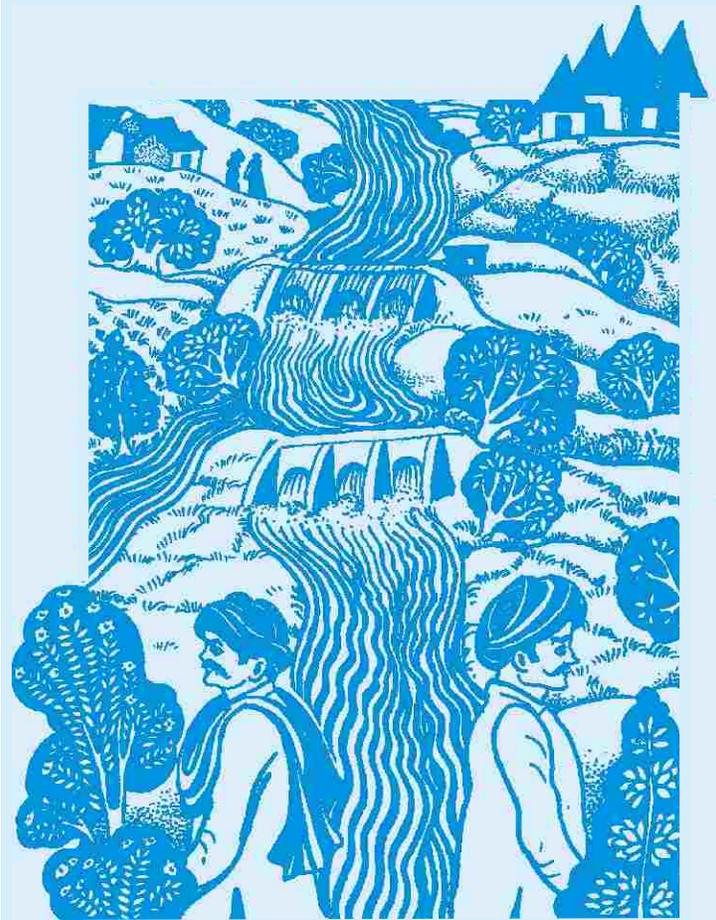


Water Policy Research

Highlight

**The Dynamics of Conflicts
over Transboundary Waters:
Analyzing the
Indo- Bangladesh Case**

Rakesh Tiwary



The traditionally discussed factors of conflict over transboundary waters such as riparian structure and associated privileges/disadvantages, seasonal availability, and regional hierarchy are fairly stable for long period of time to explain the dynamics of water resource access and utilization.

Interactions between India and Bangladesh over transboundary waters has acquired a dynamic nature on the account of nation state formation, international relations, domestic political processes, demands of water security and differential negotiation tools to protect their respective interests.

In recent times India and Bangladesh have demonstrated growing maturity over tenets of equitable sharing of transboundary water that has considerable significance for inter and intra-state water dispute resolution in the region.

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THE DYNAMICS OF CONFLICTS OVER TRANSBOUNDARY WATERS: ANALYZING THE INDO- BANGLADESH CASE¹

RESEARCH HIGHLIGHT BASED ON A PAPER WITH THE SAME TITLE

Transboundary water refers to a watercourse or a water body parts of which are situated in different states (nations). The watercourse or water body is conceptualized as a system of surface or ground water constituting by virtue of its physical relationship, a unitary whole and normally flowing into a common terminus. There are about 261 major transboundary river basins, covering 45 percent of the land surface of the earth, excluding Antarctica. Altogether 145 nations have their territory falling within international river basins and around 33 countries have more than 95 percent of their total land in such basins. The utilization of transboundary water resources poses different challenges as compared to national water resources because of large size, variations in laws and policies and technological and economic capacities. If there are disagreements, there is no supreme authority automatically available to which states can refer the dispute. These factors combined with usual political differences tend to aggravate rather than ease the problem of transboundary water resource sharing. Consequently, international or transboundary rivers have become breeding grounds for disputes among/between the riparian states.

Transboundary water resources utilization poses different challenges compared to national water resources because of large size, variations in laws and policies, technological and economic capacities. If there are disagreements, there is no supreme authority automatically available to which states can refer the dispute.

Among the major factors of conflict around transboundary waters, upstream-downstream diverging interests and respective sovereignty notions are the most important considerations at

the country level. States try to claim absolute right over control and use of the natural resources located within or flowing through their territory. On the other hand downstream countries claim the right of historical flows.

