

Transboundary Water Management in Latin America: Personal Reflections

ASIT K. BISWAS

Third World Centre for Water Management, Mexico

ABSTRACT Management of transboundary water bodies has been a difficult process all over the world, especially in rivers where water allocation between the co-basin countries is an important issue. Discussion on the management of such water bodies in Latin America is significantly less confrontational and accusatory when compared to most similar Asian and African bodies. Information and data sharing in Latin America is also less of a problem compared to other parts of the developing world. Whereas considerable progress has been made in managing transboundary rivers, commensurate progress on aquifers is lacking. Methodology on how to reliably forecast the impacts of interventions on such water bodies has yet to be developed, especially because of national interests, multiplicity of institutions involved, and the capacities and modus operandi.

Genesis of Problems

Historically, management of transboundary freshwater bodies has proved to be a complex, difficult, and time-consuming process for the countries concerned. Treaties have been difficult to negotiate and have generally taken significantly more than a decade to be signed. This is because of a variety of reasons, among which are: historical relationships between the countries concerned, which often transcend water-related considerations; big brother and small brother syndrome due to the asymmetrical power relationships; intensity and magnitude of the water issues faced by the countries and the people's perception of the urgency of solving the problems, because of hardships they may be facing or face in the foreseeable future; narrow interests of the political leaders who often tend to exploit the trade-offs necessary to arrive at a mutually acceptable treaty for partisan and short-term gains; and viewing the issues involved only in terms of water, which often reduces the negotiations to zero-sum games.

As a direct result of the above, and other associated reasons that have proved to be complex and also are often closely interrelated, it has been exceedingly difficult, time consuming, and often frustrating for countries to negotiate mutually acceptable treaties on transboundary water bodies. The complexities often increase by another order of magnitude if negotiations involve allocation of water quantities between co-basin countries, compared to primarily water quality, as have been noted in some of the European river basins like the Rhine or the Danube.

Correspondence Address: Third World Centre for Water Management, Avenida Manantial Oriente No. 27, Los Clubes, Atizapan, Estado de México, C.P. 52958, Mexico. Email: akbiswas@thirdworldcentre.org

0790-0627 Print/1360-0648 Online/11/030423-7 © 2011 Taylor & Francis
DOI: 10.1080/07900627.2011.610981

Allocation of water quantities between the co-basin countries compounds the complexities of the management of the transboundary water bodies because of the inescapable and underlying fact that water management practices and processes, in a vast majority of the countries, have been poor in the past and continue to be poor at present. Consequently, countries are often using two or more times the water compared to what good practices would require. Since water has been free or heavily subsidized in the past, and continues to be so at present in most countries, they have had no economic, political, or institutional incentive to adopt recent technological developments or good management practices. These shortcomings have ensured that significantly more water is used at present than necessary, as a result of which many countries claim they are “water stressed”, or about to become so in the near future. Sadly, a vast majority of international institutions active in water-related issues have added to this myth by erroneously stating that the world is running out of water, when the real problem is poor water management and not the actual physical scarcity of water.

This sad state of affairs has had a serious impact on transboundary water management. Because of poor and profligate water management practices, which have historically depended on supply management options, countries are constantly seeking a way to further increase their available water supplies *ad infinitum*, instead of seriously considering alternatives such as demand management policies, improving the functional efficiencies of the management institutions, or the co-ordination of the water-related policies at the various levels of government. In one sense, these developments are not surprising, since socially, politically, and institutionally it is a much simpler and easier option to consider supply management practices compared to demand management and radical institutional restructuring to improve water management practices and processes. The latter requires a major break from the traditional approaches, and invariably needs some hard political decisions to be made, which most politicians find difficult to accept because of short-term political considerations and/or an incorrect understanding of the water management landscape. It also requires a significant mindset change of policy-makers, institutions, and users, who are used to poor water delivery services for all types of use at almost no cost or at a highly subsidized rate.

The continuing pursuit of these ill-suited policies has meant that most countries have run out of options in terms of developing new sources of water cost-efficiency in an environmentally friendly and socially acceptable manner. Generally, all the economic and easily exploitable water from exclusively national sources in most countries of the world, both developed and developing, have already been developed, or are in the process of development. Accordingly, the only important and economic sources of water that can now be developed are mostly transboundary in nature. These could not be exploited in the past because appropriate water sharing treaties between the countries did not exist, and the wider regional and international implications if one country wanted to exploit them unilaterally without the agreement of the other co-basin countries were massive. In addition, multilateral development banks have steadfastly refused to financially support the construction of any hydraulic infrastructure on a transboundary river, unless a treaty has already been agreed to.

