



## Festschrift

This Festschrift is a tribute to Professor Asit K. Biswas on his 80th birthday, for his manifold contributions to water resources policy and management and his extensive efforts to synthesize, apply and disseminate knowledge at the global level. His contributions, spanning more than five decades, have had enormous impacts on the lives of millions of people all over the world.

Professor Biswas is considered one of the leading water and environment experts globally. He has worked and taught in universities in Asia, Africa, Europe, North America and South America and lived for prolonged periods in cities on all the continents.

Professor Biswas has been a policy and strategic advisor to 19 governments at prime ministerial and ministerial levels, six heads of UN agencies, two secretaries-general of the OECD, two heads of the World Bank, five CEOs of major multinational corporations on the *Fortune* 500 list, several heads of bilateral and multilateral aid organizations and numerous national and international water, environment and development institutions.

He has been a very successful bridge-builder between the North and the South, scientists and policy makers, governments and NGOs, academics and practitioners, and media and the general public. Through his advisory work to governments, the public sector and businesses, and mentorship of students from all over the world, as well as his technical books and papers in 41 languages, and hundreds of media articles and interviews, his footprint on environmental and water management has been very substantial.

One of his major contributions has been in institution building. He actively participated in the establishment of the Canadian Ministry of the Environment, the United Nations Environment Programme, United Nations University, the Institute for Water, Environment and Health in Canada, the Third World Centre for Water Management in Mexico, the International Centre for Water and Environment in Spain, and the Institute of Water Policy in Singapore. On the professional side, he has been the co-founder of the International Water Resources Association, the International Society for Ecological Modelling, and the World Water Council. He helped with the idea of establishing the Intergovernmental Panel on Climate Change. He is also one of the prime movers behind the Stockholm Water Symposium, which later became Stockholm World Water Week, and Singapore International Water Week.

Professor Biswas has also been directly associated with a large number of universities and research institutions all over the world. Among these institutions are the University of Oxford, University of Loughborough, University of Glasgow and University of Strathclyde in the UK; Queen's University, University of Ottawa and University of Alberta in Canada; the International Institute for Applied Systems Analysis in Austria; the University of Lund and the Royal Institute of Technology in Sweden; Aalto University in Finland; Mexico National Autonomous University, Metropolitan Autonomous University and National Polytechnic Institute in Mexico; University of Tokyo and Shibaura Institute of Technology in Japan; Asian Institute of Technology in Thailand; University of Wuhan, Tsinghua University and

Chinese Academy of Sciences in China; and the Indian Institute of Technology (Bhubaneswar and Kharagpur). In the last 10 years, he has been at the Institute of Water Policy of the Lee Kuan Yew School of Public Policy, National University of Singapore.

Throughout his career, Professor Biswas' work has focused on all four aspects of water and environment-based knowledge: generation, synthesis, application and dissemination. A strong advocate of policy- and practice-oriented research, he has constantly challenged prevailing wisdom with the objective of advancing knowledge and its application. He has encouraged thinkers and practitioners alike to look beyond what is apparent, in the search for broader, creative and multifaceted alternatives. He has eschewed linear alternatives, since, as he would say, they do not work in the real world.

Professor Biswas has been a strong proponent of ideas that result in tangible solutions rather than poor adaptations that would not render the necessary benefits for which they were intended.

'Knowledge does not advance by consensus' is one of the phrases he uses the most. Thus, throughout his life, he has worked only with persons with vision, foresight and broad mindsets. This has allowed him to develop a wide network composed of the brightest minds, many of whom are generously contributing to this Festschrift.

A true visionary, he has championed ideas that have often been 20 or 30 years ahead of their time. For instance, already in the late 1960s, he advocated a new social, economic, political and environmental framework for water management which would enable effective translation of scientific (both natural and social) and technical advances into meaningful policy measures. In 1969, he was one of the pioneers who proposed the use of mathematical models for planning and management of river basins. He applied this concept for the first time to the Saint John River basin in Canada.

He is the 'father' of the concept of the International Water Supply and Sanitation Decade (1981–1990) and worked tirelessly to get it approved unanimously by the UN General Assembly. His contributions to formulating the Decade were explicitly noted by the Assistant Secretary General during the UN Assembly debate. Because of this Decade, hundreds of millions of people in the developing world received access to clean water and adequate sanitation.

Professor Biswas has been a science-driven, fact-based policy advocate. His role for over five decades as a global facilitator of international and regional platforms, where governments, organizations and individuals meet, discuss and take concrete actions on environment and water-related issues, has taken many forms. For instance, as an eminent world expert and firm believer that water is a source of collaboration and not conflict, he was invited to chair the Middle East Water Commission (1993–1997). He successfully involved high-level personalities from the region to discuss water problems face to face in several neutral locations. Because of his work through this commission, some of the actual treaties on water issues between the countries of the region were agreed to.

For his international contributions and reputation, he was awarded the 2006 Stockholm Water Prize. He has also been awarded the Person of the Year Award by the Canadian prime minister, the Walter Huber Award from the American Society of Civil Engineers, the Crystal Drop and the Ven Te Chow and Millennium awards from the International Water Resources Association, and the Aragon Environment Prize from Spain. He holds honorary doctorates from seven of the world's leading universities. Reuters named him one of the top 10 water trailblazers of the world; *Impeller* magazine

identified him as a 'true global hero'; and the readers of *Water & Wastewater International* named him the world's second-most influential industry leader.

He has mentored young scholars and students from many different geographies, opening and many times creating doors for them. Being concerned that potential water leaders of the next generation were not being heard at major international fora, Professor Biswas initiated a one-year programme to select and mentor 15 potential young global water leaders from all over the world. He mentored them regularly over a four-year period, including a meeting every year where he invited very well-established water leaders to interact with the next generation of leaders. All 15 are now leading global water personalities, including the current director of the Postdam Institute for Climate Impact Research.

In Singapore, at both the Institute of Water Policy, Lee Kuan Yew School of Public Policy, and PUB, National Water Agency, Professor Biswas has found a very enabling and stimulating environment for intellectual discussions. This has strongly underpinned his latest work in various aspects of water management from multidisciplinary, multisectoral and multi-issue perspectives.

This Festschrift, sponsored by the Institute of Water Policy at the Lee Kuan Yew School of Public Policy, includes contributions from 23 globally renowned leading personalities from academia, national and international organizations, and businesses, who have had close working relationships with Professor Biswas, in many cases over several decades. At the Institute of Water Policy, we truly appreciate the time and effort that went into these insightful analyses.

Under the umbrella of the Institute of Water Policy, we are confident that this Festschrift will become an important contribution to the literature.

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