

Report of the first IWHR-PWRI
Workshop

October 12-17, 2004



1. Background

When President Gao Jizhang of China Institute of Water Resources and Hydropower (IWHR) and his colleagues visited Public Works Research Institute (PWRI) and National Institute for Land and Infrastructure Management (NILIM) in Tsukuba on March 5, 2002, Chief Executive Dr. Tadahiko Sakamoto of PWRI discussed the possibility of starting collaboration between IWHR and PWRI with President Gao, and both generally agreed.

At that time, Dr. Jia Yangwen was working at Hydrologic Engineering Team of PWRI and then left PWRI in December 2002 to work for Water Resources Department of IWHR. PWRI hired Dr. Wang Yicheng in December 2003 as PWRI special researcher during one-year transition period until he started working at Department of Water Hazard Research of IWHR. He left PWRI for IWHR in January 2004. The two Chinese researchers have been serving smooth communications between IWHR and PWRI. In January 2003, PWRI invited Dr. Cheng Xiaoto, Director of Water Hazard Research from Kyoto to Tsukuba as a lecturer on urban flood risk assessment for Shanghai City after his visit to Kyoto University. PWRI researchers recognized mutual interests with IWHR at that time. These incidents laid the background for starting specific joint collaboration.

When signing a general agreement between IWHR and PWRI was ready, Dr. Sakamoto visited IWHR with Mr. Junichi Yoshitani, leader of Hydrologic Engineering Team and signed the agreement on February 17, 2003. In March 2003, PWRI invited Vice President Kuang Shangfu and his colleagues who were attending the third world water forum to discuss specific collaboration programs. Both agreed that future collaboration would focus on activities related to a PWRI-UNESCO Centre for water-related hazard and its risk management to be established in fall 2005.

Later Mr Yoshitani wrote a new science and technology project proposal for Core Research for Evolutional Science and Technology program (CREST) to secure a collaboration fund. CREST is a Japan's national grant program to promote basic science research in compliance with a national goal of becoming the nation with abundant of intellectual properties. The proposed theme is "Sustainable Water Policy Scenarios for River Basin with Rapidly Increasing Population" that includes flood mitigation policy analysis for the Yantze River basin. The proposal was accepted and the CREST project started in October 2003. Mr Yoshitani invited Dr. Cheng Xiaotao and Dr. Wang Yicheng

as co-investigators of the CREST project.

As an activity of this CREST project, PWRI and IWHR organized a seminar on Yangtze River Floods in Tokyo on March 5, 2004, inviting four speakers: Mr. Wang Xiang, Director of the Department of Detention Areas Management, Office of State Flood Control and Drought Relief Headquarters; Mr. Wang Jun, Chief Engineer, Hydrological Bureau of the Yangtze River Committee; Mr. Xiang Liyun, professor, Director of the Research Sector of Flood Management and Disaster Mitigation Policy, Research Center of Flood and Drought Disaster Reduction, Ministry of Water Resources; and Dr. Wang Yicheng. This seminar focused on landuse management policy for retarding lakes and levee management during the 1998 flood, and highly appreciated by Japanese government engineers.

In July 2004, the second APHW (Asia Pacific Hydrology and Water Resources Association) conference was held in Singapore. The CREST organized a special session and PWRI organized a side-event on flood mitigation that is intended to give input from Asia to United Nations's World Water Assessment Programme. Dr. Cheng Xiato, Dr. Wang Yicheng, Mr. Yoshitani attend these events jointly with PWRI researchers and delivered joint research efforts in front of a number of scientists, engineers, and practitioners at APHW2004. These events attracted a lot of participants and delivered good outcome of IWHR-PWRI collaboration.

2. Workshop Meeting

Dr. Hu Chunhong, Vice President of IWHR welcomed the Japanese Delegations on behalf of President Gao Jizhang, and opened this first joint workshop between IWHR and PWRI as the chairman. In response to his welcome remarks, PWRI Chief Executive Dr. Tadahiko Sakamoto started his opening remarks by expressing the Japanese Delegation's appreciations to Dr. Hu and all other members of IWHR for the preparation of this first joint workshop and mentioned cooperation for the establishment of a new UNESCO Water Hazard Risk Management Center at PWRI (CHARM).

The first item was on-going joint project. Dr. Wang Yicheng of IWHR and Mr. Junichi Yoshitani of PWRI explained a joint study on the flood-defense policy in the Changjiang River as a sub-topic in a JST-CREST research project titled "Basin-Wide Water Policy

Scenario for the Sustainability of population-increasing regions.” PWRI had already conducted two international workshops for the joint study in Tokyo and Singapore, and an intensive field survey along the middle stream and flood retarding area of the Chanjiang River in cooperation with Dr. Cheng Xiaotao. Mr. Yoshitani indicated their mutual cooperation is a typical example of success of the mutual cooperation.

