

WATER RESOURCES: LIMITATIONS IN THE INDO-BANGLADESH LEGAL REGIME

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1. Introduction

Water, at present, dominates almost every global dialogue on sustainable development.¹ This is partly due to huge demand of water, the consumption of which has doubled over the last 50 years and lack of its availability to meet the rising demand. As a UN study cautioned, if current consumption patterns continue, half the world's population, along with freshwater ecosystems, will face acute shortage of freshwater by 2025.²

In response to this critical situation, the UN Millennium Development Goals aim, among other things, at reducing by half the proportion of people without access to safe drinking water and basic sanitation by 2015³ and the Millennium Declaration calls on nations to stop the unsustainable exploitation of water resources.⁴ In line with that call, The World Summit for Sustainable Development at its 2002 Plan of Implementation underscored the need to develop and implement national and regional strategies, plans and programmes with regard to integrated river basin, watershed and groundwater management.⁵

The global recognition of the needs for integrated efforts for ensuring sustainable development of water resources has rarely been reflected in the dialogue between the South Asian countries. For example: the recently concluded meeting of the India-Bangladesh Joint Rivers Commission (JRC) makes no reference to the desirability of the basin

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1. UNDESA, UNDP and UNECE, 2003, *Governing Water Wisely for sustainable development*. Available online: <http://www.unesco.org/water/wwap/wwdr/pdf/chap15.pdf>
 2. UN, 2002, *Global Challenge Global Opportunity: Trends in Sustainable Development*. Available online: http://www.johannesburgsummit.org/html/media_info/pressreleases_factsheets/1308_critical_trends_report.pdf
 3. UNESCO, 2002, *The Millennium Development Goals and Water*. Available online: http://www.unesco.org/water/wwap/facts_figures/mdgs.shtml
 4. See Part IV of the UN Millennium Declaration at <http://www.un.org/millennium/declaration/ares552e.htm>
 5. See Para 26, Plan of Implementation of the World Summit on Sustainable Development, in UN, 2002, *Report of the World Summit on Sustainable Development*. Available online: http://www.johannesburgsummit.org/html/documents/summit_docs/131302_wssd_report_reissued.pdf

wide efforts for the development and management of the common rivers.⁶ In the meetings of the commission, in response to Bangladesh's concern about the Indian unilateral projects like River Linking Project and Tipaimukh Multipurpose Hydroelectric Power Project, India only assured Bangladesh of no harmful consequence of the projects without elaborating the elements of that assurance. At the end of the meeting, both country reiterated their commitment to cooperate each other in regard to utilisation of the waters of common rivers and dealing with flood related issues. They, however, fell short of underscoring the needs for beefing up institutional efforts and widening the JRC's mandate for considering basin wide development and management of water resources of the region.

Against the above backdrops, this paper analyses the relevant legal and institutional relations between Bangladesh and India to examine the reform needs for a more effective, efficient and accountable mechanism for sustainable utilisation of water resources of the region. First: it analyses the agreements and understandings between the two states to examine their efficiency in effectuating cooperation for water resources utilisation. Second: it compares the existing legal regime between Bangladesh and India to the global rules and regional practices to understand the extent to which cooperation between the two countries needs to be intensified. Third: it makes a mapping exercise for suggesting reform measures in the approaches of the countries of this region towards sustainable utilisation of the water resources.

2. Legal and institutional relations

Bangladesh (erstwhile East Pakistan) and India first recognised the needs for cooperation in the utilisation of the common rivers in an agreement of 1959, which titled 'Indo-Pakistan Agreement on East Pakistan Border Disputes'.⁷ Article 7 of the 1959 Agreement provides that: "The need for evolving some procedures for the purpose of mutual consultations in regard to utilisation of water resources of common rivers was recognised by both sides". The textual interpretation⁸ of this

6. See The Daily Star reports on the JRC meetings in 14 and 15 August 2005.

7. For the text of the Treaty, see, UN, 1963, *Legislative series*, p. 300.

8. In case of unavailability of any authentic interpretation, it is valid to make a textual interpretation, which requires an ordinary meaning to be given to the terms of the treaty. See, Article 31 of the Vienna Convention on the Law of Treaties of 1969. Authentic interpretation can be made by an interpretative declaration or by a protocol or a supplementary treaty by the Parties to the original treaty. For detail about interpretation of treaties, see Sinclair, 1984, *The Vienna Convention on the Law of Treaties*, pp. 114-58.

provision suggest that the contracting parties to the treaty agreed that some obligations should precede or accompany the utilisation of a common river, although they did not spell out the content of those obligations.