Further, countries occupying a transboundary river basin vary in their levels of economic development and technological capacities. Regional powers have the capacities to take up proactive steps which can alter allocation options. Other factors include climatic availability of water in real terms, spatial distribution of population and water resources etc. However, these factors are fairly stable for long period of time in a given basin.

The advantages and disabilities emanating from riparian structure are neither permanent or absolute nor non-negotiable. States contest over the resources according to available advantageous status/positions such as upstream location and economic and technological capacities.

Conversely a transboundary river basin is a much more dynamic entity. The dynamics or the processes involved in water conflicts can be understood through two concepts—Riparian Structure and Riparian Organisation. **Riparian Structure** refers to how political units are arranged in the geographical space, or what are the comparative locations of political units in the given river basin. The riparian structure is a static concept which allots almost permanent privileges and disabilities, as far as access, utilization and management of water resources are concerned. However, the advantages and disabilities which emanates from the riparian structure are neither permanent nor non-negotiable. Different states of the basin actively engage themselves in

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Sovereignty and Transboundary Water : Theoretical Approaches

Territorial Sovereignty - establishes that states have full right to use, control and divert water within their territory regardless of the consequences downstream. (also known as the Harmon doctrine).

Territorial Integrity - recognizes that states have the right of natural flow of streams entering their territory and rights of prior use are inviolate.

Restricted Sovereignty - establishes that states do not have absolute right over transboundary watercourses flowing through or located under its territory.

increasing their benefits and protecting their interest (present and future). **Riparian Organization** can be conceptualized as the summation of such behaviors/approaches of states with each other over water resources in a given river basin at a given point of time. States contest over the resources according to available advantageous status/positions such as upstream location, economic and technological capacities. The comparatively weaker states too devise tools to undo the disadvantages. It is not the riparian structure along with regional economic/power hierarchy, but the riparian organization which determines who gets what, where and how in a transboundary river basin.

Changing political boundaries bring new actors in the picture further complicating the negotiation process.

RIPARIAN ORGANISATION: THE INPUTS OF DYNAMISM

The major inputs of the dynamics are multiple and discrete factors, which function in a combined manner, though in different configurations. Firstly, changing political boundaries can bring new actors

in resource sharing and utilization arrangements and hence can complicate the negotiation process. Secondly, sub national political processes too affect the negotiation process . In water scarce regions, water allocation is an emotive issue and can become an electoral tool in domestic politics. Further, international treaties affect the provinces of the nation differentially, creating intra-nation political interests 'for' or 'against' the negotiations. Thirdly, changing regimes can alter the nature, pace and trajectory of water disputes. New regimes with fresh priorities can provide more space for trade offs. Fourthly, the growing water security threats (actual and perceived) are the most critical consideration. It drives states to take up operational initiatives. Other riparians react to the act based on their own water security threats. Fifthly, new categories of factors have started exercising considerable influence on international water disputes/ conflict and resolution process in a given basin. These are: [1] the 1997 UN Convention on Non-navigational use of International Watercourses which function as referred principles of transboundary waters sharing, [2] the international developmental funding agencies and supra-national organizations and [3] civil society initiatives. Thus, states not only engage in horizontal bargaining with co-riparians, but also have to accommodate vertical influences. Moreover, water conflicts in a transboundary river basin do not follow linear paths. Seen in long term perspective they assume patterns of developmental cycles, which waxes and wanes over time according to the continual inputs of the dynamism.

Growing water security threats (actual and perceived) are the most critical consideration driving states to take up operational initiatives.

Table 1: Riparian Organization: Actions and Options

	Upstream	Downstream
Comparatively Stronger Nation	Proactive operational action, emphasis on bilateralism, semblances of regional action, resist outside intervention, against/abstain from the 1997 UN Convention	Attach strategic/security importance to water supply, suppress upstream diversion schemes, military threats or action, offer imbalanced reciprocity, discourage upstream alliances
Comparatively Weaker Nation	Demand imbalanced reciprocity, delay as a tool to bargain, non cooperation on other issues, for the UN 1997 Convention	Internationalization, campaign for outside intervention, look for riparian alliances to pressurize, non- cooperation in other critical sectors, for the UN 1997 Convention

The dynamism in the transboundary waters dispute can well be illustrated in the origin, growth and continuation of the water disputes in the South Asian region, particularly between copararians India and Bangladesh.

