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Inter-State Water Disputes

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Abstract — In this paper we argue that Indian water-dispute settlement mechanisms are ambiguous and opaque. We distinguish analytically between situations where cooperation is possible, and situations of pure conflict, where the initial allocation of rights is at stake. In the latter case, a search for a negotiated solution may be futile, and quick movement to arbitration or adjudication may be more efficient. However, in India, the process is slow, and effectively binding arbitration does not exist. The entanglement of inter-state water disputes with more general center-state conflicts and political issues compounds problems. We argue that these impacts can be reduced by a more efficient design of mechanisms for negotiating inter-state water disputes: some of the possibilities include a national water commission independent of daily political pressures, a federated structure incorporating river basin authorities and water user associations, and fixed time periods for negotiation and adjudication.

I. INTRODUCTION

Because large areas of India are relatively arid, mechanisms for allocating scarce water are critically important to the welfare of the country's citizens. Water contributes to welfare in several ways: health (e.g. clean drinking water), agriculture (e.g., irrigation), and industry (e.g., hydroelectric power). Because India is a federal democracy, and because rivers cross state boundaries, constructing efficient and equitable mechanisms for allocating river flows has long been an important legal and constitutional issue. Numerous inter-state river-water disputes have erupted since independence. A recent dispute over use of the Yamuna River among the states of Delhi, Haryana and Uttar Pradesh, was resolved by conferences involving three state Chief Ministers, as well as the central government. This approach was adopted only after prior intervention by the Supreme Court had failed. Not all disputes have happy endings, however: for example, the larger dispute between Karnataka and Tamil Nadu over the waters of the Cauvery rages on. Inter-state water disputes continue to fester. Such disputes are a persistent phenomenon in India.
Part of the difficulty is the plethora of actors and the complexity of the institutional environment within which the various parties reach (or fail to reach) agreement. Actors include state governments (which in turn must be decomposed into professional politicians, political parties, and interest groups), the national parliament, central ministries, the courts, and ad hoc water tribunals. These actors negotiate within a rich institutional setting. In general, river-water disputes have involved state and central politicians, as well as the courts and special tribunals and commissions set up to arbitrate disputes. Although fairly explicit constitutional provisions govern inter-state river waters, it is unclear whether existing mechanisms for adjudicating interstate water disputes are efficient. Indeed, there is growing consensus that existing institutions are increasingly fail to generate outcomes which contribute to economic growth and national welfare. Our research seeks to determine which arrangements for conflict resolution are more effective (i.e., more likely to yield an acceptable outcome) and more efficient.

II. INDIA'S FEDERAL WATER INSTITUTIONS

The relevant provisions of the Indian Constitution are

- Entry 17 in the State List,
- Entry 56 in the Union List, and
- Article 262.

The first provision makes water a state subject, but qualified by Entry 56 in the Union List, which states: "Regulation and development of inter-state rivers and river valleys to the extent to which such regulation and development under the control of the Union is declared by parliament by law to be expedient in the public interest." Article 262 explicitly grants parliament the right to legislate over the matters in Entry 56, and also gives it primacy over the Supreme Court. As documented by Iyer (1994), parliament has not made much use of Entry 56. Various River Authorities have been proposed, but not legislated or established as bodies vested with powers of

management. Instead, river boards with only advisory powers have been created. Hence, the state governments dominate the allocation of river waters. Since rivers cross state boundaries, disputes are inevitable. The Inter-State Water Disputes Act of 1956 was legislated to deal with conflicts, and included provisions for the establishment of tribunals to adjudicate where direct negotiations have failed. However, states have sometimes refused to accept the decisions of tribunals. Therefore, arbitration is not binding. Significantly, the courts have also been ignored on occasion. Finally, the center has sometimes intervened directly as well, but in the most intractable cases, such as the sharing of the Ravi-Beas waters among Haryana, Jammu and Kashmir, Rajasthan, and Punjab, central intervention, too, has been unsuccessful.

In summary, an unambiguous institutional mechanism for settling inter-state water disputes does not exist. Nevertheless, water disputes are sometimes settled. Economic analysis is necessary to illuminate whether and how water disputes get resolved in India.

III. INDIA'S EXPERIENCE

The Inter-State Water Disputes Act seems to provide fairly clear procedures for handling disputes. At the same time, however, the law permits considerable discretion, and different disputes have followed diverse paths to settlement, or in a few cases, continued disagreement.

In this section, we discuss some of the major disputes.

The central government has given substantial attention to water disputes, which began to emerge soon after the framing of the Constitution. Some common features of the easily settled disputes involved sharing costs and benefits of specific projects, or relatively specific disagreements over smaller rivers, mostly over well-defined projects or project proposals. Most settled disputes were characterized by specificity and well-defined technical and cost issues. Other disputes took much longer to resolve, and some remain unsettled.

