Editorial

The InterAcademy Council (IAC) is an association of the world's academies of sciences, located in Amsterdam, the Netherlands, and governed by a Board of 15 Academy Presidents (chosen by 100 academies of sciences), representing countries of all regions and levels of development, and 3 representatives of international scientific organizations. In a world where science and technology are fundamental to many critical issues – ranging from climate change and genetically modified organisms to the crucial challenge of achieving sustainability – making wise policy decisions has become increasingly dependent on good scientific advice. The IAC is client-driven and works on a project-by-project basis. It has developed mechanisms and procedures to guarantee the scientific quality of its reports, the policy-relevance of its recommendations and the absence of regional or national bias.

Water is central to all our development goals. In the 21st century, the security, stability, and environmental sustainability of all nations, particularly those in the developing world are threatened by natural and human-induced changes in regional water systems and the water resources they provide. In 2008, the IAC Board agreed to undertake an independent, evidence-based advisory study project with resulting recommendations for ensuring sustainable water systems and water resources. This project will be conducted by a Study Panel of international experts, with consultation and input from scientific academies from over 100 nations. The results of the project will be of importance to decision makers around the world whether national and local governments, or the United Nations and other international agencies with programs in hydrology and water resources, or academic/educational communities or multinational agencies with missions related to global and especially regional changes in water systems and water resources.

To develop a plan and scope of work for this project, the IAC convened an Organizing Group of international experts to develop a plan and scope of work for this project. This meeting was held from 21 to 23 February 2010 at the Royal Netherlands Academy of Arts and Sciences in Amsterdam, The Netherlands. The results of this meeting were presented to the IAC Board meeting in March 2010 for further action in implementing this project. Besides the international panel way, regional case studies particular from developing countries, such as China, India, Brazil and Africa countries, are also encouraged in the 1st phase.

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This issue of *BCAS* is dedicated to regional actions of IAC Water Study under the support of Chinese Academy of Sciences (CAS). Chinese Working Group of IAC Water Study was funded in April, 2009. Also, the 1st Regional Workshop on IAC Water Programme was held in Beijing on 21 and 22 Nov., 2009, by CAS. IAC Executive Director, John P. Campbell and 6 International experts from Netherlands, USA, South Africa, Malaysia, Poland, and 42 Chinese water experts from Chinese Working Group of IAC Water Study, attended the workshop, and gave fruitful presentation and discussions. The 1st draft on Proposal of IAC Water Programme was developed during the 1st IAC Water Workshop. The 2nd Regional Workshop for IAC Water Study was organized again by CAS, and International Water Resources Association (IWRA), *i.e.*, Chinese Working Group for IAC WP in Beijing on 17 and 18 September, 2010. Over 40 international & Chinese experts from Holland, China, India, Japan, France, UAS, Australia, Norway and others attended this workshop, focusing on the issue of how science & technology play a role for sustainable future water in different regions. The proceedings of the workshop were printed with most speakers for their presentation. A special meeting on IAC Water Programme was organized with very good discussions. The 3rd IAC Symposium, co-sponsored with IWRA, International Association of Hydrological Sciences (IAHS) and Global Water System Project (GWSP), was hold in Xi'an from 25 to 29 October, 2011, entitled International Symposium on Impacts of Climate Change on Water Resources in Arid and Semi-arid Regions. More than 30 international experts and 100 more Chinese participators attended this symposium. The role and solutions of science & technology were more focused and discussed by regional case studies.

In this issue, three key issues related to water security are addressed, namely, the Climate Change & Water Management, Agriculture Water and Ecology, Urban Water and Environment. More than ten contributions are selected to show the new advantages and perspective for future water study. I believe these case studies could benefit not only China's water management, but also international academic exchanges.

I extend my thanks to Prof. XIA Jun, Co-Chair of IAC Water Study from China, and Prof. Marcel J.F. STIVE, Co-Chair of IAC Water Study from Netherlands, for their good leadership over this study, and also all Chinese Working Group Members for their great contributions to the IAC Water Programme.