Water Resources Management and Policy Series Editors
Dr. Juha I. Uitto
Monitoring and Evaluation Specialist, Global Environment Facility Washington, DC, USA
Prof. Asit K. Biswas
President, Third World Centre for Water Management Mexico City, Mexico

Dr. Ralph Daley
Director, UNU/INWEH Hamilton, Ontario, Canada
Dr. David Seckler
Director-General, International Water Management Institute Colombo, Sri Lanka
Dr. Ismail Serageldin
Vice President, Special Programs, The World Bank Washington, DC, USA
Dr. Aly M. Shady
Canadian International Development Agency (CIDA) Hull, Quebec, Canada
Prof. Yutaka Takahashi
Professor Emeritus, Tokyo University Tokyo, Japan
Dr. Jose Galicia Tundisi
International Institute of Ecology Sao Carlos SP, Brazil

The UNU Programme on Integrated Basin Management focuses on water management, approaching the complex problematique from three particular angles: governance, capacity-building, and management tools. The programme is carried out through field-based research encompassing both natural and social sciences. It utilizes extensive networks of scholars and institutions in both developing and industrialized countries. This work is intended to contribute to policy-making by the United Nations and the international community, as well as to capacity-building in developing countries.

The Water Resources Management and Policy series disseminates the results of research carried out under the Programme on Integrated Basin Management and related activities. The series focuses on policy-relevant topics of wide interest to scholars, practitioners, and policy-makers.

tion to low flows during the dry season. Subsequent to that meeting, there has been one minister-level and one secretary-level meeting, at which little progress was reportedly made.

In December 1996, a new treaty was signed between the two riparians, based generally on the 1985 accord, which delineates a flow regime under varying conditions. While this agreement should help reduce regional tensions, issues such as extreme events and upstream uses are not covered in detail. Notably, Nepal, China, and Bhutan, the remaining riparians, but not party to the treaty, have their own development plans that could impact the agreement.

The very first season following signing of the treaty, in April 1997, India and Bangladesh were involved in their first dispute over cross-boundary flow. Water passing through the Farakka dam dropped below the minimum provided in the treaty, prompting Bangladesh to request a review of the state of the watershed.

Indus Water Treaty

Case summary

River basin

Indus river and tributaries

1951–1960

India, Pakistan

Dates of negotiation

Lack of water-sharing agreement leads India to stem flow of tributaries to Pakistan on 1 April 1948

Relevant parties

Flashpoint

Issues

Stated objectives

Negotiate an equitable allocation of the flow of the Indus river and its tributaries between the riparian states

Develop a rational plan for integrated watershed development

Additional issues

Water-related

Financing for development plans

Whether storage facilities are "replacement" or "development" (tied to who is financially responsible)

Non-water

Excluded

General India-Pakistan relations

Future opportunities for regional management

Issues concerning drainage

Criteria for water allocations

Historic and planned use (for Pakistan) plus geographic allocations (western rivers vs eastern rivers)

Incentives/linkage

Financial: World Bank organized International Fund Agreement

Political: None

Breakthroughs

Bank put own proposal forward after 1953 deadlock: international funding raised for final agreement

Status

Ratified in 1960, with provisions for ongoing conflict resolution. Some suggest that recent meetings have been lukewarm. Physical separation of tributaries may preclude efficient integrated basin management
The problem

Even before the partition of India and Pakistan, the Indus posed problems between the states of British India. The problems became international only after partition, though, and the attendant increased hostility and lack of supraregional authority exacerbated the issue. Pakistani territory, which had relied on Indus water for centuries, now found the water sources originating in another country, one with whom geopolitical relations were increasing in hostility.

Background

Irrigation in the Indus river basin dates back centuries. By the late 1940s the irrigation works along the river were the most extensive in the world. These irrigation projects had been developed over the years under one political authority, that of British India, and any water conflict could be resolved by executive order. The Government of India Act of 1935, however, put water under provincial jurisdiction, and some disputes did begin to crop up at the sites of the more extensive works, notably between the provinces of Punjab and Sind.

In 1942, a judicial commission was appointed by the British government to study Sind’s concern over planned Punjabi development. The Commission recognized the claims of Sind, and called for the integrated management of the basin as a whole. The Commission’s report was found unacceptable by both sides, and the chief engineers of the two sides met informally between 1943 and 1945 to try to reconcile their differences. Although a draft agreement was produced, neither of the two provinces accepted the terms and the dispute was referred to London for a final decision in 1947.

