

ACHIEVEMENTS OF PROF. ASIT K. BISWAS

President John Kennedy said that the person who contributes to the solution of the world's water problems should receive two Nobel Prizes, one for Science and the other for Peace. Very few people, if any, have done more to solve the world's water problems during the past 100 years than Prof. Asit K. Biswas by championing new and innovative policies and programmes in the area of water which has benefited the entire world, both developed and developing. As an advisor to 18 governments and heads of major international institutions, he has regularly influenced the shaping and implementing of national and international water policies which have helped to improve the quality of life of millions of households all over the world.

Prof. Biswas is being nominated for the 2009 King Hassan II Great World Water Prize for his multifaceted contributions over the past four decades in the areas of water management, which have made the world a better place to live in. He conceived and then actively promoted the idea of the International Water Supply and Sanitation Decade of the United Nations, which ensured that during the 1980s, hundreds of millions of people all over the world received access to clean drinking water and sanitation. During the 1980s, he further formulated and promoted the new paradigms of using water as an engine for economic development and poverty alleviation, and using water as a catalyst for peace through proper management of transboundary rivers and lakes. His work has firmly established that properly planned and implemented water development projects can improve the quality of life of hundreds of millions of people in developing countries by increasing employment opportunities, per capita income and food availability; improving health, education and communication services and nutritional conditions; and by enhancing the living conditions of women, children and elderly. Countries as far apart as Brazil, China, India, Morocco and South Africa are now following the paradigm that Prof. Biswas has championed.

Prof. Biswas has been acknowledged as a "giant" of water resources management since at least the early 1970s. Thus, when Yehia Abdel Mageed was appointed the Secretary-General of the UN Water Conference, held at Mar del Plata, Argentina, in March 1977, one of his first acts was to solicit his advice and help. He and Dr. Peter Hansen (former Under-Secretary-General of the United Nations) objectively, comprehensively and critically reviewed the work of the various UN agencies in the area of water, and put forward specific recommendations as to how best the various UN agencies can collaborate and coordinate their water-related activities to maximize their global impacts. The current institutional arrangements of the UN system on water, and their working modalities, continue to be based very significantly on these Biswas-Hansen recommendations.

One of the most important contributions of Prof. Biswas to the UN Water Conference was the intellectual and scientific contributions he made in the preparing its Action Plan, including the original recommendation of the International Water Supply and Sanitation Decade, which he conceived and actively promoted. He used his extensive high-level political and scientific contacts in different parts of the world which ensured so that the concept of the Decade could be unanimously approved during the Mar del Plata Conference. Befittingly, in his final speech to the Economic and Social Council of the United Nations, during which the Action Plan of the Conference was officially approved, Secretary-General Mageed paid glowing tributes to Prof. Biswas for his vision, influence, and contributions to the Conference, and for the International Water Supply and Sanitation Decade.

After the UN General Assembly approved the Decade, Prof. Biswas advised all the major international institutions and many national governments on how the plans for the Decade could be implemented. By all accounts, the International Water Supply and Sanitation Decade significantly improved the lives of hundreds of millions of people in the developing world. It is now unanimously accepted that the Decade also significantly improved the social, economic and environmental conditions of countless urban centres

of developing countries through the construction of sewerage and wastewater treatment facilities. Very few people in the entire history of water management have influenced the world so extensively and beneficially by only one single act.

There are many other outstanding contributions that Prof. Biswas has made in terms of new and innovative policies for the water sector which have benefited humanity. Among these are his contributions to management of international rivers.

Prof. Biswas chaired the Middle East Water Commission. He successfully managed to bring in the same room high-level personalities (Ministers and Vice Ministers of Foreign Affairs, Water, Agriculture, etc.) to discuss complex techno-political-legal issues. Using his personal high-level contacts, he managed to bring together senior figures from Israel, Jordan, Egypt, Syria, PLO, Turkey, etc., to review and assess the water problems of the region. He successfully persuaded very senior Syrian and Israeli personalities to discuss various problems face to face in the same room, a fact that has alluded all international institutions and major powers for decades. The treaties between Jordan and Israel, and Israel and PLO, on water issues were based on many of the recommendations of the Commission that Prof. Biswas chaired.

Over the years Prof. Biswas has been a very successful bridge-builder between the North and the South, between the scientists and the policy-makers, between the governments and the NGOs, between academia and the real world, and between the scientists and the general public. He has built an unique network of personal contacts and relationships with ministers in developed and developing countries, leaders of international organizations, presidents of major international foundations, and national and international media. It has provided him an unique access to the corridors of power, scientific establishments, and the media, through which he has influenced water management policies and programmes over the past 40 years through a multitude of pathways, in both developed and developing countries. Because of his objectivity, knowledge, plain-speaking and integrity, his reputation, credibility and effectiveness have grown consistently. This has enabled him to influence global water policies most remarkably.

As an advisor to 18 governments at Prime Ministerial or Ministerial levels, advisor to six Heads of UN agencies, Presidents of major international organizations, as well as because of his outstanding scientific contributions and extensive media contacts, he has very significantly increased the awareness of global and national water issues, and has helped intellectually, scientifically and politically to put water higher up in the international political agenda.

