

# Water for Third World development

## A perspective from the South

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*Historically interest in water resources development has always been higher in the South than in the North. From the perspective of the South, there can be no real direct international governance in the field of water, either in terms of quantity or quality. Even though the final decisions on water management are made by the appropriate levels of the governments in individual countries, international organizations do influence such decisions by a variety of ways and means. Two major issues – international rivers and environmental considerations – are discussed, where international governance can have major impacts on national water policies and institutions.*

Water has always been considered to be an essential component for human survival in the South. In the great Indian epic *Mahabharata*, which can easily be compared to the western epics of *Iliad* and *Odyssey*, Rishi Narada, probably the most well-known and earliest authority on politics, greeted the great Pandava King Yudhishtra by saying 'I hope your realm has reservoirs that are large and full of water, located in different parts of the land, so that agriculture does not depend on the caprice of the Rain God'.

The importance of water resources for good governance had been realized in the South for at least some two millenia before the North. In his epic *Arthasastra* (science of politics and administration), which was probably written towards the end of the fourth cen-

tury BC, the eminent Indian statesman Kautilya discussed the importance of rainfall for agriculture. He organized a network of rain gauges in different parts of the country, on the basis of which he analysed the distribution of rainfall in a chapter entitled 'Superintendent of Agriculture' (Biswas, 1970). Kautilya was interested in rainfall measurements for two reasons. First, lands were taxed according to the amounts of rainfall they received every year, which were considered to be proxies for agricultural production and thus income. Second, the Superintendent of Agriculture must have good knowledge of rainfall for planting crops, and thus to maximize agricultural production. It should be noted that rain gauges were not known in the North until about 1639, more than two millenia after Kautilya, when the Italian Benedetto Castelli made some isolated experiments.

From the perspective of the South, throughout history, water has always been considered to be a mandatory requirement for development, certainly at a much higher level of awareness than in the North. At present no responsible government in the South is likely to consider its development policy or strategy to

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be complete unless it specifically considers the water sector, in terms of its use and availability for domestic and industrial purposes, agricultural production and hydropower generation. A similar level of interest generally does not exist in the North, where water is mostly taken for granted, except during periods of prolonged drought. These differing levels of interest can be highlighted by the following three important but fundamental differences between the developed and developing countries so far as water is concerned.

1. Nearly all nations in the South have a Ministry of Water Resources or Ministry of Irrigation, whereas the vast majority of countries in the North do not have such a full-fledged ministry. For example, in Canada, water is handled by a small Directorate within the Department of the Environment, which itself is a minor ministry.
2. Nearly all developing countries have a national plan for water or are in the process of preparing one, whereas a national master plan for any country in the North is an exception rather than the rule.
3. A prolonged drought can markedly reduce the productivities of individual developing countries, can significantly contribute to the reduction of per capita food availability, and often is a direct cause of famine. Such droughts could cause numerous deaths of humans and livestock, and contribute to untold suffering. Implementation of national development plans falls behind expectations. In contrast, the economies of developed countries are more resilient, famine has been basically unknown during recent decades, and people in any affected region for the most part promptly forget the occurrence of the drought as soon as it is over. While prolonged drought is a matter of life and death in most countries of the South, it is a mere 'temporary inconvenience' to the countries of the North.

The difference between the perspectives of the North and South on the adequate availability of water can be graphically illustrated by the recent well-publicized report *Our Common Future*, by the Brundtland Commission. Since the final preparation of this report was dominated by a few select people from the North, it does not even consider water, which is absolutely critical for the survival of the people of the South. The report, which has now been severely criticized in many quarters for many of its erroneous and rather simplistic considerations, does not even provide a rationale as to why certain issues that are of direct interest to the North were automatically included,

whereas many other important issues like water, which is essential for the South's survival and development, did not receive even a cursory treatment.

## Water and international governance

From the perspective of the South, there is no real direct international governance in the field of water, either in terms of quantity or quality. Nor is any such direct international governance likely in the foreseeable future. Furthermore, the countries of the South are far less homogeneous compared with those of the North because they are at different stages of development, and they also differ due to varying social, cultural and institutional conditions. Thus, one would indeed be hard-pressed to rationally promote a new international institution in the field of water which could realistically understand, and positively and promptly respond to the very differing requirements of the individual developing countries. The possibility of creating this type of international institution was one important issue that was very seriously considered by the author, in his role as Senior Advisor to the Secretary-General of the United Nations Water Conference held at Mar del Plata, Argentina, in March 1977. The overwhelming judgement in 1977 was that such a new institution was unlikely to be a step in the right direction. More than a decade later, in 1991, there is really no compelling reason to promote a new international water institution.