Above factors have ensured that the transboundary water bodies on which there have not been negotiated agreements on allocation of water between countries thus far have not been developed. There are increasing signs at present that this historical development practice may be starting to breaking down.

Situation is Different in Latin America

Having worked extensively in 19 developing countries in three continents, Africa, Asia, and Latin America, and having advised 12 countries on the management of their transboundary rivers, it is fair for the author to say that the situation in the Latin American countries is somewhat different, and for the most part less acrimonious, when compared to similar cases in the African and Asian countries, for at least three important reasons.

First, historically, transboundary water management in Latin American countries has been less confrontational when compared to African or Asian countries. If the situation is compared to those in the Middle East, there is certainly no comparison. This may be because the Middle Eastern countries are small, and, as a result of which, most of the rivers and aquifers have a transboundary dimension. In contrast, Latin American countries are much larger, and therefore their river and aquifer systems are also large. Consequently, they have access to more quantities of water compared to the countries of the Middle East. In addition, unlike the Middle Eastern countries, the countries of Latin America do not have the “historical baggage” of deep animosities, mutual distrust, or even mutual political recognition. Transboundary water management is often a reflection of the past and present political, social, and economic relationships between the countries concerned.

Nor do Latin American countries face the entrenched problems associated with many of the Asian and African transboundary basins such as the Ganges–Brahmaputra–Meghna Basin (Biswas & Uitto, 2001; Biswas *et al.*, 2009; Rahman, 2009; Varis *et al.*, 2008), the Mekong Basin (Biswas & Hashimoto, 1996), the Nile Basin (Biswas, 1994), the Euphrates–Tigris Basin (Biswas & Hashimoto, 1996), or the Southern African countries (Heyns *et al.*, 2008; Kistin & Ashton, 2008; Turton & Ashton, 2008; Willemse, 2007).

There is no question that discussions on the transboundary water bodies of Latin America generally take place under a cordial and civil atmosphere (Biswas *et al.*, 1999). This is in stark contrast to other similar discussions in different parts of the world, especially in the Middle East, which are often confrontational and accusatory in nature. Herein lies one of the positive aspects of the Latin American transboundary negotiations that is often absent in Africa or Asia.

Second, during the negotiations processes in recent decades, the negotiators from the co-basin countries of Latin America are noticeably open and candid with each other, in terms of information sharing, compared to their Asian and African counterparts. Equally, the senior negotiators from Latin America, after they retire from the government, are more likely to discuss freely the rationale of the past discussions and what was in their mind when they discussed specific issues. They are also willing to share their understanding and opinions on their pre-retirement discussions, and candidly provide their views on the future discussions and possible roadmap for a negotiated solution.

In contrast, it is often impossible to get senior retired Asian or African civil servants to discuss for the record what actually happened during the past negotiations. Herein lies one of the very serious issues for analyzing the transboundary water management problems of many Asian and African transboundary water bodies. The academics who analyze the management aspects of these basins mostly do not have access to data or to what transpired during the negotiations or discussions. The few that provide background briefing to the academics do not provide them with “the truth, whole truth and nothing but the truth”. Such briefings are invariably one sided, skewed to make their country or themselves look good, and often are deliberately misleading. The academics, having no other access to

privileged and confidential information, or access to negotiators from the different sides, assume the information provided is correct, and treat it as if was accurate. Some are even flattered that a few senior negotiators are giving them confidential information, without realizing that they are being manipulated.

The end result of this sad state of affairs is that after an analysis is published, other academics invariably quote it extensively, since they do not even have access to the original sources of the incorrect information. After a while, such incorrect interpretation is widely accepted as the truth, since it has been repeated several times by many other authors. This proves Lenin's thesis that "a lie told often enough becomes the truth".

From the author's own personal knowledge of several Asian and African transboundary river basins in which he has acted, or continues to act, as an advisor to the various governments, existing literature is often replete with erroneous or half-correct information which cannot be corrected because of the strict confidential clause in all such advisory agreements. Consequently, there are many myths associated with such analyses which need to be debunked, but no one is able or willing to say that "the emperor has no clothes".

Herein also lies one of the inherent problems of transboundary water management. Without accurate, reliable, and objective analyses, lessons that could be learnt from past experiences are not being learnt. Consequently, future progress can at best be somewhat limited.