Before a decision could be reached, however, the Indian Independence Act of 15 August 1947 internationalized the dispute between the new states of India and Pakistan. Partition was to be carried out in 73 days, and the full implications of dividing the Indus basin seem not to have been fully considered, although Sir Cyril Radcliffe, who was responsible for the boundary delineation, did express his hope that, “some joint control and management of the irrigation system may be found” (Mehta, 1988: 4). Heightened political tensions, population displacements, and unresolved territorial issues, all served to exacerbate hostilities over the water dispute.

As the monsoon flows receded in the fall of 1947, the chief engineers of Pakistan and India met and agreed to a “Standstill Agreement,” which froze water allocations at two points on the river until 31 March 1948, allowing discharges from headworks in India to continue to flow into Pakistan.

On 1 April 1948, the day that the “Standstill Agreement” expired, in the absence of a new agreement, India discontinued the delivery of water to the Dipalpur canal and the main branches of the Upper Bari Dhaab canal. At an Inter-dominion conference held in Delhi on 3-4 May 1948, India agreed to the resumption of flow, but maintained that Pakistan could not claim any share of those waters as a matter of right (Caponera, 1987: 511). This position was reinforced by the Indian claim that, since Pakistan had agreed to pay for water under the Standstill Agreement of 1947, Pakistan had recognized India’s water rights. Pakistan countered that they had historic rights, and that payments to India were only to cover operation and maintenance costs (Biswas, 1992: 204).

While these conflicting claims were not resolved, an agreement was signed, later referred to as the Delhi Agreement, in which India assured Pakistan that India would not withdraw water delivery without allowing time for Pakistan to develop alternate sources. Pakistan later expressed its displeasure with the agreement in a note dated 16 June 1949, calling for the “equitable apportionment of all common waters,” and suggesting turning jurisdiction of the case over to the World Court. India suggested rather that a commission of judges from each side try to resolve their differences before turning the problem over to a third party. This stalemate lasted through 1950.

Attempts at conflict management

In 1951, Indian Prime Minister Nehru, whose interest in integrated river management along the lines of the Tennessee Valley Authority had been piqued, invited David Lilienthal, former chairperson of the TVA, to visit India. Lilienthal also visited Pakistan and, on his return to the US, wrote an article outlining his impressions and recommendations (the trip had been commissioned by Collier’s Magazine – international water was not the initial aim of the visit). His article was read by Lilienthal’s friend David Black, president of the World Bank, who contacted Lilienthal for recommendations on helping to resolve the dispute. As a result, Black contacted the prime ministers of Pakistan and India, inviting both countries to accept the Bank’s good offices. In a subsequent letter, Black outlined “essential principles” that might be followed for conflict resolution. These principles included:

- the water resources of the Indus basin should be managed cooperatively;
- the problems of the basin should be solved on a functional and not on a political plane, without relation to past negotiations and past claims.
Black suggested that India and Pakistan each appoint a senior engineer to work on a plan for development of the Indus basin. A Bank engineer would be made available as an ongoing consultant.

Both sides accepted Black’s initiative. The first meeting of the Working Party included Indian and Pakistani engineers, along with a team from the Bank, as envisioned by Black, and they met for the first time in Washington in May 1952.

When the two sides were unable to agree on a common development plan for the basin in subsequent meetings in Karachi, November 1952, and Delhi, January 1953, the Bank suggested that each side submit its own plan. Both sides did submit plans on 6 October 1953, each of which mostly agreed on the supplies available for irrigation, but varied extremely on how these supplies should be allocated.

The Bank concluded that not only was the stalemate likely to continue, but that the ideal goal of integrated watershed development for the benefit of both riparians was probably too elusive an arrangement at this stage of political relations. On 5 February 1954, the Bank issued its own proposal, abandoning the strategy of integrated development in favour of one of separation. The Bank proposal called for the entire flow of the eastern rivers to be allocated to India, and all of the western rivers, except for a small amount from the Jhelum, to be allocated to Pakistan. According to the proposal, the two sides would agree to a transition period while Pakistan would complete link canals dividing the watershed, during which India would continue to allow Pakistan’s historic use to continue to flow from the eastern rivers.