Even at the national level, management of water quality and quantity does not always rest directly with the national governments of all developing countries. For example, for a major developing country like India, which is undoubtedly at the forefront of Third World water development and management, the constitutional division of legislative powers between the Union and the states is clear. Under the Indian Constitution, the primary responsibility for water resources development clearly rests with the states, except that the Indian Parliament has the authority under Entry 56, List 1, of the Constitution to enact:

... regulation and development of inter-state rivers and river valleys to the extent to which such regulation and development under the control of the Union is declared by Parliament by law to be expedient in the public interest.

Thus, for some developing countries like India, with a Federal-State form of governance, even the national government has limited direct authority over water, and accordingly for such countries even the central government has limited power for water development, unless the concurrence of the states can be

obtained. For these countries, the question of accepting any supra-national authority or institution simply does not arise. They have no power to negotiate with external institutions, unless the rivers are inter-state in nature and the parliament specifically authorizes the government that the regulation and development of such rivers is in the public interest. Even then, for effective governance, the Central Government must obtain the concurrence of the states.

While, legally, countries like India have limited authority at the national level, they have historically been able to exert considerable influence on the relevant states for the following reasons:

1. The Central Government can exert considerable influence because it decides on planning priorities and allocation of funds. Since states have limited funds, and large-scale water developments are invariably capital-intensive, states generally need central and often external funds for the implementation of their water resources projects. Thus, because of lack of funds, states are forced to negotiate with the central authorities, and they generally arrive at mutually acceptable positions.
2. The states do not have any authority to negotiate with multilateral and bilateral aid agencies. This can only be carried out by the central powers on behalf of the states. Thus, centre and state must accept a common position before such negotiations with external bodies can commence.
3. The Central Government often has the authority to legislate or regulate quality of water. The states have the power to legislate higher levels of water quality than have been centrally stipulated, but they cannot lower them.

For many other developing countries like Egypt or Kenya, such power-sharing arrangements between centre and states do not exist. Accordingly, all the major water development decisions are taken at the central level. The governorates or the provinces (states) have very limited input to the primary decision-making process.

Whatever may be the decision-making process on water resources development and management in the South, final decisions are always made by the individual countries. However, this does not mean that the international organizations and bilateral aid agencies do not have considerable influence on the decision-making processes of various developing countries. This influence comes through the following two major pathways:

1. Most developing countries do not have access to

adequate investment funds for water development projects. They generally need external funds for anywhere between 10% and 90% of the total investment required for these projects. Thus, they must approach multilateral and bilateral aid agencies for funds at concessionary interest rates and/or as non-repayable grants. During this negotiation process for funds, external agencies often manage to impose their views and policies on the recipient countries, or at the very least change the composition and schedule of the projects. A positive example of this in recent years has been the external imposition of environmental impact assessments before project funds could be authorized.

2. Since many developing countries do not have adequate levels of expertise, they often follow guidelines recommended by reputable international organizations as interim measures. An example of this is the WHO guidelines on the use of treated wastewater for agricultural production. Since this is a comparatively new area for nearly all developing countries, the vast majority of such countries practising wastewater irrigation are following the WHO recommended guidelines. Accordingly, international institutions such as the World Bank, Asian Development Bank, FAO, WHO and UNEP are indirectly influencing the decisions made by various developing countries.

Thus, though international organizations may not legally make decisions on water in developing countries, in reality they do indeed 'influence' final decisions by 'guiding' these countries towards their preferred alternative by a variety of ways and means.

### **Analysis of selected examples**

Many issues could be cited where international governance can have major impacts on national water institutions and policies. Only two will be discussed herein because of paucity of time and lack of space. These are international rivers and environmental considerations.

#### *International rivers*

Like inter-state rivers in India, where the Centre can play an important role, international governance may affect the development and management of international rivers, lakes and aquifers. An international river in this context means any river that is shared between two or more countries.

The magnitude, extent and importance of the problems associated with the development and

management of international water bodies have not been generally recognized thus far.