While smaller, more specific disputes may be settled more easily, this may still not be ideal. In particular, while river basins seem the natural unit for dealing with issues of water sharing, investment and management, they have been the focus of conflict rather than cooperation in the Indian case. As noted in the introduction, the Indian Parliament has not made much use of the powers vested in it by Entry 56 of the Union List. No river board has been set up under this Act.

With regard to water projects, India has often adopted project models used by other countries for its own execution. The Damodar Valley Corporation was modeled on the Tennessee Valley Authority of the USA. After its creation, tensions and conflicts developed between the corporation and the participating governments, which hampered its work. So it never became an autonomous regional river valley development corporation. This lack of clear delegation of authority, away from politicians, is another theme to which we shall return.

In order to give a better flavor for the nature of the bargaining process, we briefly discuss
three cases:

(1) The Krishna-Godavari water dispute
(2) The Cauvery water dispute
(3) The Ravi-Beas water dispute

These cases involve important disputes, and illustrate well the variety of paths that disputes can take in the Indian institutional context. In the first case, relative success was achieved through negotiations and through the working of a tribunal. In the other two cases, the institutional process has been relatively less successful: while these two disputes have both gone to tribunals, neither one has yet been successfully resolved. The Cauvery Tribunal is still deliberating, while the Ravi-Beas Tribunal gave its judgment, but it was not made official by the central government.

Krishna-Godavari water dispute The Krishna-Godavari water dispute among Maharashtra, Karnataka, Andhra Pradesh (AP), Madhya Pradesh (MP), and Orissa could not be resolved through negotiations. Here Karnataka and Andhra Pradesh are the lower riparian states on the river Krishna, and Maharashtra is the upper riparian state. The dispute was mainly about the inter-state utilization of untapped surplus water.

The Krishna Tribunal reached its decision in 1973, and the award was published in 1976. The Tribunal relied on the principle of "equitable apportionment" for the actual allocation of the water. It addressed three issues:
(1) The extent to which the existing uses should be protected as opposed to future or contemplated uses.
(2) Diversion of water to another watershed.
(3) Rules governing the preferential uses of water.

The Tribunal's rulings were as follows:
• On the first issue, the Tribunal concluded that projects that were in operation or under consideration as in September 1960 should be preferred to contemplated uses and should be protected. The Tribunal also judged that except by special consent of the parties, a project committed after 1960 should not be entitled to any priority over contemplated uses.
• On the second issue, the Tribunal concluded that diversion of Krishna waters to another waterline was legal when the water was diverted to areas outside the river basin but within the political boundaries of the riparian states. It was silent regarding the diversion of water to areas of non-riparian states.
• On the third issue the Tribunal specified that all existing uses based on diversion of water outside the basin would receive protection.
The Godavari Tribunal commenced hearings in January 1974, after making its award for the Krishna case. It gave its final award in 1979, but meanwhile the states continued negotiations among themselves, and reached agreements on all disputed issues. Hence the Tribunal was merely required to endorse these agreements in its award. Unlike in the case of other tribunals, there was no quantification of flows, or quantitative division of these flows: the states divided up the area into sub-basins, and allocated flows from these sub-basins to individual states this was similar in approach to the successful Indus agreement between India and Pakistan. Another difference was that the agreement was not subject to review, becoming in effect, perpetually valid.
The Cauvery dispute The core of the Cauvery dispute relates to the re-sharing of waters that are already being fully utilized. Here the two parties to the dispute are Karnataka (old Mysore) and
Tamil Nadu (the old Madras Presidency). Between 1968 and 1990, 26 meetings were held at the ministerial level but no consensus could be reached. The Cauvery Water Dispute tribunal was constituted on June 2, 1990 under the ISWD Act, 1956.
There has been a basic difference between Tamil Nadu on the one hand and the central government and Karnataka on the other in their approach towards sharing of Cauvery waters. The government of Tamil Nadu argued that since Karnataka was constructing the Kabini,
Hemavathi, Harangi, Swarnavathi dams on the river Cauvery and was expanding the ayacuts (irrigation works), Karnataka was unilaterally diminishing the supply of waters to Tamil Nadu, and adversely affect the prescriptive rights of the already acquired and existing aya cuts. The government of Tamil Nadu also maintained that the Karnataka government had failed to implement the terms of the 1892 and 1924 Agreements relating to the use, distribution and control of the Cauvery waters. Tamil Nadu asserts that the entitlements of the 1924 Agreement are permanent. Only those clauses that deal with utilization of surplus water for further extension of irrigation in Karnataka and Tamil Nadu, beyond what was contemplated in the 1924 Agreement can be changed. In contrast, Karnataka questions the validity of the 1924 Agreement.
According to the Karnataka government, the Cauvery water issue must be viewed from an angle that emphasizes equity and regional balance in future sharing arrangements.
The Ravi-Beas dispute Punjab and Haryana, the main current parties in this dispute, are both agricultural surplus states, providing large quantities of grain for the rest of India. Because of the scarcity and uncertainty of rainfall, irrigation is the mainstay of agriculture. An initial agreement on the sharing of the waters of the Ravi and Beas after partition was reached in 1955, through an inter-state meeting convened by the central government.
The present dispute between Punjab and Haryana about Ravi-Beas water started with the reorganization of Punjab in November 1966, when Punjab and Haryana were carved out as successor states of erstwhile Punjab. The four