A more concrete commitment for cooperation for the mutually beneficial utilisation of common rivers was made in a 25 years Treaty of friendship in 19 March 1972.⁹ The said Treaty identified areas of co-operation between the two States and included a provision in Article 6 which reads: 'The high contracting Parties agree to make joint studies and take joint actions in the field of flood control, river basin development and the development of hydro-electric power and irrigation'.

2.1. The JRC and its mandate

In order to institutionalise the intentions of the 1972 Treaty for coordinated measures, the Joint Declaration of the two Prime Ministers in which the 1972 Treaty was announced, contained a decision to establish, on a permanent basis, a Joint Rivers Commission comprising experts of both the States.¹⁰ The Statute of the Joint Rivers Commission (Indo-Bangladesh Joint Rivers Commission; hereinafter the JRC) was agreed in an officers' level meeting in 24 November 1972.¹¹ Article 4 of the Statute describes functions of the JRC:

- (1) The commission shall have the following functions in particular:
 - (a) to maintain liaison between the participating Countries in order to ensure the most effective joint efforts in maximising the benefits from common river systems to both Countries',
 - (b) to formulate flood control works and recommended implementation of joint projects
 - (c) to formulate detailed proposals on advance flood warning, flood forecasting and cyclone warning

9. See 'Treaty of Friendship, Cooperation and Peace between the Republic of India and the People's Republic of Bangladesh, 19/3/72', in Bangladesh, 1990, Ministry of Irrigation, Water Development and Flood Control, Indo-Bangladesh Joint Rivers Commission, *Documents*, p. 5. [hereinafter *Joint Rivers Commission Documents*]. This Treaty expired in 1997.

10. Joint Declaration of the Prime Ministers of India and Bangladesh, 19/3/72, Dhaka, in *Joint Rivers Commission Documents*, *ibid*, p. 1.

11. Statute of the Indo-Bangladesh Joint Rivers Commission, in *Joint Rivers Commission Documents*, *ibid*, pp. 8-10. The Statute was signed by the Secretary, Ministry of Flood Control and Water Resources of Bangladesh and by the High Commissioner for India in Bangladesh.

- (d) to study flood control and irrigation projects so that the water resources of the region can be utilised on an equitable basis for the mutual benefit of the people of the two Countries
 - (e) to formulate proposals for carrying out research on problems of flood control affecting both the countries.
- (2) The commission shall also perform such other functions as the two governments may, by mutual agreement, direct it to do.

Similar to the constituent instruments of other international river commissions, the JRC statute spells out the procedural rules for carrying out its objectives. Chapter V of the statute provides that the ordinary session of the commission shall be held generally "four times a year" and in addition special meeting may be convened at any time at the request of either country. Chapter VI provides that the Commission shall also submit 'its annual report by the 31st January, next year.'

The JRC, however, failed to live up to its mandate. Instead of convening meetings "four times a year", it could convene only 36 meeting in the last 33 years. It also failed to produce and submit its annual reports to the governments or maintain regular liasion between them. More importantly, the JRC had never been able to agree any joint project for development of the water resources. In the absence of political will and direction and lack of independence¹² the JRC has rather been reduced to a forum for discussion and debate on water sharing issues.¹³ It is also alleged that India, the upstream country, has undermined the mandate and spirit of the JRC as well as a number of bi-lateral agreements by undertaking or planning a number of unilateral projects on the common rivers.¹⁴

