's Minister of Water, offer a cautionary tale about how to predict the relationship between river claims and events. In the first, Miriam Lowi (1993) frames the problem as "the linkage between 'low politics' and 'high politics' in conflict resolution, as it relates to resource scarcity, resource dependence, and the Arab-Israeli conflict, and especially with the issue of water in the Jordan River basin." In the latter, Munther J. Haddadin (2002), with firsthand diplomatic experience, concludes that "that water is a source of cooperation and can never cause a war."

Lowi (1993) writes darkly of the scarcity of both surface and ground water resources. All three of Israel's aquifers originate outside its borders, and only 5% of recharge is under Israeli control. Lowi also considers the relationship between Zionism, agriculture, and water. "From the outset of the Zionist movement's endeavors, unrestricted access to water resources was perceived as a non-negotiable prerequisite for the survival of a Jewish national home." Equally remarkably, Lowi frames the water issue on the West Bank not only as a security issue, but also within the frame of Israeli-Palestinian relations, never mentioning Israeli-Jordanian relations in that context. "In the Arab-Israeli conflict, water resources and national security are thus intimately linked."

Minister Haddadin, as is to be expected, frames West Bank water issues almost exclusively within Israeli-Jordanian relations. In passing, Haddadin laments that the United States would abandon the 1953 Johnston Plan because of the deleterious effect upon the "underdog Palestinians." Haddadin not only provides an historical sketch of water-related issues from the 1930s to the 2000s, he also sketches out all four diplomatic tracks, Lebanon, Jordan, Palestine, Syria. He also denies the 1967 war was a water war.

Some analysts have claimed that the June War of 1967 was a water war because of the skirmishes that had taken place a year earlier over the Arab project that would have diverted part of the waters of the Hasbani and Banyas upper tributaries. Evidence to the contrary exists, especially after declassification of US documents in the 1990s.<sup>1</sup> When the June War broke out, the only on-going component of the Arab Project was the Jordanian component, that is, the Mukheiba Dam on the Yarmouk, and the extension of the East Ghor Canal. The immediate reason for the war, in addition to the prevailing enmity between the Arabs and Israel, was the evacuation of UNEF on 22 May 1967, and the subsequent mobilization of Egyptian troops into the Sinai. These developments were followed by the formation of a coalition government in Israel in which the hawkish elements took up ministerial positions.<sup>12</sup> The countdown for a war then started and war broke out in the morning of June 5. Israel occupied what remained of Palestine (the West Bank from Jordan and Gaza from Egypt), the entire Sinai Peninsula and the Golan Heights. With the Golan Heights occupied, Israel gained control of the entire Banyas tributary from its source to its confluence with the Jordan and gained additional frontage on the Yarmouk. The Dan tributary already lay entirely within Israel. What remained of the Jordan's upper tributaries outside Israel's control were the Hasbani and its sub-tributary, the Wazzani. Clear evidence that the war was not a water war lies in UN Security Council resolution 242, which outlined the basis of settlement after the war was over. It did not include any provision to deal with the water dispute. (Haddadin 2002)

Faced with the fact that three tracks, Lebanon, Palestine, and Syria, remain unresolved, Haddadin nonetheless

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offers the Israeli-Jordanian as an exemplar.

The water relations between Israel and Jordan have proven to be the smoothest. Relations in almost all other fields stipulated in the [November 11, 1994 Peace] Treaty have not been as good. This fact testifies to the validity of the notion that water is a source of cooperation and can never cause a war. Water, after all, is used to extinguish fires, not to ignite them. (Haddadin 2002)

## **The Indus River Case**

The Indus River case, in the form of the Indus Waters Treaty (IWT) signed on November 19, 1960, is another rare example of cooperation between India and Pakistan. Like the Jordan River case, the Indus River case begins with the confluence of boundaries and agriculture. The partitioning of two independent states, India and Pakistan, in 1947 failed to take account of course of the Indus through both and the legacy of the irrigation canals the British had added to the basin. The Indus is fed by smaller rivers, like the Sutlej, which originate in Indian-controlled Punjab. The canals have left Pakistani agriculture entirely dependent on the Indus, but also vulnerable to outbreaks of flooding and famine whenever rainfall varies.

Although there is a consensus that the IWT is an example of cooperation between riparian states, there is some debate about the reason for the signing. Undala Z. Alam (2002) has offered two reasons. The first one, the financial role the United States played through the Indus Basin Development Fund (IBDF), Alam offers three reasons for disputing this argument. Firstly, Pakistan in public statements made it clear financial could not fully address its absolute dependence on the Indus; Secondly, there are the reverses in the course of negotiations over a period of nine years; Lastly, an important breakthrough in negotiations came after an October 1958 coup in Pakistan.

This rebuttal is prelude to Alam's "water rationality" theory.

