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Preface

"Water, water everywhere, 
Nor any drop to drink."

Samuel Taylor Coleridge's Ancient Mariner summed up the water situation that is currently prevalent in many parts of the world, almost correctly, and most certainly, succinctly. Recent estimates published by the various United Nations agencies indicate that nearly two-thirds of humanity will face water scarcities by the year 2025. Even though, in all probability, this may prove to be a somewhat high estimate, there is no doubt that water will become an increasingly important resource issue of the 21st century. While the Ancient Mariner was concerned exclusively with the non-availability of freshwater to drink, it is now evident that water is not only necessary for the survival of human beings and ecosystems, but it is also essential for agricultural production, industrial development, electricity generation, transportation, environmental conservation, and even regional security and peace. Properly planned water development can contribute significantly to economic and social development of most developing countries. In turn, water management will be affected by economic development and evolving social norms, especially in terms of water use patterns, quality considerations and development practices.

The Ganges-Brahmaputra-Meghna (GBM) river basins are no exception to the current general global trends and considerations. In fact, if anything, this region is more dependent on water for survival, as well as for its future socio-economic development, compared to most other parts of the world.

The GBM river system is the second largest hydrologic system in the world. It covers nearly 1.75 million km² over 5 countries: China, Nepal, Bhutan, India and Bangladesh. The average population growth rate in the region over the past decade was around two percent per annum. The total population of the region was estimated at 600 million in 1999, which is significantly higher than that of entire North America,
urban centres. While the need for good quality water has increased rapidly, commensurate advance in water management practices has not occurred for a variety of social, political, economic and institutional reasons. Thus, the region is regularly ravaged by floods and droughts, and now contains the largest concentration of the world's poor, more than the entire sub-Saharan Africa. Poverty has become endemic, and unless the current approaches to resources management are changed very significantly within a very short period of time, the future prospects for several hundred millions of people living in the region will continue to be bleak.

Since the region is well-endowed with natural resources, these must be developed and managed rationally so as to lift millions of people from their current poverty trap. As the current study indicates, given political will and considerable social pressure, changes in the mind-sets of the decision-makers will take place. Such needed and possible developments can no longer be considered to be a long-term dream. Political mistrust between the countries concerned which stretches over at least half a century, absence of enlightened leaderships in the past, serious perceptual differences in the development approaches between the countries concerned, legacy of inadequate water and related resources management practices, and absence of goodwill between the countries have all contributed to the present unacceptable level of development and living conditions of the people, and to a steadily deteriorating environmental base. Integrated development of the regional resources and manpower has not been possible in the past, simply because such collaborative efforts were not possible due to prevailing social, political, economic and institutional conditions.

Fortunately, however, there are signs that the conditions of the past have started to change. A climate of goodwill and mutual trust between the countries has started to develop in the recent past. An indication of these positive developments is the signing of two landmark treaties, first between India and Nepal, in January 1996, over the River Mahakali, and the second between Bangladesh and India, in December 1996, over the sharing of the waters of the River Ganges.

The real challenge facing the region at present is how to ensure its rapid social and economic transformation. The present study indicates
the light of the expected changes. These changes must be faced realistically and promptly, and should not be viewed either with a rose-coloured glass or with a dark glass. We must objectively analyse and constructively determine what are the development potentials of the region, and also what are the constraints so that these can be managed efficiently and can contribute to accelerated welfare of the people of the region. Success can only be measured by our ability to respond in a timely and proper manner. The development process that should be used, in all probability, will be new and innovative, for which a new and more open and broad mind-set will be required. Yesterday’s crystal balls are unlikely to shed much light on this coming new age of accelerated and holistic regional development. Equally, the future development milieu is likely to be restless and uncertain, with diversified interests that will be awash with differing opinions, chaos, rapid technological changes, globalisation, relentless economic competition and accelerated social pressure for the much-needed development.

Never before in the history of the region, profound changes that are now essential, have occurred within a short period of time, which must take place over the next 2 to 3 decades. These changes must be identified and managed, and also felt and appreciated by the people of the region. This would not be an easy task, but one that must be accomplished. Along the way there would be successes and failures, with emotional peaks and valleys. Development and water professionals would in all probability have to travel on many trails that are not well-worn, or even known. Along these untrodden paths, we would undoubtedly discover some short-cuts: equally we would face numerous obstacles and bumps. This is to be expected: it comes with the new uncharted territory of a new integrated development process for the region.

The process used for developing the sustainable development framework of the GBM region is worth noting. The Third World Centre for Water Management, a global think tank on water-environment-development issues, and the Committee on International Collaboration of the International Water Resources Association (IWRA) have had a long interest in the management of international waters. The two
institutions have worked closely and extensively in the Middle East, Latin America and Asia on managing international rivers.

Our work in Asia started with the convening of the Asian Water Forum on International Rivers in Bangkok, Thailand, in early 1996. Three international rivers were selected: Ganges-Brahmaputra, Mekong and Salween. The three case studies represented different levels of disputes, ranging from the long-running and well-established problems over the use of the waters of the Ganges-Brahmaputra and the Mekong systems to the Salween, where the two countries do not have any entrenched positions. The results of this Forum was published as a book: “Asian International Waters: from Ganges-Brahmaputra to Mekong,” with Asit K. Biswas and Tsuyoshi Hashimoto as editors (Oxford University Press, 1996). This book has now also been translated into Japanese. The Forum was supported by the United Nations University and the United Nations Environment Programme.