The global magnitude of this problem can best be indicated by the fact that nearly 47% of the area of the world (excluding Antarctica) falls within shared river and lake basins, from a high of nearly 60% of the area in Africa and South America to a low of about 40% in North and Central America. Expressed differently, there are 44 countries where at least 80% of the total area lies within international basins. Of these 44 countries, 20 are in Africa, seven in Asia, 13 in Europe and four in Latin America. Over 90% of the area of the following countries of the South lies in international river and lake basins (Biswas, 1983):

Africa: Benin, Burkina Faso, Burundi, Central African Republic, Equatorial Guinea, Gambia, Lesotho, Malawi, Rwanda, Swaziland, Uganda, Zaire, Zambia and Zimbabwe (total: 14 countries).

Asia: Afghanistan, Bhutan, Laos and Nepal (total: 4 countries).

Latin America: Bolivia, Paraguay and Uruguay (3 countries).

Current analysis indicates that there are 214 river and lake basins in the world that are shared by two or more countries, as shown in Table 1. Of these 214 international basins, the vast majority – 156 or 75% – are shared by two countries. There are, however, nine river and lake basins which are shared by six or more countries. Except for the Danube (12 countries: the maximum number of countries which share a single river basin) and Rhine (eight countries), the rest are in the South. These are shown in Table 2.

While development and management of international water bodies is a major challenge that will face us in the coming decades, it has to be admitted that the law on international waters is one of the most unsettled areas of international law.

The source of international law on this subject could be Article 38 of the Statute of the International Court of Justice, which stipulates that the sources of international law which the Court must utilize, in

Table 1. Number of international river and lake basins in the world by region.

Region	Number
Africa	57
Asia	40
Europe	48
North and Central America	33
South America	36
World total	214

Table 2. River and lake basins of South shared by six or more countries.

Rivers or lake	Countries sharing*
Niger	Mali, Nigeria, Niger, Algeria, Guinea, Cameroon, Burkina Faso, Benin, Cote d'Ivoire, Chad (10 countries)
Nile	Sudan, Ethiopia, Egypt, Uganda, Tanzania, Zaire, Rwanda, Burundi (8 countries)
Zaire	Zaire, Central African Republic, Angola, Congo, Zambia, Tanzania, Cameroon, Burundi, Rwanda (9 countries)
Zambezi	Zambia, Angola, Zimbabwe, Mozambique, Malawi, Botswana, Tanzania, Namibia (8 countries)
Amazon	Brazil, Peru, Bolivia, Columbia, Ecuador, Venezuela, Guyana (7 countries)
Lake Chad	Chad, Niger, Central African Republic, Nigeria, Sudan, Cameroon (6 countries)
Mekong	Laos, Thailand, China, Kampuchea, Vietnam, Myanmar (6 countries)

\*Countries are arranged in descending order on the basis of percentage shares of the total basin area per country.

order of precedence, are as follows:

- (i) law of treaties (body of treaties and conventions ratified by governments);
- (ii) customs;
- (iii) generally accepted principles; and
- (iv) decisions of the judiciaries and doctrines of qualified authors.

Various international law groups such as the International Law Commission of the United Nations, International Law Association, and the Asian-African Legal Consultative Committee have done considerable work in this field. However, in my role as an advisor to several countries currently negotiating treaties on international water bodies, it is clear that often one or more of the countries concerned in a dispute do not wish to follow these guidelines.

Analysis of recent bilateral and multilateral treaties on international waters appears to indicate that two principles have attracted the greatest acceptance. These are:

- (i) the principle of prohibition against appreciable harm by way of deprivation of water rights, pollution or otherwise; and
- (ii) the principle of the right of any riparian of an international river to a reasonable and equitable share in the utilization of that river.

Sensu stricto there has never been international governance of international water bodies, nor can a good case be made that international governance of

such international systems, even if it was possible, would universally improve their overall management efficiency. However, there is no question that the management of international water bodies must involve negotiations between all or some of the co-basin countries. International organizations can play an important catalytic role by:

- providing neutral and objective fora where discussions and negotiations can be initiated and carried out;
- assisting individual countries with appropriate expertise and required funds so that negotiations can be carried out on the basis of reliable data and information;
- agreeing to fund development projects once the negotiations between the co-basin countries have been successfully completed and a treaty has been signed; and
- ensuring that a post-treaty dispute resolution process is effective.