Water rationality is any action taken by a state to secure its water supply in the long-term, both in quantity and quality. This implies that, nationally, a state manages its water prudently, and internationally, it maintains relationships with its co-riparian countries that are conducive to ensuring long-term access to the shared water. (Alam 2002)

The IWT has endured, but not without tensions. Hamir K. Sahni (2006) offers two cases: a 1987 dispute over India's decision to build a barrage on the Jhelum River (a tributary of the Indus): and, the building of the Baghihar Dam in 2005 by India (when the World Bank mediated). It is in this regard that *Hamir K Sahni's call for American mediation raises two issues. Firstly, the IWT, although mostly successful, has not eliminated inter-state political tensions; Secondly, whereas Alam attributes the signing of the IWT to the rational interests of India and Pakistan, Sahni raises the question anew just how important the intervention of other states, or organizations like the World Bank, are to the presence of conflict and cooperation.*

## **The South African Case**

*South Africa's physical geography is complicated further by its political geography. Val Percival and Thomas Homer-Dixon (1994) provide a "analysis of the causes of conflict within South Africa [that] is relatively novel." A dearth of yearly rainfall and thin topsoil deprive farms of sustainable ecosystems without massive infrastructure. Under apartheid, the South African government distributed the least and poorest of the lands to blacks. Additionally, population growth in black-controlled territories further strained the ability of soils to produce. Exacerbating the plight of poor blacks, resource capture occurred as black elites seized land from poorer blacks. As a result, many blacks felt compelled to migrate into urban areas, exacerbating both political tensions and environmental scarcity further, as the territories supplying the urban areas came under greater strain to supply them.*

*Homer-Dixon (1994) also argues that South Africa's 1986 support for a coup in Lesotho had less to do with military operations against guerrillas of the African National Congress, but rather to secure approval for the Highlands Water Project. Furthermore, Homer-Dixon attributes yet more supply scarcity to this project, as the dam*

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*redistributed scarce resources for its own use.*

## Other Sources

Michael T. Klare argues that “disputes over shared water supplies in the Jordan...and Indus basins are likely to provoke high levels of tension along with periodic outbreaks of violent conflict.”[1] Klare admits that in both cases states have “a history of resolving water disputes through nonmilitary means.” As Klare sees it, the problem is “mounting population pressure”. Klare acknowledges the 1994 Israeli-Jordanian peace treaty, lauding Israel’s easing of demands on the Yarmuk and praising both for cooperation on desalination projects. But then, he relocates the problem to the Israeli-Palestinian question and Syria. Finally, he concludes with a warning about a “water disaster” in a Jordan River region where 21.2 million people might reside in 2020.[2]

Concerning the IWT, Klare points out that “the treaty does not allow for the joint development of the Indus basin; nor does it eliminate the grounds for conflict over water distribution between India and Pakistan. Rather, it is a plan for the separate development of the basin, with India receiving a smaller share of the total water supply but retaining control of several key Indus tributaries.”[3] If that were not bad enough, explosive population growth and global warming-induced environmental degradation could yet spark tensions. Klare concludes the section on both cases by predicting an interstate “clash over the distribution of water” or civil repression.[4]

Peter H. Gleick argues that “[w]ater-related disputes are more likely to lead to political confrontations and negotiations than to violent conflict.”[5] Drawing on international cases from all regions, Gleick does not dispute the occurrence of conflict, citing examples such as the Nile, the Mekong, the Danube, the Zambezi, and the Ganges. He warns further that global warming will complicate regional climate change leading to further conflict. He advocates both the marshaling of professional’s expertise and coordination between national governments and international organizations.

Juha I. Uitto and Aaron T. Wolf passionately make the case for a comprehensive approach to water-based conflict. “As a whole, this collection suggests that understanding the characteristics of a river basin in all of its biophysical, socio-economic and geopolitical complexity is essential in order to move ahead with conflict resolution and identifying the potential for positive-sum solutions based on the disparate interests of each party in the basin “[6]

Thomas F. Homer-Dixon argues that environmental degradation, possibly related to global warming, but more likely to human and institutional factors, will lead to three kinds of conflict: simple scarcity; group-identity; and relative deprivation. River-based conflict is a prime example of simple scarcity. “These renewable resources seem particularly likely to spark conflict because their scarcity is increasing rapidly in some regions, they are often essential for human survival, and they can be physically seized or controlled. There may be a positive feedback relationship between conflict and reduced agricultural production: for example, lower food supplies caused by environmental change may lead countries to fight over irrigable land, and this fighting could further reduce food supplies.”[7]

Homer-Dixon advocates research based on the “where” question: where will environmental degradation lead to conflict next.