2.2. Narrowing down the focus of cooperation

It is clear from the above account, that the bi-lateral negotiations between Bangladesh were primarily premised on recognition of the need for harnessing the water resources of the region through joint efforts. A 1974

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- 12. According to Article 9 of the statute, the JRC is instructed to refer any difference between its member to the governments of the contracting parties and it has no mandate to take decisions unless that is unanimous.
 - 13. Crow and Lindquist, 1990, *Development of the rivers Ganges and Brahmaputra*, p. 11
 - 14. Before conclusion of the 1985 MOU, construction of barrages on the rivers Teesta and Gumti was imminent and construction or planning was underway for utilisation of some other common rivers. See, Crow and Lindquist, n. 13, p.13. Regarding India's unilateral steps in relation to the River Linking project and the Tipaimukhi project for harnessing the water resources of three major common rivers—The Ganges, The Brahmaputra and The Meghna, see Asif Nazrul, *JRC meeting and the RLP*, the Daily Star, 13 August 2005

Joint Declaration of the two Prime Ministers assigned the JRC to study best means of augmentation of the water resources of the region available to the two countries in order 'to meet the requirements of the two countries'.¹⁵ Subsequent JRC discussion continued for more than one decade and failed to produce any such agreed study in relation to major common rivers like the Ganges and the Brahmaputra. The main reasons for the failure was India's objection to the Bangladesh proposal to include Nepal in the augmentation planning and Bangladesh's rejection of India's link canal project for diverting Brahmaputra water to the Ganges without guaranteeing Bangladesh's share in both rivers.¹⁶

The stalemate in the JRC in regard to the augmentation proposals induced two countries to form a Joint Committee of Experts (JCE) under the 1985 MOU to make a fresh start.¹⁷ In the face of disagreements on any joint project, Bangladesh was then offered an alternative to consider a project of internal link canal, flowing entirely within her territory, to transfer the Brahmaputra water to augment the Ganges flow.¹⁸

In the subsequent meeting of the JCE, Bangladesh asked for a guaranteed share of the Brahmaputra and Ganges water for considering the internal link canal proposal. Bangladesh argued that such guarantee was essential for deciding 'how much augmentation was needed in the Ganga [Ganges] and how much diversion was possible from the Brahmaputra'.¹⁹ Accordingly, in 1986, Bangladesh proposed India to consider an overall sharing on the basis that Bangladesh be guaranteed a minimum of 25,000 cusecs at the lowest level of the Ganges flow, 75% of the Brahmaputra water of which 50% would be allowed to flow to the sea for environmental purposes and 50% of the flow of the other common rivers.²⁰ But no progress was achieved on that proposal evidently because of India's

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15. Joint Indo-Bangladesh Declaration of the Prime Ministers of India and Bangladesh, 16/5/74, in *Joint Rivers Commission Documents*, n., 9, pp. 15-16.
 16. For detail, see, *Indo-Bangladesh Joint Rivers Commissions, 1985, Updated proposals and comments of Bangladesh and India on augmentation of the dry season flows of the Ganges*, Dhaka.
 17. Rangachari and Iyer, 1993, 'Indo-Bangladesh talks on the Ganga waters issue' in Verghese and Iyer, (eds.), 1993, *Harnessing the Eastern Himalayan Rivers*, p. 185, observed that the JRC was replaced because it was not acting as a joint body but merely as a forum where two sides confronted each other.
 18. Crow and Lindquist, (1990), n. 13, pp. 29-30.
 19. Rangachari and Iyer, (1993), 'Indo-Bangladesh talks on the Ganga waters issue', 188.
 20. See, Crow and Lindquist, n.13, p. 31; Verghese, (1990), *Waters of hope*, 395; Rangachari and Iyer, (1993), 'Indo-Bangladesh talks on the Ganga waters issue', 191.

insistence that Bangladesh should first agree with the India's augmentation proposals. Crow and Lindquist summarised two States' position: "India will not consider sharing without augmentation from the Brahmaputra, and Bangladesh will not consider augmentation from the Brahmaputra without a guaranteed share in the principal joint rivers".²¹

