

## Synopsis

# Deafness to Global Water Crisis: Causes and Risks

## GLOBAL WATER CRISIS

There is a slow realization at present that the world is about to face a major crisis in terms of water availability (1-5). The crisis already exists for many countries, and is highly likely to confront many other arid and semiarid countries within the next one or two decades. It appears that when the world was pre-occupied with other crises like energy, food, environment, and debt, another important crisis, that on water, was in the making, but for a variety of reasons it did not attract global attention. Thus, it is not surprising to find that for all practical purposes, water disappeared as a topic of any significant discussion by the leaders of the world at the United Nations Conference on Environment and Development (UNCED), held at Rio de Janeiro in June 1992. Issues like climate change, deforestation, biodiversity and ozone depletion took the center stage at Rio (6, 7).

The global water requirements are likely to increase almost tenfold during the 20th century (Fig. 1) and this phenomenal growth rate in water use can not be maintained throughout the 21st century. Currently, reliable estimates of global water use simply do not exist; all data used are "guestimates" at best. However, as yet there are no signs that the planners and policy-makers in the vast majority of developing countries are aware that there are physical, economic, technological and environmental constraints to the development of new water sources. In the context of national water resources management in the 21st century, the long-practiced "business as usual" solutions are going to be neither sufficient nor appropriate.

The following overall prognosis can be made on the future water resources situation of the developing countries.

- In order to support an increasing population in terms of national food security, more and more water will be required for all agricultural uses in all developing countries, unless water use efficiency can be radically improved within a decade or so.
- Simultaneously, water demands for other purposes, domestic and livestock, industrial development and electricity generation, will increase steadily as well.
- Water for ecosystem preservation will become an increasingly important socio-political issue.
- Since all the easily exploitable sources of water have already been developed, or are in the process of development, future water projects will be more expensive, technologically more difficult and take more time to construct than the current or the past ones;
- For environmental and social (primarily resettlement) reasons, it will take significantly more time than what most governments currently expect, to develop their next generation of water projects.
- Considering realistic growth rates for new water development projects in the coming

decades, it is now evident that nearly all developing countries will have insufficient water to satisfy the demands for all the different uses, at least in the medium-term.

- Under this competing situation, the percentage share of water that will be available for irrigation will start to decline steadily in the coming decades. Domestic and industrial uses will receive an increasing share of the available water.
- Under these conditions, irrigation, which currently accounts for nearly two thirds of all water used on a global basis, will have to become increasingly more efficient in the future: there is simply no other alternative.
- On the basis of the present trends, irrigation management is unlikely to improve as fast as would be necessary to compensate for the percentage loss of water which this sector is likely to experience in the future.
- Unless water resources managers and national decision makers realize the gravity of the situation in the foreseeable future, the situation is likely to get progressively worse for many years to come. This will undoubtedly contribute to the intensification of sociopolitical tensions in many countries.

## WATER IN THE INTERNATIONAL AGENDA

One can legitimately ask if water scarcity is going to be a major global problem in the foreseeable future; why has it been basically missing from the international agenda? The reasons are many, and this is an important issue that merits further consideration.

The omission of water from the international agenda is a very important but a sad fact and one the water profession needs to consider very carefully. While some have glossed over this sad situation like a proverbial ostrich with its head buried in the sand, our profession can no longer ignore this condition, especially when water still accounts for millions of deaths throughout the world each year. One can legitimately ask why issues like climate change which has not killed a single person thus far anywhere in the world and is not likely to do so for the next several decades, has received and continues to receive extensive political and media attention. Even though it can be clearly documented that millions of people are dying each year from drinking unclean water and/or drought and flood-related problems, water has a very lowly place in the international agenda. The reasons for this are many, and probably we can better understand this situation by