#### *Environmental considerations*

On the surface it may appear that environmental considerations of water resources are almost exclusively in the national domain. International institutions may not have any real part to play because of national sovereignty implications.

On the basis of personal experience as an advisor to 17 developing countries in Asia and Africa, primarily at the Ministerial and/or Secretarial levels, it can be said that the external institutions have played, and will continue to play, an important role in the environmental aspects of water development in most developing countries. External institutions can affect the nations of the South in the following ways.

1. The World Bank, Regional Development Banks, UNDP and various major bilateral aid agencies now insist that before any project can be approved for funding, it must undergo a reasonably rigorous environmental impact assessment (EIA). Since most developing countries do not have adequate funds, parts of which often have to be in freely convertible currencies, for implementation of capital-intensive water development projects, the recipient countries have no alternative but to follow donor conditions. This is the single most important factor that has enhanced the cause of the environment in many developing countries.
2. The work of external organizations, especially the United Nations Environment Programme under its energetic Executive Director Dr

Mostafa Kamal Tolba, has been instrumental in raising the awareness of the countries of the South to the environmental impacts of large-scale development projects, including those on water. UNEP's programme on the environmentally sound management of inland waters (EMINWA) has significantly contributed to ensuring that the major environmental impacts of water development projects are adequately considered. While this development would have taken place in due course of time, unquestionably UNEP's work has considerably accelerated this process.

3. Water bodies do not respect national boundaries. Thus, human activities in the upper catchment of a river basin could have beneficial or adverse impacts downstream. If the upper catchment of a river basin is in one country, and the lower part in another, it no longer remains a national problem. A good example is the Ganges—Brahmaputra river system in the Indian sub-continent, where changes in land use in the upper catchment of Nepal are having major environmental and socio-economic impacts on the plains of Bangladesh. In between Nepal and Bangladesh, major sections of the river system flow through India. Thus, any tripartite negotiations between Nepal, India and Bangladesh on the management of the Ganges—Brahmaputra system must consider associated environmental factors. While international governance would not be appropriate for such bilateral or multi-lateral negotiations, international institutions can play a constructive role, which for the most part in recent decades has not been seen.

#### **Analysis of opportunities and constraints**

In both the foregoing issues discussed, international attention, in a limited form, can provide opportunities as well as constraints.

#### *International water bodies*

A very limited number of in-depth analyses of international water bodies of the South are available at present from which to draw definitive conclusions. To a great extent international organizations such as the United Nations system have deliberately stayed away from the issue of international rivers and lakes primarily because they have considered such issues to be politically sensitive. To the extent they have become involved in such activities, the emphasis has been on data collection, exchange of information, the sending of expert missions and holding of workshops and conferences.

In contrast to the countries of the North, where interest in international water bodies has stemmed primarily from the question of water quality as in the Rhine, Danube and Great Lakes, the main preoccupation of the South has been on water quantity. Generally the main problem with the Ganges, Nile and Lake Chad is the distribution of water between the co-basin countries. Water quality has not become a dominant issue thus far, but may become so in some cases in perhaps ten years' time.

On the basis of the analyses carried out by the author on selected international water bodies of the South, the following preliminary conclusions can be drawn.

1. In most cases of international water bodies, not all the co-basin countries of a specific system have the same urgency to come to an agreement. For example, if the Nile is considered, Egypt would like a comprehensive treaty but Ethiopia does not feel the same urgency. In some cases those countries that do not have the same urgent need for water feel that they can get a more favourable agreement by delaying the negotiation process.

2. As the demand for water increases in all the Third World countries, and the exclusively national sources of water are developed, the only remaining major source would be the international water bodies. This is already the case for many countries.

It is thus likely that unilateral exploitation of shared water resources by one country, without appropriate agreement with other co-basin countries, is likely to be a fertile area for emerging conflicts between the countries concerned. One recent example is the conflict between Turkey, Syria and Iraq over the Euphrates River because of the construction of the Attaturk Dam. In all probability, the number of these types of conflicts is set to multiply manifold in the future.

3. The rivalry, distrust and ill-feeling between neighbouring countries, the absence of well-established institutional infrastructures and internationally accepted legal mechanisms for negotiating international agreements, the existing political climate, the presence and strengths of various special interest groups within countries, the lack of adequate financial resources and technical expertise, and differing priorities placed on the availability of additional sources of water, are highly likely to contribute to delays and frustrations in developing the international water bodies of the South.