Bangladesh and India later responded to the prevailing crisis by narrowing down the agenda of bi-lateral discussion. A Joint Communiqué of two Prime Ministers issued in May 1992 focused predominantly on the sharing issues with a pledge to negotiate sharing of the Ganges water on an urgent basis.²² Para 10 of the Communiqué clearly highlighted the importance of a long-term sharing of the waters of the Ganges and the Teesta.²³ It specifically referred to the inadequacy of the flows of these two rivers and the need of 'an equitable, long-term and comprehensive arrangements for sharing of the flows of these and other major rivers'. The latter part of the Communiqué underscored the urgency of interim-sharing of the Ganges water. It included an assurance of the Indian Prime Minister that 'every possible effort will be made to avoid undue hardship to Bangladesh by sharing the flows in Ganga/Ganges at Farakka on an equitable basis' and an agreement that 'the concerned Ministers would meet for this purpose [sharing of the Ganges] on an urgent basis'.

2.3. The 1996 Treaty: its potentials and lacking

The 1992 Communiqué resulted into a Treaty in 1996 between Bangladesh and India. The Treaty focuses mostly on sharing arrangement of the Ganges River and undermined the importance of integrated approach for harnessing the water resources. This approach is evident even in the title of the treaty that reads: 'Treaty between the Government of the Republic of India and the Government of the People's Republic of Bangladesh on Sharing of the Ganga/Ganges Waters at Farakka'.²⁴ Quite similarly to the previous agreements, the 1996 Treaty completely disregards the impact of Indian projects in upstream areas of Bihar and Uttar Pradesh and makes provisions only for allocation of residual flows available at the downstream point of Farakka.

21. Crow and Lindquist, *ibid*.

22. Quoted in Bangladesh, (1994), *The impacts of Farakka Barrage on Bangladesh*, 11.

23. For a brief reference to the Teesta river issues, see, Abbas, 1982, *The Ganges water dispute*, pp. 16-17. On the problems of utilisation of Indo-Bangladesh common rivers, See Islam, (1992), 'Indo-Bangladesh common rivers: the impacts on Bangladesh', 1 *Contemporary South Asia* 203-25.

24. For the text of the Treaty, see 36 *ILM* 523 (1997).

2.3.1. Underlying principles

The 1996 Treaty has three parts: the preamble, the operative part containing 12 Articles and the Annexes. Article I to XI set forth the provisions for sharing of the Ganges flow and related matters. And according to Article XII, the Treaty entered into force on the date of its signing (that is 12 December 1996), it has duration of thirty years and it could be renewed on the basis of mutual consent.

The preamble of the 1996 Treaty makes reference to the guiding principles: 'mutual accommodation' for sharing of the flows at Farakka and 'optimum utilization' of the waters of the region. While elaborating 'optimum utilization', it makes reference to 'flood management, irrigation, river basin development and generation of hydropower for the mutual benefit of the people of the two countries'. It describes the sharing arrangement enshrined in the treaty as 'fair' and 'just', which conform to the principle of equitable utilization.²⁵

The preamble makes no reference to conservational or environmental aspects of water utilization. It is silent on the question of maintaining "environmental flow" that many environmental conventions like the 1972 Ramsar Convention and 1992 Convention on Bio-Diversity considered essential for sustaining the normal functions of a river.²⁶

2.3.2. Sharing under the 1996 Treaty

The 1996 Treaty describes three different possibilities of water availability at Farakka according to which water shares of the two States would vary.²⁷ Accordingly, if water availability at Farakka is more than 75,000 cusecs (expected in January, February and last 10-day of May), India receives her full requirement of 40,000 cusecs, and Bangladesh the rest. If the flow is between 70,000-75,000 cusecs (expected during first 10-day

25. See in this regard, Para 9, commentary to Article 5, Report of the ILC on the work of its 46th session in UN, GAOR, 49th session, Supplement no. 10, pp. 221-2, UN. Doc. A/49/10 (1994).