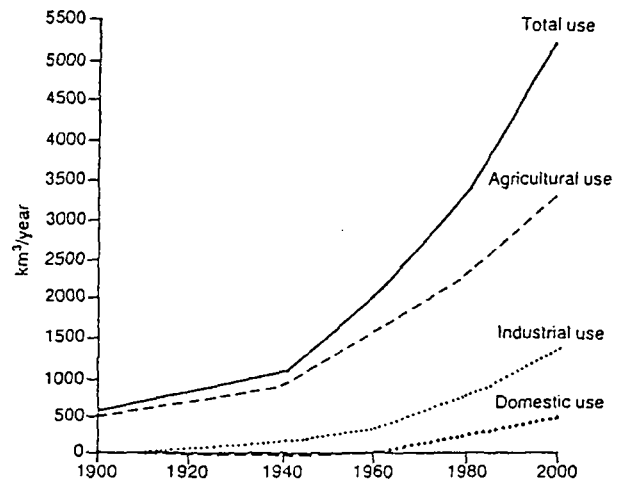


Figure 1. Increase in global water use, 1900-2000.

objectively analyzing why water was not considered to be a major issue for discussion at Rio.

First, The International Conference on Water and the Environment (ICWE), which was convened in Dublin in January 1992 by the United Nations system, was expected to formulate sustainable water policies and action programs for UNCED. Its timing, only four months before the Rio meeting, was ill conceived. Even if the Dublin Conference had come out with some substantive ideas and programs, which it did not, and had also considered critical issues like how much would such programs cost, where the funds would come from and who would implement the programs, which again it did not; there simply was not enough time to incorporate these ideas properly and effectively in the Rio program. Not surprisingly, some 500 participants from ca. 60 countries unanimously expressed their disappointment during the Third Stockholm Water Symposium because of the "failure of the UN System both to succinctly address the critical situation of the global water problems at the Dublin Conference, and to put water firmly on the Rio Agenda".

Second, the Dublin Conference was organized as a meeting of experts and not as an intergovernmental meeting. The distinction between a meeting of experts and an intergovernmental meeting is a very important one, especially in the context of UNCED, since such World Conferences can/only consider recommendations from intergovernmental meetings. The pattern and precedent for this was firmly established by the earlier UN World Conferences of the 1970s and 1980s. Thus, not surprisingly, certain countries strongly objected at Rio to any reference to the Dublin Conference. Accordingly, the word Dublin does not even appear anywhere in Agenda 21, including Chapter 18 that deals with water. Even the meager results of the Dublin Conference had no perceptible impact on the water chapter of the Agenda 21. In retrospect, in all probability, a water chapter of Agenda 21 would have been almost identical, even if the Dublin Conference had not been convened!

Another reason as to why water was not higher up in the Rio Agenda was the general absence of water experts during preparatory meetings of UNCED. Western governments generally supplemented their teams with subject matter specialists as and when they were necessary. This was generally the case in the areas where they were primarily interested, which were issues like climate change, biodiversity or deforestation. Seldom did Western governments strengthen their teams with water experts, since water has not been an important issue economically and/or socio-politically in recent times.

If Western governments were not so interested in water, why did not the governments of developing countries make a serious attempt to put water higher up the Rio Agenda? This is a valid and important question, since water is a critical issue for nearly all the developing countries, which are located in the tropics and sub-tropics, in contrast to the industrialized countries which are invariably in temperate climates, and whose economics are for the most part immune from water scarcities.

There are many reasons for the non-action by the developing countries to give water a higher profile at Rio. As an advisor to 19 governments at the ministerial and secretarial levels, I can safely say that as a general rule, the environment ministries of the Third World jealously guarded their positions and privileges during the preparatory process of Rio *vis a vis* their other ministries. Water ministries were generally ignored, and were seldom consulted in determining what should or could be the priority issues.

It would also be fair to say that the water ministries of developing countries were generally unaware of the importance and significance of the Rio Conference until it happened. Most thought it would be just another UN Conference, which very few, if any, would remember after 2-6 months. By the time they realized that Rio was going to be an unique event, which would have a major impact on global development as well as on availability of investment funds for many years to come, it was simply too late. Generally speaking senior water officials in developing countries realized the importance of Rio and Agenda 21, and also how they were to affect ministries and work programs, only after UNCED was over.

