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Yutaka Takahasi: A Tribute

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This special issue is a tribute to the manifold contributions of a very special water scientist, Professor Yutaka Takashsi, whose work has significantly helped to improve water management practices and processes in the world in general and Japan in particular. In the 25-year history of this journal, we have never produced a single special issue as a tribute to any one individual. The fact that this is the first such tribute in a quarter century of the journal's history is only one indication of the high esteem in which the water profession holds Professor Takahasi because of the importance, relevance, quality and impacts of his work.

Professor Takahasi has been a pioneer in promoting efficient water resources planning and management under Asian monsoon conditions, especially in finding ways this can be

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accomplished under very special and complex climatic and technical conditions, and in differing economic, social, environmental and institutional situations on a long-term sustainable basis. This was a neglected area of research until he began his work. His work and efforts have revolutionized water management processes in technical, environmental, institutional, legal and administrative terms, in Japan as well as in many other Asian countries. In this regard, his outstanding work on flood management in Japan, which has saved the country hundreds of millions of dollars and untold human suffering, deserves very special mention.

Through his teaching and research activities over a lifetime in Japan's premier university, the University of Tokyo, and after his retirement in Shibaura Institute of Technology in Tokyo, Professor Takahasi has contributed to the creation of a new cadre of forward-looking, interdisciplinary water professionals in the country who are management-oriented, in contrast to only being engineering-focused as was the case earlier. His numerous students have learned to consider water resources management in its totality on a holistic, multi-sectoral and multi-disciplinary basis, and also to consider water management and associated social and environmental issues concurrently in an objective and scientific manner. By encouraging and training his students to look at the water problems in a holistic way, instead of the then prevailing manner of treating them as purely technical problems, he has revolutionized water management practices in Japan and other Asian countries.

Professor Takahasi's work has been primarily instrumental in broadening the policies of the Japanese government on flood control, from an essentially structural approach to one that is more integrative and comprehensive in nature, by simultaneously considering other alternatives such as flood-plain zoning, flood warning and associated socio-economic and environmental factors. He has advocated the importance of taking a historical perspective to flood management in Japan, where many rivers courses have been changed through human interventions over centuries as a form of 'river improvement'. He has consistently and correctly argued that rivers during high floods often search for their original channels because of hydrological and other physical conditions before these river courses were radically altered by human activities spanning centuries.

Professor Takahasi's extensive research on flood-related issues since 1950 has indicated that the so-called 'river improvements' of the past had many negative as well as positive impacts. One major adverse impact that was consistently ignored in the past was the increase in flood discharges because of such human interventions. Regrettably, however, the Japanese administrators not only ignored his research findings and recommendations until about 1980, but also opposed any changes in their existing flood management policies. His advice was finally accepted during the post-1980 period, when river management practices in Japan started to change radically. This has already saved Japan many hundreds of millions of dollars and untold human suffering. These actions have also improved the environmental conditions of the rivers.

Professor Takahasi's research findings and efforts have been primarily responsible for radically changing Japanese river management practices and approaches over the past three decades. He chaired the Water Resources Council of the National Land Agency of Japan, 1995–1997, whose report recommending a new approach to manage the total river environment was later enacted as the River Law of 1997. Unquestionably, this Law is now one of the most advanced approaches in the world in terms of coordinated water resources management for the long-term sustainable river and flood management of any nation. He served in the Council as a member during 1976–2001, a total of 25 years.

Professor Takahasi has consistently and enthusiastically promoted regional collaboration in hydrology and water resources in the countries of Southeast Asia and the Pacific region. As the Vice Chairman of the Intergovernmental Council of the International Hydrological Programme of UNESCO, he forcefully argued for the importance and the need for regional collaboration. Through his vision and untiring efforts, 13 countries of the Southeast Asia and the Pacific region agreed to collaborate on water issues in 1993. He not only chaired the group during its formative years, but also formulated the activities of this regional group, and was instrumental in fostering a unique pattern of regional collaboration. This effort has proved to be remarkably successful. It has provided an excellent basis for mutual understanding of the regional water issues, as well as a forum for transfer of knowledge, technology and experience between the various Asian monsoon countries. For his manifold contributions to water management, he was elected as the Honorary President of the International Hydrologic Environment Society.

In addition to his water management work, Professor Takahasi has taken a keen interest in the history of science, especially in the history of civil engineering and also the history of water sciences. His pioneering work on the history of civil engineering has led the Japanese academic world to consider it as an appropriate field of study and research. He has written extensively on the history of hydrology, both in Japanese and English. He received the prestigious Meidi-Village Cultural Prize in 1994 for his contributions to history of science and technology.

In addition to his scientific and technical contributions, the human qualities of Professor Takahasi should be emphasized. Always positive, constructive and easily approachable, his humility and sense of humour have won him the admiration of numerous scientists from all over the world.

Not surprisingly, because of his extensive contributions, he has received numerous international and Japanese awards. Among these awards are Gorkha Dakshin Bahu from the Nepalese Government in 1978, Palms Academique Chevalier from the French Government in 1981, the Distinguished Services Award from the Japan Society of Civil Engineers in 1988, the highest award of the International Water Resources Association (Crystal Drop Award) in 2000, and the prestigious Order of the Sacred Treasure, Gold Rays with Neck Ribbon of Japan in 2007. In addition, the Tokyo Metropolis has honoured him for his "distinguished service to science and technology", the National Land Agency of Japan for his "distinguished service on water resources planning", and Monbusho (the Ministry of Education, Science, Culture and Sports) for his contributions to UNESCO activities.

Professor Takahasi has been a distinguished member of the Editorial Board of this journal for many years. In grateful recognition of the quality and impacts of his work on improving water resources management practices throughout the world, his numerous friends, admirers and beneficiaries of his contributions have decided to prepare a special issue to pay tribute to a very distinguished academic and a very remarkable individual. We hope this special issue will do justice to Professor Takahasi's contributions, and will be of interest to anyone interested in water resources management.