26. As regards environmental flows, an International Conference on Ramsar Convention provides that "Water system require water (the right quantity in the right place) to function properly and to secure a constant and quality supply for other use. ... Human use can only be satisfied in the long run by first ensuring the "environmental allocation" that the system requires to continue to perform." See, The Bureau of the Convention on Wetlands, *The key role of wetlands in addressing the global water crisis*, Paper communicated to the Contracting Parties by diplomatic notification on 1998 and presented to the delegate at the International Conference in Paris, 19 March 1998, pp. 4-5.

27. See, Annexure I and Annexure II to the Treaty

of March and second 10-day of May), Bangladesh receives 35,000 cusecs, and India the rest. In the driest periods of 10 March-10th May, if the available water at Farakka is less than 70,000 cusecs but more than 50,000 cusecs, the two States share that water on a 50:50 basis.²⁸ The 50:50 sharing is subject to a provision that Bangladesh and India each receives guaranteed 35,000 cusecs of water in alternative ten-day periods during 10 March to 10 May.²⁹

The applicability of the Treaty has been delimited by providing that in cases of availability of below 50,000 cusecs of water, the sharing formulas of the Treaty would have no relevance. In such cases, as Article II (iii) of the Treaty provides, India and Bangladesh 'will enter into immediate consultations to make adjustment on an emergency basis, in accordance with the principle of equity, fair play and no harm to either party'.

Although sharing under the 1996 Treaty depends on stable flows at Farakka, the 1996 Treaty contains no effective provision to ensure such flows. It only contains an assurance of India for protecting the water flows at Farakka. That assurance falls far short of amounting to an obligation of controlling or regulating uses of the Ganges water in the upper basin.³⁰ The fragility of that assurance can be discerned from the provision in Article II (iii) in which both the States recognized the possibility of water availability of below 50,000 cusecs.

2.3.3. Augmentation

The 1996 Treaty, in its preamble, recognised 'the need for a solution to the long term problem of augmenting the flows of the Ganga/Ganges are in the mutual interests of the peoples of the two countries.' In its operative part, Article VIII of the Treaty merely repeats that need without elaborating or indicating relevant follow up measures.³¹ The Treaty thus makes no references to previously discussed proposals for augmentation of the Ganges flow and requires no more study on those proposals or any new proposal for harnessing the water resources of the region.

The priority of the Treaty on sharing issues is also evident in its Article IX. This Article provides that "Guided by the principles of equity,

28. See Article II(i) and II (ii) of the 1996 Treaty. See also Annexure I and Annexure II to the 1996 Treaty.

29. Annexure I to the 1996 Treaty.

30. The relevant provision of Article II (ii) provides that India 'would' make 'every effort' to protect flows of water at Farakka.

31. Article VIII reads: "The two Governments recognise the need to cooperate with each other in finding a solution to the long- term problem of augmenting the flows of the Ganga/ Ganges during the dry season."

fairness and no harm to either party both the Governments agree to conclude water sharing Treaties/ Agreements with regard to other common rivers”.

3. 1997 Convention: Comparable rules

The 1997 UN Watercourses Convention³² is the only watercourse convention that has global relevance.³³ It was negotiated by almost every member of the international community including Bangladesh and India and was adopted by a vote of 103 in favour [including Bangladesh] to 3 against with 27 abstentions [including India and Pakistan].³⁴ It will enter into force on the 19th day following the date of deposit of the 35th instrument of ratification, acceptance or accession with the UN Secretary General (Article 36). Pending its application as treaty law, some of the provisions of the 1997 Convention could still be applicable as reflective of established or emerging rules of customary international law.³⁵

The Convention sets forth the general principles and rules governing non-navigational uses of international watercourses in the absence of specific agreements among the States concerned and provides guidelines for the negotiation of future agreements.³⁶ Although it preserves existing agreements, it recognizes the necessity, in appropriate cases, of harmonizing such agreements [for example, 1996 Ganges Waters Treaty] with its basic principles.³⁷ A brief comparison of the contents of those principles with the provision of 1996 Treaty is outlined below for indicating the areas in which the 1996 Treaty may need to be reviewed.

