

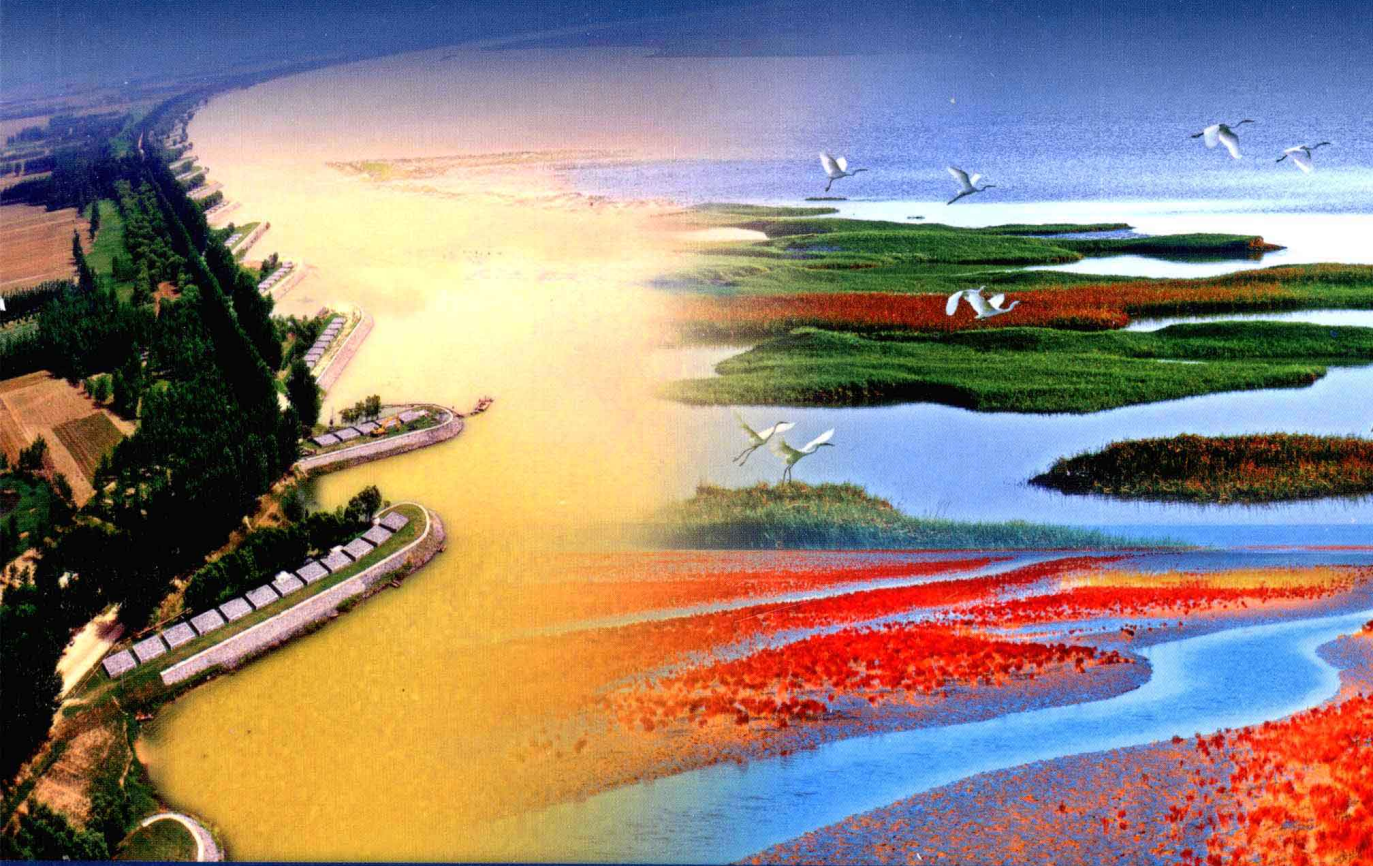
Proceedings

of the 4th International
Yellow River Forum on
Ecological Civilization and
River Ethics

Volume I



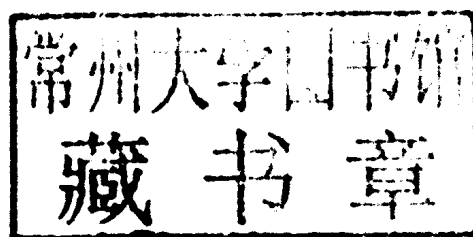
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Welcome

(preface)

On behalf of the Organizing Committee of the 4th International Yellow River Forum (IYRF) and the conference host, Yellow River Conservancy Commission (YRCC), I warmly welcome you from all over the world to Zhengzhou to attend the 4th IYRF.