A main conclusion of this Forum was that the Centre and the IWRA would have more comparative advantage in working on the Ganges-Brahmaputra-Meghna system, compared to the other two river systems. Accordingly, in 1998, the Ganges Forum was organised in Calcutta, with the support of the United Nations University and the Ministry of Development Cooperation of the Government of the Netherlands. This also resulted in the publication of a book: "Sustainable Development of the Ganges-Brahmaputra-Meghna Basins", with Asit K. Biswas and Juha I. Uitto as the editors (United Nations University Press, Tokyo, 2001).

Participation in both the Asian Water Forum and the Ganges Forum was strictly restricted to the most knowledgeable experts and senior technocrats from the co-basin countries of the river systems concerned, and by invitation only. Only about 25-30 experts were invited to participate in each Forum in their personal capacities to ensure a free, frank and authoritative exchange of ideas, facts and opinions. The main objective was to organise two Forums, where even long-term adversaries during the various negotiations on the international rivers concerned could meet as friends and colleagues under informal and unrecorded conditions, away from media spotlights and without predetermined official government positions. While the interactions
between the participants in both the Forums were intensive, they were constructive and without rancour.

An important conclusion of the Ganges Forum was that a window of opportunity existed for a collaborative effort between Nepal, India and Bangladesh on the sustainable development of the GBM region, which simply did not exist earlier. The Ganges Forum further recommend that the Third World Centre for Water Management should take the initiative to develop such a sustainable development framework, since it has no hidden agenda, perceived as totally independent in the region, and has a very high degree of credibility with the governments, research institutions and NGOs in the three countries concerned, as well as with the external support agencies.

The Centre accordingly initiated a study with the financial support from the Royal Dutch Embassy in Dhaka. Right from the very beginning it was unanimously agreed by all the parties that the framework should be developed by the best and the most appropriate institutions from Nepal, India and Bangladesh, with formal or informal support of the governments. In addition, the three institutions must have excellent academic credentials, reputation for being objective, impartial and multi-disciplinary, and good knowledge of the water and related resources issues of the GBM region.

It soon became very evident that the best institutions from the three countries which satisfied all the necessary requirements were unquestionably the Institute of Integrated Development Studies (IIDS), Kathmandu, Nepal; Centre for Policy Research (CPR), New Delhi, India; and Bangladesh Unnayan Parishad (BUP), Dhaka. The leaders from the three teams (Dr. Mohan Man Sainju of IIDS, Prof. George Verghese of CPR, and Dr. Q.K. Ahmad of BUP) were invited to prepare the terms of reference for the overall study at a meeting in Dhaka in early 1999. The United Nations University supported this initial meeting financially.

Following this meeting, funds from the Royal Netherlands Embassy in Dhaka were available to carry out the studies within the agreed overall terms of reference. After the completion of these studies, the three teams, and myself as the Coordinator of the study, met in Kathmandu, Nepal, to integrate the three studies. Shortly after the Kathmandu
meeting, a draft report entitled “A Framework for Sustainable Development of the Ganges-Brahmaputra-Meghna Region” was prepared.

This draft was discussed at a high-level meeting in Dhaka, 4-5 December 1999. The participation in the meeting was by invitation only. It was attended by Ministers and Secretaries from the various ministries (both present and past), parliamentarians (central and state), leading water and development experts, senior technocrats, and representatives from the private sector, universities, NGOs, the media and external support agencies. Approximately 30 individuals were invited from each of the three countries.

Following the Dhaka meeting, a new semi-final draft was prepared. The results of the framework study were then presented at special GBM sessions that were organised at the World Water Congress in Melbourne, Australia, and at the Second World Water Forum in The Hague, the Netherlands. Both of these meetings took place in March 2000. The summary of the study was also presented during the Stockholm Water Symposium.

The report was finalised following extensive and intensive discussions at all these three meetings. The book is thus the final product of this consultative, participative and transparent process.

The Centre is most grateful to the Royal Netherlands Embassy in Dhaka for their support, which enabled us to carry out this study. We are especially grateful to Peter de Vries and Zahir Uddin Ahmad of the Embassy for their continuing support and encouragement. We also acknowledge the support of A.J. Diphoorn of the Dutch Ministry of Foreign Affairs, The Hague, for his continued interest and support for our GBM studies, starting from the Ganges Forum. Without the support of Messrs. de Vries, Ahmad and Diphoorn, this study simply could not have been carried out.

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of the final editing of the manuscript, and to Dr. M.M. Sainju, Director of IID, for organising the Kathmandu meeting. The hard and dedicated work of Messrs Ahmad, Sainju and Verghese and their colleagues, and over 350 discussants and reviewers, is primarily responsible for this extraordinary book.

On behalf of the Centre, I would like to thank Ujjwal Prahdany of the Ford Foundation office in New Delhi. Ujjwal has always taken a keen interest in the development and management of the GBM region, and his wise counsel and support is very much appreciated. We are also most grateful to the Ford Foundation for supporting the publication and distribution of this book.

The Centre is continuing with additional activities in the GBM region as well as in other regions on development and management of international rivers. The Centre works on the basis of formal networks with prominent institutions and individuals in over 25 countries. We would welcome the comments of the readers on this book, as well as expression of interest to join our extensive network, in terms of collaboration, joint studies or information exchange.

Asit K. Biswas
President
Third World Centre for Water Management
Avenida Manantial Oriente No. 27
Los Clubes, Atizapan, Estado de México, 52958 MEXICO
E-mail: akbiswas@att.net.mx
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