INDIA AND BANGLADESH: SHARING THE GANGA-BRAHMAPUTRA BASIN

India and Bangladesh are the two major nations of the South Asian geopolitical system. They share the Ganga-Brahmaputra basin which is the second largest hydraulic region in the world. The total drainage area of the basin is about 1.75 million square km. of which about 63 percent of the basin lies in India, 7 percent in Bangladesh, 8 percent in Nepal, 2.5 per cent in Bhutan and the rest in China. The Ganga-Brahmaputra basin is a single, sprawling, integrated, transboundary drainage system with a common terminus. The region is marked by broad geophysical and climatic unity. India has a unique position in the riparian structure. It is both downstream and upstream country within the larger Ganga-Brahmaputra basin.

The basin is characterized with very large population, rapid population growth, endemic poverty, stagnant and subsistence agriculture and

poor industrial development. Education, health and energy consumption indicators present a dismal picture (Table 2).

India and Bangladesh share 54 international rivers, for all of which India is the upstream country. The major river systems of the basin fall under the “Tropical Monsoon” climate. While for the most of the year average discharges are adequate, the lean months (especially April to mid May) pose difficulty in meeting the requirements of both India and Bangladesh.

WATER CONFLICTS BETWEEN INDIA AND BANGLADESH:

Besides the seasonal variation in water availability dispute over water has been influenced and accentuated by factors arising out of geographical location, nation state formation and political processes of the riparian countries, namely India and Bangladesh. The political division of the subcontinent into India and Pakistan and later Bangladesh without much regard for the geographical integrity of the river basin opened the doors for hydropolitics in the Ganga-Brahmaputra basin.

Further, the second half of the twentieth century was marked by continuation of colonial legacies, evolution and diversity of political systems,

expansion of agricultural and energy projects and the rising concerns of food and environmental security. Simultaneously the notions of sovereignty, autonomy and national identity also grew. India and Bangladesh underwent long drawn dispute over sharing of Ganges water which was marked by upstream proactive action, lower riparian's water security threats, suspicion (real or exaggerated), legacy of mistrust and differential negotiation tools. The

Table 2: Ganga Brahmaputra Region: Socio-economic Indicators

Indicators	Bangladesh	India	Nepal
Population (million) 1998	128	987	24
Annual population growth rate: 1995-2000(%)	1.90	1.80	2.50
Infant mortality rate (per 1,000 live births) 1997	75	71	83
Under-5 mortality rate (per 1,000 live births) 1997	104	88	117
Maternal mortality rate (per 100,000 live births) 1990-97	850	437	1,500
Access to safe water (% of population) 1995	84	85	59
Access to sanitation (% of population) 1995	35	29	20
Adult literacy rate (% of people 15 & above) 1997	50(M) 27(F)	67(M) 39(F)	56(M) 21(F)
Female (as % of labor force) 1998	42	32	40
Arable land (hectare per capita) 1994-96	0.07	0.17	0.13
Per capita commercial energy use: annual (KgOe) 1996	197	476	320
Per capita electricity consumption (KWH) 1996	97	347	39
Population below national poverty line (%), early 1990s	48	37	43
Per Capita GNP (US\$) 1998	350	430	210

Source : Ahmad *et al* 2001

period was punctuated with changing political boundaries, regimes and their approaches and trade-offs.

GANGES DISPUTE BETWEEN INDIA AND PAKISTAN

The Ganges water dispute dates back to 1951, when Bangladesh formed the eastern province of the federation of Pakistan. India then planned to construct a barrage at Farakka, 18 kilometers upstream from the east Pakistan Bangladesh border. This was being done on the grounds of preservation and maintenance of the Calcutta port by improving the regime and navigability of the Bhagirathi Hooghly river system. The Pakistan government drew the attention of the government of India to press reports that New Delhi has decided to construct a dam at Farakka. Subsequently series of correspondence and meetings were carried out during 1950-70's between India and Pakistan. The July 1970 meeting between the two countries was significant in one way-for the first time India recognized the Ganges as an international river and therefore accepted the principle of sharing of its water. Thus, it took almost 20 years for an upstream nation to shift from the notion of territorial sovereignty to gradually accommodate *restricted sovereignty*.