First: The 1997 Convention provides for taking all appropriate measures to prevent the causing of significant harm to other watercourse State (Article 7). Further to this provision, the Convention, by elaborating the post-harm obligation, has established a firm relation between equitable

32. The title of the convention is ‘Convention on the Law of the Non-navigational Uses of International Watercourses’ See the text of the 1997 Convention in 36 *ILM* 700 (1997).

33. MaCaffrey and Sinjela, 1998, ‘The 1997 United Nations Convention on international watercourses’, 92 *AJIL* 106.

34. UN, *GAOR*, 51st session, 99th plenary meeting, 21/5/97, p.7-8.

35. For a discussion on this point, see Islam, M., N., ‘Environmental Impacts of the Ganges Water Diversion and Its International Legal Aspects’ in Mirza, M., Q., 2004, *The Ganges water Diversion: Environmental Effects and Implications*, Kluwer, Academic Publishers, pp. 215-218.

36. UN *Press Release*, GA/9248, 21/5/97, ‘General Assembly adopted Convention on the Law of Non-navigational Uses of International Watercourses’.

37. Article 3(1) and 3(2) of the 1997 Convention.

utilization and harm factor, which is not done in the 1996 Ganges Treaty. The 1996 Treaty does not oblige its Parties to take any preventive measures. It also fails to spell out that unlimited upstream diversion and use of the Ganges water can not ensure adequate protection of the river, which is essential component of the provisions of Article 5-7 of the 1997 Convention. Article II of the 1996 Treaty only provides for applying the principles of equity and no-harm if the available Ganges flow falls below 50,000 cusecs at the agreed point of apportionment. It is, however, difficult to agree that the very notion of sharing an unlimited lower flow, without investigating its uses in the upstream areas and without coordinating those uses, could properly reflect equity or no-harm principle.³⁸

Second: The Convention requires exchange of all relevant information on watercourse condition (Article 9) and on planned measures (Article 11) and adequate consultation between the watercourse States for determining and maintaining equitable utilization. Comprehensive application of these provisions would, therefore, require India to consult with Bangladesh regarding all the upstream projects on the river Ganges. But (under Article I, II, and IV) the 1996 Treaty provides for exchange of information relating only to the projects at Farakka and more downstream areas and for consultation apparently on the basis of such information.³⁹ The necessity of exchanging information on river condition and on the new or existing uses of the Ganges water above Farakka, and holding consultation about the effects of those uses on the water availability at Farakka has not been reflected in any provision of the 1996 Ganges Treaty. Therefore, the 1996 Treaty can be said to have represented only a partial reflection of the procedural requirements of the 1997 Convention.

Third: The Convention requires watercourse States to settle their dispute by bilateral negotiation and, if it fails, by third-party procedures including a mandatory Fact-finding Commission. But Bangladesh and India have failed to make any provision of third-party dispute settlement in the 1996 Treaty. Consequently, in regard to issues like defining and mitigating economic and environmental harm, adjustment of sharing arrangement during review meetings, sharing of below 50,000 cusecs water or interpretation of the Treaty, conflicts between the two States can lead to a long lasting deadlock.

38. See, in this regard, Islam, M., N., 1999, *Equitable sharing of the water of the Ganges: Applicable procedural rules under international law and their adequacy*, Unpublished PhD thesis, SOAS, University of London, pp. 154-57, 213-219.

39. *Ibid*, pp. 262-271.

Fourth: The 1996 Treaty is completely silent on environmental and conservational provisions, which are laid down in detail in the 1997 Watercourse Convention. The underlying purpose of environmental provisions of 1997 Convention, particularly of its Part IV is to protect the watercourse itself, an obligation which include protecting aquatic biodiversity, ensuring their growth and regeneration and halting the climate change process that may be caused by drying up of a river. The 1996 Treaty appears to have taken into account only economic aspects of the Farakka project, not environmental aspects of that project or upstream projects.