The Bank proposal was given to both parties simultaneously. On 25 March 1954, India accepted the proposal as the basis for agreement. Pakistan viewed the proposal with more trepidation, and gave only qualified acceptance on 28 July 1954. The Pakistanis considered the flow of the western rivers to be insufficient to replace their existing supplies from the eastern rivers, particularly given limited available storage capacity. To help facilitate an agreement, the Bank issued an aide-mémoire, calling for more storage on the western rivers and suggesting India’s financial liability for “replacement facilities” – increased storage facilities and enlarged link canals in Pakistan, which could be recognized as the cost replacement of pre-partition canals.

By 1959, the Bank evaluated the principal issue to be resolved as follows: which works would be considered “replacement” and which “development.” Stated differently, for which works India would be financially responsible. To circumvent the question, Black suggested an alternate approach in a visit to India and Pakistan in May. Perhaps one might settle on a specific amount for which India was responsible, rather than arguing over individual works. The Bank might then help raise additional funds among the international community for watershed development. India was offered help with construction of its Beas dam, and Pakistan’s plan, including both the proposed dams would be looked at favourably. With these conditions, both sides agreed to a fixed payment settlement, and to a 10-year transition period during which India would allow for Pakistan’s historic use to continue.

In August 1959, Black organized a consortium of donors to support development in the Indus basin and raised close to $900 million, in addition to India’s commitment of $174 million. The Indus Water Treaty was signed in Karachi on 19 September 1960 and government ratifications were exchanged in Delhi in January 1961.

Outcome

The Indus Water Treaty addressed both the technical and financial concerns of each side, and included a timeline for transition. The main points of the treaty included:

- an agreement that Pakistan would receive unrestricted use of the western rivers, which, with minor exceptions, India would allow to flow unimpeded;
- provisions for three dams, eight link canals, three barrages, and 2,500 tube wells to be built in Pakistan;
- a 10-year transition period, from 1 April 1960 to 31 March 1970, during which water would continue to be supplied to Pakistan according to a detailed schedule;
- a schedule for India to provide its fixed financial contribution of $62 million, in 10 annual installments during the transition period;
- additional provisions for data exchange and future cooperation.

The treaty also established the Permanent Indus Commission, made up of one Commissioner of Indus Waters from each country. The two Commissioners would meet annually in order to:

- establish and promote cooperative arrangements for the treaty implementation;
- promote cooperation between the parties in the development of the waters of the Indus system;
- examine and resolve by agreement any question that may arise between the parties concerning interpretation or implementation of the treaty;
- submit an annual report to the two governments.

In case of a dispute, provisions were made to appoint a “neutral expert.” If the neutral expert fails to resolve the dispute, negotiators can be appointed by each side to meet with one or more mutually agreed-upon
mediators. If either side (or the mediator) views mediated agreement as unlikely, provisions are included for the convening of a Court of Arbitration. In addition, the treaty calls for either party, if it undertakes any engineering works on any of the tributaries, to notify the other of its plans and to provide any data that may be requested.

Since 1960, no projects have been submitted under the provisions for "future cooperation," nor have any issues of water quality been submitted at all. Other disputes have arisen, and been handled in a variety of ways. The first issues arose from Indian non-delivery of some waters during 1965–1966, but became instead a question of procedure and the legality of commission decisions. Negotiators resolved that each commissioner acted as government representatives and that their decisions were legally binding.

One controversy surrounding the design and construction of the Salal dam was resolved through bilateral negotiations between the two governments. Other disputes, over new hydroelectric projects and the Wuller barrage on the Jhelum tributary, have yet to be resolved.

<table>
<thead>
<tr>
<th>Mekong Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Case summary</strong></td>
</tr>
<tr>
<td><strong>River basin</strong></td>
</tr>
<tr>
<td><strong>Dates of negotiation</strong></td>
</tr>
<tr>
<td><strong>Relevant parties</strong></td>
</tr>
<tr>
<td><strong>Flashpoint</strong></td>
</tr>
<tr>
<td><strong>Issues</strong></td>
</tr>
<tr>
<td><strong>Stated objectives</strong></td>
</tr>
<tr>
<td><strong>Additional issues</strong></td>
</tr>
<tr>
<td><strong>Non-water</strong></td>
</tr>
<tr>
<td><strong>Excluded</strong></td>
</tr>
<tr>
<td><strong>Criteria for water allocations</strong></td>
</tr>
<tr>
<td><strong>Incentives/linkage</strong></td>
</tr>
<tr>
<td><strong>Breakthroughs</strong></td>
</tr>
<tr>
<td><strong>Status</strong></td>
</tr>
</tbody>
</table>