The third aspect in terms of Latin American management of transboundary water bodies that is noteworthy is in terms of data and information sharing. There is no question that data and information sharing between the co-basin countries of Latin America are more prevalent than in most river basins of Asia and Africa. To the author's knowledge, not even a single Latin American country considers data on transboundary rivers to be a "state secret", and thus could not be divulged to parties interested in research and development activities within the country concerned, let alone outside the country. This of course does not necessarily imply that relevant or necessary data on the transboundary river basins have been collected, are available in a central place, or are indeed reliable. In terms of information sharing, the Latin American countries compare very favourably with those of Asia and Africa.

It should be noted that the Latin American countries, like those in other countries of the world, have made considerable progress in managing transboundary surface water bodies. However, commensurate progress in managing transboundary aquifers is somewhat conspicuous by their absence. This situation is not surprising, especially as managing aquifers is significantly more complex because of the difficulties inherently associated with their scientific and technical understanding, the cost of collecting adequate and reliable data, and the lack of experience of functional institutions which could manage such systems effectively. Furthermore, legal regimes for managing transboundary aquifers are not well developed, at least when compared to surface water bodies, and global experience in managing them is also extremely limited. A good attempt is being made to manage the Guarani Aquifer, but it is still at its initial stages (Amore, 2011). Because of this situation, one of the papers very specifically commissioned for this issue is a think-piece, which assesses the current situation in transboundary groundwater management and provides a roadmap for the future (Brooks, 2011).

Equally important is the lack of adequate knowledge as to how to accurately forecast the impacts of interventions in transboundary water bodies (Bruch *et al.*, 2007; Loehman & Becker, 2006), especially for large rivers (Braga *et al.*, 2011; Del Castillo, 2011;

Laboranti, 2011; Pochat, 2011; Sainz-Borgo, 2011). These are areas where further work is essential in the coming years in order to further improve the management process.

Future of Transboundary Water Management in Latin America

Like the management of any other natural resource, and consistent with the political inter-relationships between the co-basin countries, transboundary water management in Latin America has been a slowly evolving process. The countries concerned do not appear to have an appetite for a global legal regime for managing such water bodies. This is amply demonstrated by the fact that although the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses has been open for signature at the Headquarters of the United Nations since 21 May 1997, only two Latin American countries have been signatories thus far, Venezuela in 1997 and Paraguay in 1998. There has been no Latin American country that has been a signatory to the Treaty during the past 13 years. Not a single Latin American country has ratified or accepted the Convention thus far. This probably indicates that the countries prefer to resolve their transboundary water issues through bilateral or multilateral negotiations between the countries concerned in specific rivers or groundwater basins. In the Latin American context, the countries are in no hurry to have an international legal regime within which they could operate.

Within this overall situation, and with the objective of sustainable and achievable development, the Latin American countries need to formulate a future vision of their societies based on poverty alleviation and continuous improvements in the living conditions of the millions of their inhabitants, and the role water could play to make this vision a reality. An implementable framework for managing transboundary rivers has to be incorporated within such visions. However, such visions, for the most part, have not been formulated thus far.

Such visions, or roadmaps for the management of transboundary water bodies, can only be formulated if countries have reasonably good political inter-relationships and mutual confidence and trust. Fortunately, unlike Africa or Asia, the majority of the Latin American countries have not historically been bedeviled with mistrust, which could compound further the problems of poverty and deprivation in the region. The move to democracy from military dictatorship in recent decades, supported by strong social and political desire for formulating and implementing a workable vision of regional co-operation and development, is good a omen for the future in the continent.

The issues which are likely to influence the achievement of a regional vision would include population growth and its structure, continuing urbanization, technological developments, institutional innovations, functioning institutions, the sharing of information and better communication with all the stakeholders, and good governance practices. Accelerating globalization and free trade would be another important drive in the region's long-term quest for sustainable economic development. The region would benefit considerably from trade liberalization, greater capital mobility, higher levels of literacy, and technology transfer and adoption. Concurrently, the countries must be vigilant against social and political instabilities and the risk of greater inequality in income distribution. To address these issues effectively, it would be necessary to establish good governance at all levels of society, accountability of public and private sectors, rules of law, reduction of corruption at all levels, and meaningful participatory approaches.

Within such a generally progressive framework, a pragmatic approach would be necessary for transboundary water management, through genuine co-operation and

collaboration, which could result in a demonstrably win-win situation for all the countries concerned. Studies carried out at the Third World Centre for Water Management clearly indicate that, over the longer timeframe, the countries have no other viable alternative but to co-operate with each other in managing their transboundary water bodies (Biswas, 2011). In the final analysis, the costs of a lack of co-operation in such transboundary water bodies would be borne not by the politicians but by millions of poor people, the vast majority of whom may be forced to live in abject poverty for decades to come.