Since 2003, we have hosted three IYRFs successfully in Zhengzhou and Dongying respectively, which have got high attentions and great supports from water field around the world. Through the communication platform provided by IYRFs, delegates have sufficiently carried on wide exchanges and discussions on their latest research achievements and shared experiences on river harnessing and basin management from different aspects. Therefore, the IYRFs have promoted the river basin management and scientific researches for keeping healthy lives of the rivers actively. All the scientific and technological literatures (proceedings of IYRF, etc.) published by IYRF, have been totally accepted for inclusion in the Conference Proceedings Citation Index (CPCI – S, formerly called ISTP) and can be used for reference to managers and researchers engaged in river basin management and scientific research on water conservancy all over the world.

The central theme of the 4th IYRF is ecological civilization and river ethics. Nine sub – themes have been convened as: (1) social and environmental impact of climate change; (2) climate change and sustainable water resources management; (3) cases of watershed rehabilitation; (4) scientific meanings of ecological civilization, pathway and key methodologies of river restoration; (5) ecological civilization, modern river basin management and restoration; (6) river ethics and healthy life of rivers; (7) application of experiences and new technologies of water resources management; (8) sediment management of high silt – laden rivers and reservoirs; and (9) water right transfer, water safety, water environment, water market and water saving. The Forum also arranges 10 special sessions hosted jointly by YRCC, governments of some countries and famous international organizations including WWF Session; Master Plan towards Integrated River Basin Management; International High – level Forum of River Basin Management; High – level Dialogue on Sino – EU River Basin Management; Sino – Australian Cooperation Project Session; Sino – Hungarian Water Resources Session; INBO Special Session; The 24th Sino – Japanese Water Resources Communication Meeting; UNESCO Special Session; GWP Yellow River Session; Water Allocation and Water Diversion Project in the Yellow River Basin, etc.

The Organizing Committee of the 4th IYRF has received more than 650 papers. Reviewed by the Technical Committee, the abstracts of 448 papers were finally collected into the Technical Paper Abstracts of the 4th IYRF, and 289 full papers were further selected into the Proceedings and published after the Forum, and will be applied for CPCI – S. Generally speaking, the content of the 4th IYRF is more

abundant with more multiform sessions. The Forum will omni – directionally show the latest achievements of domestic and oversea water science and river basin management, and represent the mainstream of current researches. Meanwhile, the Forum will also explore hot topics, cruxes, new viewpoints and achievements on river basin management and research, for instance, the presentation and discussion on river ethics, the scientific concept and origination of ecological civilization, the idea of harmonious relationship between mankind and nature, etc. All these experiences and suggestions will be considered as good strategy for research on ecological civilization and river ethics, and will actively influence the management of Yellow River and other river basins around the world in the future.

We appreciate the generous supports from the co – sponsors, including the People’ s Government of Henan Province, Dongying Municipal Government of Shandong Province, WWF (World Wildlife Fund), Australian Agency for International Development (AusAID), International Network of Basin Organizations (INBO), Global Water Partnership (GWP), Asian Development Bank (ADB), International Economic Technical Cooperation and Exchange Centre, MWR (IETCEC, MWR), Yellow River Research Association (YRRA), Global Water Partnership (GWP) China, Tsinghua University (TU), North China University of Water Conservancy and Electric Power (NCWU), China Institute of Water Resources and Hydropower Research (IWHR), Nanjing Hydraulic Research Institute (NHRI), Center for Hydro – informatics in River Basin (CHIRB), as well as other domestic and oversea governmental administrations and non – governmental organizations, etc.

We also would like to thank the members of the Advisory Committee, the Organizing Committee and the Technical Committee for their great supports and hard works, as well as all the experts and authors for their outstanding contributions to the 4th IYRF.

Finally, I would like to present my best wishes to the success of the 4th IYRF, and hope every participant will be in good health and have a pleasant stay in Zhengzhou!

Li Guoying

Chairman of the Organizing Committee, IYRF

Commissioner of Yellow River Conservancy Commission (YRCC), MWR, China
Zhengzhou, October 2009

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