The second item was UNESCO’s auspices centers. Dr. Hu Chunhong introduced the outline of IWHR and the International Research and Training Center on Erosion and Sedimentation (IRTCES), and Mr. Yoshitani introduced set-up plan of CHARM. The research focus at CHARM would be flood mitigation policies under United Nation’s World Water Assessment Programme. He pointed out that factors for the world’s trend of increasing flood damage can be decomposed to hydro-climate, structural measures, and vulnerability, that one can see common features in Asian region when flood issue structure is decomposed. He also pointed out CHARM would have to take multidisciplinary approach to do this study to help stop increasing vulnerability to flood damage. Dr. Cheng Xiaotao has similar ideas through IWHR’s comparative study on flood management in the US and China and the flood characteristics of China have some common features with Japan.

The third item was proposals for future more collaboration. As one of the promising future collaborations, the enhancement of the Water and Energy transfer Processes model (WEP model), a physically-based basin-wide water & heat-energy cycle model, was raised. WEP model was originally co-developed by PWRI, Dr. Jia Yangwen (IWHR, former PWRI’s specialist), and JST. Dr. Jia explained the IWHR’s research activities to apply WEP model to large-scale rivers such as watersheds in the Heihe River and Yellow River Basins, so as to evaluate potential and available water resources. Mr. Kazuhiko Fukami of PWRI introduced the PWRI’s research activities to apply WEP model to the evaluation of the flood-control and low-flow management countermeasures in urban watersheds. Dr. Yoshiko Iizumi of PWRI explained the PWRI’s recent studies to couple WEP model with water-quality sub-models focusing on nutrient (nitrogen) transport processes. Mr. Fukami pointed out the development of water quality sub-models for WEP including sediment transport process model during floods should be a promising collaborative study between PWRI and IWHR. Dr. Wang Hao of IWHR indicated that IWHR is now considering its applications also to issues on water environment, water quality, and sediment. He and Dr. Jia also pointed out their interest to apply WEP to other different basins for water-resource evaluation.

Next, Dr. Cao Wenhong, Director of Department of Sediment of IWHR introduced the outline of their research activities on sediment yield and erosion control. This topic was recognized as possible future mutual collaboration.

3. Conclusion of the meeting

Through the workshop meeting, Dr. Hu Chunhong and Dr. Tadahiko Sakamoto recognized the advancement of the joint CREST research and of model application in China and the importance of collaboration to strengthen the voice from Asia. Both agreed:

- (1) to enhance the on-going joint project;
- (2) to seek other possible collaboration areas;
- (3) to hold possibility of expanding the collaboration scheme such as by inviting parent ministries and institution in a third country;
- (4) to plan the second workshop at PWRI in summer 2005; and
- (5) to give second workshop secretariat role to Secretariat for Preparatory Activities of UNESCO-PWRI Centre of PWRI.

4. Field Investigation

The Japanese delegate conducted a field trip by the guide of Changjiang Water Resources Commission and IWHR. Schedule is listed below:

Date	Time	Field
14 Oct. (Thu.)	8:45 - 9:15	Bureau of Hydrology Changjiang Water Resources Commission, Ministry of Water Resources
	9:35 - 10:00	Hankou Bank
	10:15 - 10:40	Wuhan Long Wang Miao
	11:10 - 12:30	Yellow Crane Tower
	16:00 - 16:40	Yueyang Tower
	16:55 - 17:10	Yueyang Hydrology and Water Resources Investigation Team

15 Oct. (Fri.)	9:30 - 10:50	Junshan
	12:00 - 13:00	Shishou
	14:50 - 15:20	Jingjang Retarding Basin
	15:45 - 16:10	Shashi Hydrological station
16 Oct. (Sat.)	10:30 - 11:50	Three Gorges Dam
	12:45 - 13:10	Huang Lin Miao Hydrological station

5. List of Workshop Meeting Participants

IWHR

Name	Position	Affiliation
Hu Chunhong	Vice Presidents	China Institute of Water Resources and Hydropower Research
Wang Hao	Director	Department of Water Resources, China Institute of Water Resources and Hydropower Research
Cheng Xiaotao	Director	Department of Water Hazard Research, China Institute of Water Resources and Hydropower Research
Cao Wenhong	Director	Department of Sedimentation, China Institute of Water Resources and Hydropower Research
Wang Yicheng	Professor	Department of Water Hazard Research, China Institute of Water Resources and Hydropower Research
Jia Yangwen	Professor	Department of Water Resources, China Institute of Water Resources and Hydropower Research

Gao Fenglong	Vice Director	International Cooperation Division, China Institute of Water Resources and Hydropower Research
Zhou Li	Chief	International Cooperation Division, China Institute of Water Resources and Hydropower Research

PWRI

Name	Position	Affiliation
Tadahiko Sakamoto	Chief Executive	Public Works Research Institute
Junichi Yoshitani	Principal Research Engineer	Secretariat for Preparatory Activities of UNESCO-PWRI Centre, Public Works Research Institute
Kazuhiko Fukami	Leader	Hydrologic Engineering Team, Hydraulic Engineering Group, Public Works Research Institute
Yoshiko Iizumi	Special Researcher	Hydrologic Engineering Team, Hydraulic Engineering Group, Public Works Research Institute