Finally: Unlike the 1996 Treaty, the 1997 Convention requires integrated efforts between watercourse states for utilisation, development and management of transboundary watercourses. Article 5(2) provides that Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Article 24 of the Convention recommends establishment of a joint management mechanism for planning sustainable development of an international watercourse and providing for implementation of any plans adopted and promoting protection of the watercourse.

4. Integrated Approach: Regional Model

The above provisions of the 1997 convention have already been reflected in various agreements all around the world. As it is observed in the Report of the ILC on the work of its 46th session the 'modern agreements' rather than 'specifying the respective rights of the parties', have gone 'beyond the principle of equitable utilisation by providing for integrated river basin management'.⁴⁰ While Europe and America pioneered basin wide approach⁴¹ the same is practiced in many regions of Asia, Africa and South America. Some representative examples of such approaches are narrated below.

A. Sustainable Development of the Mekong River Basin⁴²

The Mekong River Agreement on the 'Co-operation for the Sustainable Development of the Mekong River Basin' was signed in 1995 by Cambodia, Lao PDR, Thailand and Vietnam, while the other two basin countries China and Myanmar participate in the regime as 'observers'. The Agreement sets up a framework for co-operation between the riparian

40. UN, GAOR, 49th session, supplement no. 10, p. 224, para. 12

41. Sands, P., 2003, *Principles of International Environmental Law*, Cambridge University Press, pp. 477-89,

42. Source: FIELD, 2005, *Implementation of Multilateral Environmental Agreements for Efficient Water Management*.

states in all fields of the river basin's sustainable development. Under the Agreement, Parties have to protect the environment of the basin from pollution and other harmful effects resulting from development plans and uses of the waters and related resources. The Agreement specifically requires minimum stream flows for the protection of ecosystems, indicating that Parties must co-operate in maintaining flows 'of not less than the acceptable minimum monthly natural flow during each month in the dry season.' The 2004 Work Programme, approved by the Parties to the Agreement, highlights the importance of integrated river basin management.

The agreements established a powerful commission called Mekong River Commission to plan, coordinate and execute projects and programmes. Each of the four countries to the commission has a National Mekong Committee (NMC) that co-ordinates and implements Mekong related projects at the national level.

In 2000, the GEF and the World Bank funded the 'Mekong River Basin Water Utilisation Project' to promote and improve sustainable water management in the Mekong River Basin while protecting ecological balance of the basin.

B. Zambezi river management

Under the auspices of the Southern African Development Community (SADC), eight African Countries concluded the 1987 agreement for the environmentally sound and integrated water resource management of the Zambezi River.⁴³ The Zambezi Action Plan is implemented by the SADC, an Inter-governmental Monitoring and Coordinating Committee and national focal points.

In 1995, the contracting parties concluded a protocol on shared watercourses including the Zambezi in order to 'foster closer cooperation for judicious, sustainable and coordinated management, protection and utilisation of shared watercourses and advance the SADC agenda of regional integration and poverty alleviation.'⁴⁴

C. Basin Management of Lake Victoria⁴⁵

Uganda, Kenya and Tanzania entered into the 1994 Agreement on the Preparation of a Tripartite Environmental Management Program for Lake Victoria. They agreed in 1997 to implement the Lake Victoria Environment Management Program (LVEMP) for joint management of land and water resources around Lake Victoria. The LVEMP is a multi-

43. For text, see 27 *ILM* 1109 (1988).

44. The protocol was revised in 2000. For detail see Sands, n., 41, p. 490.

45. FIELD, 2005, *Implementation of Multilateral Environmental Agreements for Efficient Water Management*

disciplinary and multi-sectoral comprehensive development programme that was designed to introduce environmentally and socially sustainable economic development to the Lake Victoria Basin. The LVEMP activities are implemented by the ministries responsible for natural resources, environment, fisheries, agriculture, lands, water and finance in the respective governments.