THE GANGES DISPUTE DURING 1971- 1995: NEW RIPARIAN STRUCTURE AND RIPARIAN ORGANIZATION

Bangladesh emerged as a sovereign nation state in 1971. The emergence of Bangladesh opened up a new political equation in South Asian region. The governments of Bangladesh and India tried to look at bilateral issues in a new perspective. The most important step towards formulating a comprehensive plan was

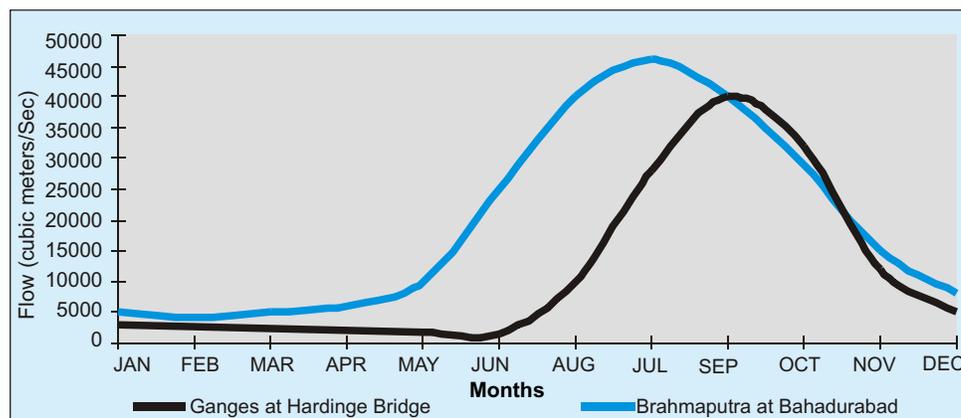
taken in 1972, when the Prime Ministers of both the countries agreed to establish a Joint River Commission (JRC) on a permanent basis. The members were drawn from both countries and the commission was asked to find a solution to augment the lean season flow of the Ganges. However, the vastly differing positions held by the two sides prevented JRC from arriving at any agreed solution.

DOWNSTREAM'S EFFECTIVE TOOL: INTERNATIONALIZATION

Simultaneously, Bangladesh as a downstream country devised tools to pressurize India. While taking up the Farakka dispute, Bangladesh tried to internationalize the issue by raising it at different international forums and seeking their cooperation. Bangladesh argued for UN intervention on the basis of its security and environmental implications.

In 1977, under a new government in India and adopting a fresh approach towards water disputes India signed an agreement with Bangladesh on sharing of the Ganges waters at Farakka and augmenting its flows. The Treaty was a major political development on many accounts. Bangladesh after attempts of internationalization of the Ganges dispute resolved back to bilateralism. The agreement firmly established bilateralism as the basic tenet of India's South Asian international water diplomacy. Bangladesh was a clear benefactor of the Treaty. The Treaty firmly established the right of Bangladesh over Ganges water as a downstream country. The

Figure 1: Annual Average Hydrographs of the Ganges and Brahmaputra



agreement also demonstrated India's acceptance of the fact that withdrawal of water from Farakka did have some adverse effects on Bangladesh. But the divergence of the views on the augmentation issue propelled negotiations into a vicious circle, as the duration of the agreement was tied with the two countries agreeing to a mutually acceptable means of augmentation.

CLAIMED EFFECTS OF FARAKKA BARRAGE: DOMESTIC POLITICS AND PRESSURES ON THE UPSTREAM

There were no sharing arrangements between 1988 and 1996 when India continued withdrawing water from the Ganges. Bangladesh protested at the 'unilateral' withdrawal and harmful effects of the Ganges diversion. Vast amount of literature appeared on the claimed harmful effects of the Farakka diversion particularly in the post 1975-77 withdrawal period as well as during the 1988-1996 period. These claimed harmful effects on hydrology, salinity intrusion, fisheries, industries and navigation and were used to pressurize Indians as well as to internationalize the Farakka dispute for more beneficial agreements. The Ganges water issues (construction of the Farakka barrage, unilateral action of India, harmful impacts of the diversion etc) have been the recurrent themes in the domestic politics of Bangladesh. A general feeling grew that Farakka withdrawal benefited India at the expense of Bangladesh. The government was continuously put under pressure to resolve the issue.

THE 1996 GANGES WATER TREATY: THE PARADIGM SHIFT

In 1996 some unique circumstances developed and their historical alignment resulted into conflict resolution initiatives. The Prime Ministers of Bangladesh and India signed the historic treaty on sharing of the Ganges water in New Delhi on December 12, 1996. The terms of the Treaty have many beneficial features for both countries: long duration validity, delinking of water sharing provision from augmentation issue, fail safe arrangement and better deal in amount of water

in different time segments. To meet the concerns of Bangladesh, India as the upper riparian country has undertaken to protect the flows reaching Farakka; thus, taking the responsibility of regulating upstream uses. The Treaty has institutional mechanisms for joint monitoring of flows and mutual consultations.