A review of past conflicts can only reinforce

this contention. For example, the seeds of dispute between India and Pakistan over the use of the water of the Indus River and its tributaries began to germinate as early as 1920, when both were part of the same country. The dispute became international in 1947, when the two countries separated. The Indus River Treaty was eventually signed in 1960. The process was accelerated only because of the leadership of the then President of the World Bank, Eugene R. Black, who initiated and took a personal interest in the negotiation process. Unfortunately, this type of foresight and leadership within the major international funding institutions has been missing in recent decades. During the 1990s and beyond, the major multilateral and bilateral funding agencies can play a most constructive role in this area, provided there is enlightened and confident leadership.

#### *Environmental considerations*

Environmental considerations, from the perspective of the South, are primarily issues that come strictly under national sovereignty. International governance cannot have any direct role, without explicit agreement of the countries concerned. This, however, does not mean – as discussed earlier – international institutions and agreements cannot affect the environmental aspects of water development and management.

There is no question that international pressure has affected national decisions in both subtle and direct ways. For example, consider the case of the Silent Valley Project in India, which had to be cancelled primarily because of international concerns and interventions. The Three Gorges Dam in China and the Narmada Valley Project in India have undergone substantial modifications thus far, primarily because of international concern. More such impacts are likely to be seen during the next decade and beyond.

Because of these external concerns, major water development projects that are being submitted by developing countries to major donor organizations for funding are already receiving more environmental scrutiny than they might have received even only five years ago. While this is a positive development, much progress in this area still remains to be made.

Among the constraints facing the developing countries before additional progress can be made are the following:

- Methodologies for environmental impact analyses, as used at present in the South, are primarily those borrowed directly from the

North. These methods are seriously flawed, and their application to developing countries leaves much to be desired. Among the major flaws are their overwhelming and exclusive attention to negative environmental impacts (positive impacts being completely ignored), lack of any direct linkage to the overall planning of social and economic development, a partial framework for analysis and their cost-effectiveness (Biswas, 1991).

- The processes adopted thus far have been somewhat mechanistic. For example, waste discharges are generally considered only in terms of the concentration levels of pollutants in surface water. The entire emphasis is on whether or not the level of concentration exceeds the allowable limit. What the potential impacts of these discharges could be on human and animal health are basically ignored. To the extent that they are considered, they are superficial and very general.
- EIA is often considered to be an end in itself. There is basically no follow-up monitoring by the project authorities, government agencies or international funding agencies. Thus, there is a plethora of pseudo- and erroneous analysis.
- To the extent that environmental impact assessments are carried out by the external organizations, they are primarily to satisfy their own internal requirements and not to ensure that the projects actually become environmentally sound.
- Even the external organizations seldom carry out proper monitoring and evaluation of project impacts on the environment. A good example is the International Fund for Agricultural Development (IFAD). This agency sent out a series of missions to evaluate many of their projects during 1983–85. Evaluators were given a series of issues that were to be considered. Environment was *not* one of these issues. Thus, not surprisingly, all evaluators – except the author – neglected environmental issues. Since none of these evaluations other than the author's mentioned environmental impacts, IFAD started to state in the mid-1980s that the projects were 'environmentally benign', which was not only misleading but totally inaccurate.

### Conclusions and recommendations

International governance is neither possible nor

desirable for water resources development and management from the perspective of the South. However, international organizations and the major donor countries can significantly affect the water development and management processes of developing countries, both positively and negatively.

To this extent it is recommended that:

- (i) International organizations and donor countries start taking an active interest in the management of international rivers, lakes and aquifers. They should not be afraid of being caught in the middle of political cross-fire. Enlightened leadership, an even-handed and objective approach and the incentive of potential funds being given to develop the international water bodies will go a long way towards obtaining mutually acceptable agreements. Institutional leadership is especially important since the resolution of problems is primarily a political process: these cannot be resolved at working levels. Except for UNEP, leaders of other international organizations have basically ignored this problem. This is a situation that must change.
- (ii) An objective and practical method for environmental assessment that would be useful for developing countries is urgently needed. Such method or methods should be developed by full cooperation between the international institutions with developing countries and major professional associations like the International Water Resources Association. If a good methodology can be developed, this should be extensively disseminated.

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