perennial rivers, Ravi, Beas, Sutlej and Yamuna flow through both these states, which are heavily dependent on irrigated agriculture in this arid area. Irrigation became increasingly important in the late 1960s with the introduction and widespread adoption of high yielding varieties of wheat.

As a result of the protests by Punjab against the 1976 agreement allocating water from Ravi-Beas, further discussions were conducted (now including Rajasthan as well), and a new agreement was accepted in 1981. This agreement, reached by a state government allied to the central government, became a source of continued protest by the political opposition, and lobbies outside the formal political process. Punjab entered a period of great strife, and a complex chain of events led to the constitution of a tribunal to examine the Ravi-Beas issue in 1986. Both states sought clarifications of aspects of the award by this tribunal, but the center has not provided these. Hence, the award has not been notified, and does not have the status yet of a final, binding decision.

IV. Property Rights, Politics and Information

One can view much of the conflict or disagreement over inter-state river waters in India as an attempt to influence or determine the initial allocation of property rights over water, by methods such as lobbying. The initial quantities of water are not given, but are precisely the main subject of negotiations. In many cases, there is some *de facto* allocation of rights based on historical usage, but there is a surplus of currently unutilized water that can be used (often only if appropriate investments are made) once it is unambiguously allocated. It is important to recognize that in such cases, the situation is one of pure conflict: more for one party means less for another when there is a given total amount of the resource. It is conceptually important to separate out this sort of situation, therefore, from one where initial property rights are well defined, and cooperation is potentially feasible. In particular, there is no presumption that negotiation among the parties attempting to share water from a particular river basin will lead to an agreement, and there is a clear role for a higher-level authority. Thus the suggestion by some analysts of Indian cases that tribunals or courts create an adversarial situation seems to miss the point: tribunals become necessary when the situation is inherently adversarial.

V. Recommendations

In this section we summarize some of the salient issues, the implications of our analysis, and recommendations. While our focus is on institutions for the resolution of inter-state water disputes, our analysis and recommendations carry over more broadly to issues of water allocation more generally, and we discuss this briefly, also. Dispute settlement procedures Constitutionally and legislatively, Indian inter-state river dispute settlement procedures involve either of two processes: negotiations and compulsory legal adjudication. Furthermore, there is room for voluntary processes such as mediation, conciliation and voluntary arbitration, often by the prime minister or other members of the central government. Such processes do not foreclose arbitration or adjudication on specific areas of conflicts that remain unresolved after mediation and conciliation. Guhan (1993) suggests that mediation and conciliation do not have enough scope in resolving water disputes, and that "adjudication inevitably leads to adversarial positions and maximal claims" (Iyer, 1994b, p. 195). The Iyer observes that this criticism of adjudication misses the point, since the difficulty of reaching an agreement may be structural, and assisted negotiations (that is, conciliation and mediation by a third party) may be as problematic as unassisted negotiations. He emphasizes the importance of good will, and willingness to accept an "objective settlement", but does not really come to grips with the structural issues.

VI. Conclusion

In summary, current Indian water-dispute settlement mechanisms are ambiguous and opaque. A cooperative bargaining framework suggests that water can be shared efficiently, with compensating transfers as necessary, if initial water rights are well-defined, and if institutions to facilitate and implement cooperative agreements are in place. Our analysis also emphasizes the role of complementary investments, and the need to expand the scope of

bargaining to include these where feasible. Furthermore, delay in the dimension of agreement over water can encourage inefficient, non-cooperative investments in dams, irrigation, etc. Additionally, we draw the distinction between situations where cooperation is possible, and situations where the initial allocation of rights is at stake, where consequently the parties face a situation of pure conflict rather than one of potential gains from trade. In the pure conflict situation, which seems very relevant for Indian inter-state disputes, a search for a negotiated solution may be futile, and quick movement to arbitration or adjudication may be more efficient.

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