Acknowledgements

The papers for this publication were very specifically commissioned by the Third World Centre for Water Management for discussion at an invitation only workshop at Campo Grande, Brazil. Following the discussions at this workshop, the papers were finalized by the authors.

The Centre gratefully acknowledges the financial support of the Itaipu Binacional Commission, which made the Campo Grande workshop possible, and also to Instituto Pró-Ambiente for the logistical and administrative support.

References

- Amore, L. (2011) The Guarani Aquifer: from knowledge to water management, *International Journal of Water Resources Development*, 27(3), pp. 463–475.
- Biswas, A. K. (1994) *International Waters of the Middle East: From Tigris-Euphrates to Nile* (Oxford: Oxford University Press).
- Biswas, A. K. (2011) Cooperation or conflict in transboundary water management: case study of South Asia, *Hydrological Sciences Journal*, 56(4), pp. 1–9.
- Biswas, A. K., Cordeiro, N. V., Braga, P. F. & Tortajada, C. (1999) *Management of Latin American River Basins: Amazon, Plata, and São Francisco* (Tokyo: United Nations University Press).
- Biswas, A. K. & Hashimoto, T. (1996) *Asian International Waters: from Ganges-Brahmaputra to Mekong* (Delhi: Oxford University Press).
- Biswas, A. K., Rangachari, R. & Tortajada, C. (2009) *Water Resources of the Indian Subcontinent* (Delhi: Oxford University Press).
- Biswas, A. K. & Uitto, J. I. (2001) *Sustainable Development of the Ganges-Brahmaputra-Meghna Basins* (Tokyo: United Nations University Press).
- Braga, B., Varella, P. & Gonçalves, H. (2011) Transboundary water management of the Amazon Basin, *International Journal of Water Resources Development*, 27(3), pp. 477–496.
- Brooks, D. B. & Linton, J. (2011) Governance of transboundary aquifers: balancing efficiency, equity and sustainability, *International Journal of Water Resources Development*, 27(3), pp. 431–462.
- Bruch, C., Nakayama, M., Troell, J., Goldman, L. & Mrema, E. M. (2007) Assessing the assessments: improving methodologies for impact assessment in transboundary watercourses, *International Journal of Water Resources Development*, 23(3), pp. 391–410.
- Del Castillo, L. (2011) The La Plata basin system against the background of other basin organisations, *International Journal of Water Resources Development*, 27(3), pp. 511–537.
- Heyns, P. V. S., Patrick, M. J. & Turton, A. R. (2008) Transboundary water resource management in southern Africa: meeting the challenge of joint planning and management in the Orange river basin, *International Journal of Water Resources Development*, 24(3), pp. 371–383.
- Kistin, E. J. & Ashton, P. J. (2008) Adapting to change in transboundary rivers: an analysis of treaty flexibility on the Orange-Senqu river basin, *International Journal of Water Resources Development*, 24(3), pp. 385–400.
- Laboranti, C. (2011) Pilcomayo river basin institutional structure, *International Journal of Water Resources Development*, 27(3), pp. 539–554.
- Loehman, E. & Becker, N. (2006) Cooperation in a hydro-geologic commons: new institutions and pricing to achieve sustainability and security, *International Journal of Water Resources Development*, 22(4), pp. 603–614.

- Pochat, V. (2011) International agreements, institutions and projects in La Plata basin, *International Journal of Water Resources Development*, 27(3), pp. 497–510.
- Rahman, M. M. (2009) Principles of transboundary water management and Ganges Treaty: an analysis, *International Journal of Water Resources Development*, 25(1), pp. 159–173.
- Sainz-Borgo, J. C. (2011) Transboundary water management in Venezuela, *International Journal of Water Resources Development*, 27(3), pp. 555–576.
- Turton, A. R. & Ashton, P. J. (2008) Basin closure and issues of scale: the southern African hydropolitical complex, *International Journal of Water Resources Development*, 24(2), pp. 305–318.
- Varis, O., Tortajada, C. & Biswas, A. K. (2008) *Management of Transboundary Rivers and Lakes* (Berlin: Springer).
- Willemsse, N. E. (2007) Actual versus predicted transboundary impact: a case study of phase 1B of the Lesotho highlands water project, *International Journal of Water Resources Development*, 23(3), pp. 457–472.