It was not by any plan or design that water did not have a higher priority at Rio. The UN system had banked on the Dublin Conference to make the difference. The failure of the Dublin Conference, the absence of any fall back strategy in the event of a failure, the very poor timing of ICWE which left only 4 months between the two events in Dublin and Rio, and the lack of interest by developing countries at high political levels, were all important contributory reasons, which did not strengthen the cause of water at Rio.

## NORTH-SOUTH PERSPECTIVES ON WATER

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 be complete unless it specifically considers the water sector, in terms of its use and availability for domestic and industrial purposes, agricultural production, hydropower generation and environmental requirements. A similar level of interest generally does not exist in the North, where water is mostly taken for granted, except during periods of prolonged droughts. 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 (8).

(i) 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.

(ii) 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.

(iii) Water quality and not quantity is the predominant water issue of the North, whereas in the South water quantity continues to be the major concern.

(iv) A major critical issue of the South is how to provide enough clean water to its rapidly burgeoning megacities during the coming decades. Water riots have already been observed in a few megacities of the developing world. Such riots could occur with increasing frequency in the future, unless water supply for the population, both rich and poor, can be assured. Water availability for megacities of the North is unlikely to be a serious problem in the future.

(v) 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 report *Our Common Future* by the Brundtland Commission. The report, which has now been severely criticized by the water professionals for its "water blindness", is remarkable for its total neglect of water issues; these did not merit even cursory treatment.

## CONCLUDING REMARKS

Water has always been considered to be a vital ingredient for sustainable development of the South in the past, and all the current

trends indicate that it will continue to remain a critical resource for the foreseeable future. With the steadily increasing population, and more and more people reaching higher standards of living, water demands in all regions will increase significantly in the coming decades. There simply is not enough water sources which could be economically developed to avert the impending water crisis.

The Dublin Conference on Water and the Environment failed to put water higher up the political agenda at the UN Conference on Environment and Development at Rio de Janeiro in 1992, where water attracted very little attention. However, some progress has been made through the past Stockholm Water Symposia, which have managed to bring some recognition to the water crisis. Much more remains to be done.

The water management profession is now facing a problem, the magnitude and complexity of which no earlier generation has had to face. In the run-up to the 21st century, our profession really has two choices: to carry on as before with "business as usual" attitude that tries to solve future complex problems on the basis of experiences from simpler problems of the past, or continue in earnest an accelerated forward looking effort to identify the real problems of the future and face the challenges squarely by implementing workable solutions within the short timeframe available to us. We also need to overcome the current deafness of the decision-makers to listen carefully about the water crisis, and make every effort to put water on the international agenda. If we do not succeed, millions of people will continue to pay the price in the developing world in terms of suffering and death.

## References and Notes

1. Falkenmark, M. 1986. Freshwater—Time for a Modified Approach. *Ambio* 15, 192-200.
2. Falkenmark, M. 1989. The massive water scarcity now threatening Africa—why isn't it being addressed. *Ambio* 18, 112-118.
3. Falkenmark, M. and Biswas, A.K. 1995. Further momentum to water issues. *Ambio* 24, 380-382.
4. Biswas, A.K. 1993. Water for sustainable development in the 21st century: a global perspective. In: *Water for Sustainable Development in the 21st Century*. Biswas, A.K., Jellali, M. and Stout, G. (eds). Oxford University Press, New Delhi, pp. 7-17.
5. Biswas, A.K. 1994. Sustainable water resources development. *Int. J. Water Res. Dev.* 10, 109-116.
6. Biswas, A.K. 1993. Water missing from the international agenda. *Stockholm Water Front*, June, 12-13.
7. Biswas, A.K. 1994. Water in the international agenda. *Key-note Lecture in Proceedings of International Conference on Land and Water Management*. Instituto Agronomico Mediterraneo, Bari, Italy, pp. 665-673.
8. Biswas, A.K. 1992. Water for the Third World developments: A perspective from the South. *Int. J. Water Res. Dev.* 8, 3-9.

**Asit K. Biswas**  
**Past President**  
**International Water Resources**  
**Association**  
**Viveros de Talanepantla No. 11**  
**Viveros de la Loma**  
**Talanepantla**  
**Edo. de Mexico**  
**54080 Mexico**