Prof. Biswas has consistently argued that water management will become increasingly complex in the future, and the forces that will affect water management will come increasingly more from outside the water sector on which the water profession may have limited, or even no, control. As one of the most active member of the World Commission on Water, he forecasted that during the next 20 years, the world of water management is likely to change more compared to the past 2000 years, mostly because of these external forces. He has put forward suggestions as to how water management policies must be improved to meet these expected tectonic changes of the future. His views of the water problems of the future, and how these can be resolved, are the main focus of the first Asian Water Development Outlook of the Asian Development Bank, in November 2007.

In terms of institution building, Prof. Biswas was one of the leaders who helped to establish the Canadian Department of the Environment. Similarly, when the United Nations Environment Programme was being established in Nairobi, Kenya, its first Executive Director, Maurice Strong invited Prof. Biswas to assist him with the formulation of its overall programme. Thereafter, he continued to advise the Second Executive Director of UNEP, Dr. Mostafa Tolba, as his Senior Scientific Advisor over the 1975–1992 period. He was a member of UNEP's water advisory group, and chaired it for most its existence. Equally,

when the United Nations University was established, Prof. Biswas was a key player to formulate and implement its natural resources and the environment programme, which contributed to its success.

He was one of the prime movers in establishing the International Water Resources Association. He conceived the idea of the World Water Council, and made it a reality. He served as the first chair to develop its technical programme. This Council organizes the World Water Forums, which has now become the main meeting place of water professionals from all over the world.

He has now established the Institute for Water Policy in Singapore. This is the first Institute of its kind in the world, where he serves as Distinguished Visiting Professor.

Prof. Biswas has been a mentor to numerous younger water professionals. Concerned with the fact that potential water leaders of the next generation are not being heard or consulted at important international fora, Prof. Biswas initiated a project to select and mentor potential water leaders of the world over a 4-year period. Based on an international competition, eight potential leaders were selected from different parts of the world, all of whom had to be below 40. He personally mentored these potential leaders extensively over a 4-year period. The remarkable success of this effort is indicated by the fact that all these potential leaders are now in very senior positions all over the world. He is now developing a similar programme to mentor potential Asian water leaders.

Prof. Biswas has developed a remarkable and unique platform in international publishing. He is extremely well-organised and expeditious, and has an unrivalled record when it comes to organising impact-oriented publications of important analyses and experiences by major international publishers like Oxford University Press, McGraw-Hill or Springer. He founded the *International Journal of Water Resources Development*, and has continued to edit it for the past 24 years. He himself is a superb writer, with a remarkable capacity to explain complex issues and technical facts to policy-makers and public in simple languages. He covers a very broad spectrum of the subjects and issues in terms of his own authorship, which reflects his encyclopedic knowledge, experience and interests.

Prof. Biswas has become a "household" name in the water and environment-related fields. He has been the author of 69 books and over 600 technical papers. His work has now been translated into 32 languages, a feat that has never been achieved by any other water professional in the entire human history.

Prof. Biswas has been directly associated with a large number of universities and research institutions from all over the world. Among these academic institutions are University of Oxford, University of Loughborough, and University of Strathclyde in U.K., Queen's University and University of Ottawa in Canada, International Institute for Applied Systems Analysis in Austria, University of Lund and Royal Institute of Technology in Sweden, National Autonomous University and Metropolitan Autonomous University in Mexico, Shibaura Institute of Technology in Tokyo, and Lee Kuan Yew School for Public Policy in Singapore. He has thus played an extraordinary role in terms of capacity building and human resources development in water-environmental areas covering most parts of the world. His students from all over the world have benefited from his knowledge, wisdom and experience. This has also given him an unparalleled network through which he has influenced, and continues to influence, water-related activities all over the world. Through his own work and through the work of his students and people he has mentored, he has been instrumental in formulating and implementing innovative policies and programmes which have immensely benefited the humanity.

For his outstanding and extensive contributions to the water sector, he has received numerous awards, among which are Walter Huber Prize of American Society of Civil Engineers; Crystal Drop and Millennium Awards of International Water Resources Association; Stockholm Water Prize; Aragon Environment Prize; Man of the Year Award from the Canadian Prime Minister. He has received honorary

degrees of Doctor of Science from University of Lund, Sweden, University of Strathclyde, Glasgow, Helsinki University of Technology, and Indian Institute of Technology, Kharagpur. He is a foreign member of the Russian Engineering Academy, honorary member of Indian Water Resources Society and Egyptian Academy of Engineers, and honorary diplomate of the American Academy of Water Resources Engineers.

The King Hassan II Great World Water Prize has two sponsors: World Water Council and Government of Morocco. The contributions of Prof. Biswas to both these sponsors have been very significant. For example, as noted earlier, he not only conceived the need for World Water Council with Dr. Grover (including its name), but also contributed very significantly to make the Council a reality and guided its technical activities during its formative years. He has been very active in Morocco for nearly two decades. During his Presidency of IWRA, he was instrumental to bring the World Water Congress to Rabat in 1991. This Congress, by all accounts, was a most remarkable success. Similarly, he strongly supported the convening of the First World Water Forum in Marrakech as the Chair of the Technical Programme of WWC. His work on public-private partnership in the MENA Region for InWEnt, and Water as a Human Right for the same region for IDRC, Cairo, documented clearly the very significant contributions that Morocco has made to the world on water management practices. In 2008, he acted as a senior advisor for the preparation of the National Water Strategy of Morocco, which he considers to be the best water strategy any country has produced thus far. Prof. Biswas has been a good ambassador for Moroccan water management to the world.

For all the above and many other reasons, Prof. Biswas will be a very worthy winner of the 2009 King Hassan II Great World Water Prize.