The above examples show that integrated basin wide approach is the modern trend for sustainable development of a transboundary watercourse in which all or most of the watercourse states participate. This approach aims at ensuring not only optimal utilisation of the water resources by watercourse states, but also at maintaining and protecting watercourse environment as well. The institutions established through such approaches ensure that adequate information exchange and consultations between the watercourse states take place before any project is undertaken. The clarity of legal relations between the watercourse states encourages multilateral donor agencies to provide financial and technological support to the basin wide projects. This, in turn, has facilitated efficient regimes for utilisation and development of concerned watercourses.

5. Conclusion

The fundamental characteristics of transboundary watercourse are such that it is imperative for watercourse states to adopt an integrated approach in order to ensure sustainable utilisation of the watercourses. The foregoing sections of this paper suggest that Bangladesh and India had failed to agree to adopt any such approach from the very beginning of their negotiations. They rightly recognised the importance of 'cooperation' in water resource development and utilisation, but the mechanism they have established for implementing 'cooperation' was either wrong or inadequate in many aspects. They established a bi-lateral institution in the form of JRC in order to study projects on rivers that flows through some other states and when the involvement of one such state was offered by Bangladesh the whole negotiation on coordinated augmentation of the rivers gradually fell apart.

Later negotiations and the consequent 1996 Treaty undermined the needs for coordinated efforts for development of the watercourses by focusing predominantly on sharing issues. The inadequacy of those negotiations can also be observed from the fact that the two states have so far succeeded on establishing sharing arrangement for only the Ganges and that arrangement also has many loopholes.

Another worrying aspect of Bangladesh-India legal relations on water issue is India's disregard to comply with procedural principles of information exchange and consultation. For example: no information had so far been exchanged in regard to the River Linking Project concerning the Brahmaputra and the Ganges and the Tipaimukh

Hydroelectricity Projects concerning the Barak-Meghna. As these rivers sustain and support the economy and environment of Bangladesh, the utility of the JRC and the 1996 Treaty could again be seriously questioned unless a meaningful and effective discussion regarding the aforesaid projects could be carried out soon.

It must not be forgotten here that the potentials of integrated water resource management depend mostly on clarity and transparency in the upstream-downstream relations and full execution of those relations through efficient institutional arrangements. The responsibility in this regard lies mostly on the upstream states. As a Global Water Partnership study pointed out:

Upstream users must recognise the legitimate demands of the downstream users to share the available water resources and sustain usability. Excessive consumptive use or pollution of water by upstream users may deprive the downstream users of their legitimate use of the shared resource. This clearly implies that dialogue or conflict resolution mechanisms are needed in order to reconcile the needs of upstream and downstream users.⁴⁶

It is, therefore, suggested that the problems regarding the utilization of the transboundary rivers can be mitigated by utilising comprehensive procedural techniques rather than by delimiting their role. In the international domain, the benefits of enhancing the role of procedural principles are being increasingly recognised even in some water shortage areas.⁴⁷ This is done by concluding treaty instrument for establishing competent joint institution for integrated river basin development and management. In the 1996 Treaty, Bangladesh and India have apparently abandoned such possibility by excluding the programmes of studying the previous development proposals including the proposal Bangladesh made for an integrated river basin development. The 1996 Treaty has established a narrow legal relationship for sharing the Ganges water and made a pledge for sharing waters of other common rivers. The objectives of the Treaty are even unlikely to be effectively materialised unless the procedural principles of information exchange, prior consultation and cooperation are fully complied with and unless the mandate of the JRC is fully respected.

46. GWP, Technical Advisory Committee, 2004, *TAC Background Papers*, No. 4. P. 15.

47. International donor agencies' and countries' preference to such integrated development plan has already become noticeable. It was assumed that after the adoption of the 1997 Convention, whatever would be its legal force, this preference would become more dominant in future. See, in this regard, Sergeant, 1994, 'Comparison of the Helsinki Rules to the 1994 UN draft articles' 8 *Vill. Envtl. L.J.* 477.