The 1996 Ganges water Treaty was a paradigm shift. It had many beneficial features for both countries: long duration validity, delinking of water sharing provision from augmentation issue, fail safe arrangement and a better deal in amount of water available in different time segments.

If seen from an overview perspective in the post-colonial period, the Ganges Treaty reflects growing maturity over tenets of sharing of a transboundary river. It comes close to the established principles of international laws on non-navigational use of international waters. India formally recognized the rights of the lower riparian over shared river system, the right which is still being strongly contested in many inter-state water disputes within India. Water sharing has been done more or less on 50:50 sharing formula. The internationally acknowledged principles of 'fairness', 'equity', and 'no harm rule to either side' are mentioned three times in the Treaty.

In actual working in the first year of the Treaty, few problems arose: the 1997 lean season experience, Farakka-Hardinge bridge discrepancy, etc. These generated undesirable emotion and heat in Bangladesh and heightened the political opposition to the Treaty. Yet, unlike the previous dry seasons when similar problems of low flow persisted, this time the parties were actively engaged in a joint discussion, under the umbrella of the Treaty. As a follow-up to the Treaty (Article IX), JRC agreed in July 1997 to set up a Joint Committee of Experts (JCE) to work out arrangements for sharing the waters of other common rivers, giving Teesta the highest priority. Hopefully, sharing of other rivers will not take such a long period of dispute, mistrust and discord as the countries have principles of Ganges water sharing to refer. However, new developments on the water resource management

front such as India's River Inter-linking Project have already stimulated the dynamics of transboundary water conflicts.

Indo-Bangladesh Conflict Resolution and Learnings for Water Dispute among States in India?

Inter-State water disputes in India share some of the common factors of origin and growth of transboundary water conflicts in the Ganga-Brahmaputra basin. The long drawn disputes are product of conflicting upstream-downstream interests, nation state formation processes, domestic politics and lack of cooperation among the States. Indo- Bangladesh conflict resolution over Ganges water sharing highlights that:

- There is a need to acknowledge and confer downstream water rights
- Political resolution based on negotiation is possible to avoid long drawn adjudicatory process which creates winners and losers
- The 1997 UN Convention on the Law of the Non-navigational Uses of International Watercourses can serve as referred principles
- Track II initiatives can play a critical role in confidence building and breaking the deadlock over negotiations.

INDIA'S RIVER INTER-LINKING PROGRAM: ANOTHER CYCLE?

India has proposed a plan of interlinking of its rivers (a quintessential “Hydraulic Mission of the Nation”) in December 2003. Under the plan, dams are being conceived upstream Manas and Sunkosh Rivers in Bhutan under the Manas-Sunkosh-Teesta-Ganga link. Driven by water security concerns and facilitated by favorable upstream position and higher economic/ technological capacities, India has planned a proactive diversion scheme. What are the options for Bangladesh as a lower riparian? It has vociferously protested the plan. Already there is lot of media focus in Bangladesh on India's plan to interlink rivers. The Bangladesh government is reported to have taken up the issue with the Indian government and has been assured that international laws on water sharing would be

adhered to in the inter-linking program. Senior officials in the Indian Ministry of Water Resources have reported that none of the projects would affect Bangladesh in a manner that was being projected in the media. Water resources experts from India argue that inter-linking of rivers should not be seen as monolithic project but as a dynamic concept; the recommended links can be realigned, telescoped or even dropped, while reconciling to divergent views and trade-offs. Bangladesh has presented its growing concern in an international seminar on transboundary waters in Dhaka (December 17-19, 2004) where the impact of India's river interlinking plan was elaborately discussed. As in past, both nations are advocating their respective actions and options, to protect their present and future interests.

Thus, interactions of India and Bangladesh over transboundary waters show intricate and cyclic characteristics. The conflict around water sharing has acquired dynamic nature on account of nation state formation, international relations and domestic political processes. The governments have responded to growing demands for water, economic security demands as well as pressures of development. Instead of being passive recipients, India and Bangladesh have exercised the negotiation tools available (or improvised) to utilize geographical privileges and undo the disadvantages. Simultaneously, they have also shown maturity to accommodate international principles of sharing of transboundary watercourses. Water disputes and attempts of resolution between India and Bangladesh are the sum of multiple processes which were, and are, still operative. New developments on transboundary water resource development and utilization have thrown fresh challenges; however, the successful attempts of conflict resolution in 1996 show that political will, sense of cooperation and mutual trust can build bridges over troubled waters.

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