Meredith Giordano, Mark Giordano, and Aaron T. Wolf create a Friendship/Hostility Index (FHI) from “event data”, or “conflictive and cooperative interactions between nation-states” using one conflict and one cooperation dataset, covering the combined period of 1948-1999.[8] Giordano et al compiled 1831 events in all,

## Event Intensity Scale[9]

Scale Event Description  
-7 Formal declaration of war; extensive war acts causing deaths, dislocation or high strategic costs  
-6 Extensive military acts  
-5 Small-scale military acts  
-4 Political-military hostile actions  
-3 Diplomatic-

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economic hostile actions -2 Strong verbal expressions displaying hostility in interaction -1 Mild verbal expressions displaying discord in interaction 0 Neutral or non-significant acts for the inter-nation situation 1 Minor official exchanges, talks or policy expressions – mild verbal support 2 Official verbal support of goals, values or regime 3 Cultural or scientific agreement or support (non-strategic 4 Non-military economic, technological or industrial agreement 5 Military economic or strategic support 6 International freshwater treaty; major strategic alliance (regional or international 7 Voluntary unification into one nation

Giordano et al find, using a mixed qualitative-quantitative approach, including case studies of India, Israel, and South Africa, that international water and non-water events are related to national water events.[10]

Giordano et al also argue that interstate conflict is most likely to occur where institutions designed to deal with local problems have failed, or are non-existent. National political events or perhaps even global warming-induced environmental degradation might also lead to institutional failure. The authors advocate international schemes to redefine resource sovereignty, community involvement, and management,[11]

Jan Selby, in a case study of Middle Eastern water politics, identifies these two competing theories as examples of two broader sub-sets of theories explaining water conflict, “naturalistic” and liberal-technical”, respectively.[12] Selby’s attack on both naturalistic and liberal-technical theories is only prelude to a broader assault on the notion that water plays any special role in interstate events in the Middle East at all. “Water is simply not important enough within the political economy of contemporary capitalism for it to be of any great, or wide-ranging, geopolitical consequence.”[13] Given broad enough geographical scope and considering conflict and cooperation as continuous variables, I will assert that river claims are a causative factor in interstate, international relations.

Wenge Hauge and Tanja Ellingsen offer the sharpest criticism of the water wars theory. They argue that income inequality, poverty, and political regime type are more predictive of conflict than environmental degradation. However, environmental degradation is important for small conflicts, as measured in battle-deaths.[14]

Formal declaration of war; extensive war acts causing deaths, dislocation or high strategic costs 1 Extensive military acts 0 Small-scale military acts 3 Political-military hostile actions 3 Diplomatic-economic hostile actions 0 Strong verbal expressions displaying hostility in interaction 0 Mild verbal expressions displaying discord in interaction 0 Neutral or non-significant acts for the inter-nation situation 0 Minor official exchanges, talks or policy expressions – mild verbal support 190 Official verbal support of goals, values or regime 0 Cultural or scientific agreement or support (non-strategic) 0 Non-military economic, technological or industrial agreement 0 Military economic or strategic support 0

\* 0 depicts the incongruity of the Event Intensity Scale with the variables of the ICOW datasets. Generally, the Event Intensity Scale is more sophisticated than the ICOW.

## Conclusion

Using two datasets, the Claim-Level Summary Data and Attempted Settlement Data File, the preponderance of cases (190) resulted in a permanent peaceful settlement to the dispute. Of 35 cases involving river claims, only seven disputes became militarized. Of those seven, only one involved casualties exceeding 1000, lending credence to Hauge’s and Ellingsen’s argument about the impact of environmental degradation. Furthermore, another category of 29 dyadic claims neither became militarized nor resulted in a peaceful settlement.

I also looked at the quality of the settlements reached. Of 208 cases involving river claims, 36 settlements completed ended most or all of the parties’ claims, and in 32 cases the settlement ended the contention between the rivals. But the longevity of the settlements is impressive. 125 settlements have lasted for 15 years, the longest period the database offers. 138 settlements have endured for 19 years. 163 settlements have lasted for 5 years. These findings seem to support Gleick’s argument that water events lead to negotiations, not protracted war. And, finally, most curiously, 23 cases are unresolved for 15 years, but the parties have resorted to a militarized dispute. What I find significant is, that only one case became so destructive immediately, and that 23 others only turned violent after a

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settlement was initially reached. As opposed to Selby's contention that river claims count for less than the state of the political economy, it seems these states had to get to the negotiating table to find out how they disagreed.

But, generally, as Alam argues, states choose to negotiate their river claims. The South African and Jordan River cases illustrate this point further. Although Israel has an interest in protecting what dear water resources it can, it has continued to negotiate for more sustainable water regimes in the region. After despoiling black populations with its water-use policies, a post-apartheid South Africa has sought to undo its apartheid predecessor's mess. Still, those 23 unresolved cases are a warning about ignoring both the sufficient conditions, like hegemony and geographical details, and the finer details of the human art of diplomacy.

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