

## Japan Egypt Hydro Network (JE-HydroNet): Modern Methodologies for the Management, Monitoring and Planning of Integrated Water Resources in Nile Delta

“Problems Facing Nile River System and Delta of Egypt”

### First Mini-Symposium Joint Project in Science and Technology

October 26<sup>th</sup> (Tuesday), 2010  
Salle D1518, Uji campus, Kyoto University

Organized by Water Resources Research Center, Disaster Prevention Research Institute,  
Kyoto University

Organizing members of the symposium

Prof., Dr. Toshiharu Kojiri (DPRI, Kyoto University)  
Prof., Dr. Tetsuya Sumi (DPRI, Kyoto University)  
Associate Prof., Dr. Yasuhiro Takemon (DPRI, Kyoto University)  
Associate Prof., Dr. Kenji Tanaka (DPRI, Kyoto University)  
Assistant Prof., Toshio Hamaguchi (DPRI, Kyoto University)  
Assistant Prof., Daisuke Nohara (DPRI, Kyoto University)  
Dr. Sameh Kantoush (DPRI, Kyoto University)  
Dr. Mohamed Saber (DPRI, Kyoto University)  
Eng. Masahiro Abe (DPRI, Kyoto University)

Invited Egyptian Speakers: Prof. Dr. Shaden AbdelGawad (NWRC, Egypt)  
Dr. Ahmed Sefelnaser (Assiut University)  
Dr. Haytham Awad (Alexandria University)

### Registration Information

For registration please send an email to [hamano.kimiko.8w@kyoto-u.ac.jp](mailto:hamano.kimiko.8w@kyoto-u.ac.jp)  
Please send your complete name, affiliation and address to Mrs. Kimiko Hamano, in order to register and participate in the mini-symposium.

## Tentative Agenda

<b><i>Flash flood and water resources management Session</i></b>	Chair: Prof. Dr. Kenji Tanaka (Associate Professor, Water Resources Research Centre, Disaster Prevention Research Institute, Kyoto University, Japan)
09:30	Opening remarks and guest welcome (Prof. Sumi)
09:35 – 10:15	Challenges Facing Water Resources Sectors, Coastal, Nile River and Delta of Egypt, in Accordance to Climate Changes and Sea Level Rise <b>Prof. Shaden Abdel-Gawad</b> (Professor and Director of National Water Research Center, Ministry of Water Resources and Irrigation, Egypt)
10:15 – 10:55	Flash flood hazards in the area of Gulf of Suez.– <b>Dr. Ahmed Sefelnaser</b> (Assistant Professor, Geology Department, Faculty of Science, Assiut University, Egypt)
10:55 – 11:35	Hydrological Simulation of Flash Floods Considering Prevention and Mitigation Strategies at Wadi El-Arish, Sinai Peninsula, Egypt – <b>Dr. Mohamed Saber</b> (Post doctoral Researcher, Water Resources Research Centre, Disaster Prevention Research Institute, Kyoto University, Japan)
11:35 – 12:15	Numerical modeling of Water resources management , Egypt – <b>Eng. Masahiro Abe</b> (MSc., Water Resources Research Centre, Disaster Prevention Research Institute, Kyoto University, Japan)
12:15 – 13:30	Lunch break
<b><i>Ground water Session</i></b>	Chair: Prof. Dr. Y. Takemon (Associate Professor, Kyoto University)
13:30 – 14:10	Impact of the Saltwater Intrusion on the groundwater availability in the Nile Delta Aquifer- <b>Dr. Ahmed Sefelnaser</b> (Assistant Professor, Geology Department, Faculty of Science, Assiut University, Egypt)
14:10 – 14:50	Ground Water Modeling and, Egypt – <b>Prof. Toshio Hamaguchi</b> (Assistant Prof., Water Resources Research Centre, Disaster Prevention Research Institute, Kyoto University, Japan)
14:50 – 15:30	Integrated Water Resources Management of Aswan High Dam Reservoir in Egypt <b>Dr. Haytham Awad</b> (Assistant Professor, Irrigation and Hydraulic Department, Faculty of Engineering, Alexandria University, Egypt)
15:30 – 15:50	Coffee break
<b><i>Sediment management Session</i></b>	Chair: Prof. T. Sumi (Professor, Water Resources Research Centre, Disaster Prevention Research Institute, Kyoto University, Japan)
15:50 – 16:30	Nile River Basin Sediment Budget and Comparison with Japanese and Chinese Main Rivers – <b>Dr. Sameh Kantoush</b> (Senior Researcher, Water Resources Research Centre, Disaster Prevention Research Institute, Kyoto University, Japan)
16:30 – 17:00	Integrated Multi-Functional Sustainable Coastal Zone Management in Egypt <b>Eng. Mohamed Reda</b> (PhD, Kyoto University, Japan)
17:00 – 18:00	<b>Closing discussions / summary / future plans (all)</b>
18:30	<b>Reception</b>

## **Background and Objectives:**

Under the umbrella of GCOE-ARS project at Kyoto University, a joint project for research and education was established between Kyoto University and three institutional research units in Egypt (Assiut & Alexandria Universities, and National Water Research Center (NWRC) Ministry of Water Resources and Irrigation (MWRI)). Japan Egypt-Hydro Network (JE-HydroNet) was initiated after March 2009 visit of research group of DPRI, to setup research projects concern the Nile Delta of Egypt. On October 2010 we will held a mini-symposium at Uji campus, Kyoto University. The problems facing Nile River system and Delta of Egypt are will be presented and discussed.

Until today, no proper protection from flash floods proposed for all Wadi basins in Egypt. Flash floods are the result of short period heavy storms and the velocity of floodwater depends mainly on topography of the Wadi (height, slope, capacity of drainage network), and soil characteristics. Flash flood can cause severe damage and loss of life in desert areas and they also represent a constraint to regional development and a major source of erosion and pollution. On the other hand, however, floodwater can be an important source of water replenishment in arid regions. The wise use of floodwater in these areas is therefore important for the sustainable management of water resources. An overall aim of the research project is to achieve sustainable management of water resources in some selected study area.

Another problem is the salt water intrusion to groundwater in Nile delta regions. With the decrease in the cyclic behavior of groundwater that was taking place before the Aswan High Dam construction and the increase in cropping intensities and perennial irrigation applications, drastic impacts on groundwater flow and its salinity which might be critical for sustainable development in delta area.

Lake Nasser is causing flow and sediment flow regimes, and reservoir sedimentation is causing serious impacts on river morphology and scouring of delta and coastal region.

Climate Change Adaptation strategies will be vital for country as Egypt. Adaptation options for Egypt's water resources meanwhile are closely intertwined with Egypt's development choices and pathways. Any changes in water supply due to climate change over the medium term will occur alongside the certainty of increased demographic pressures (the national population is growing by 1 million every nine months) as well as the potential increases in Nile water abstractions by the upstream riparian countries. Adapting to climate change will have close resonance with adapting to water scarcity and is likely to require implementation of water demand management strategies which may require capacity building and awareness raising across institutions and society. Adaptation measures on the supply-side include ways to improve rain-harvesting techniques, increasing extraction of ground water, water recycling, desalination, and improving water transportation. In addition, regular reviewing and updating of drought responses and research into improved long-term forecasting is essential to enhance Egypt's ability to cope with prolonged drought.

To address these challenging issues, the mini-symposium themes are flash flood and climate changes, ground water modeling, sediment management and coastal problems. Final discussion about the continuation of the project, research methodology and exchange data and experiences methods will be clarified.

Prof., Dr. Tetsuya Sumi  
(DPRI, Kyoto University)

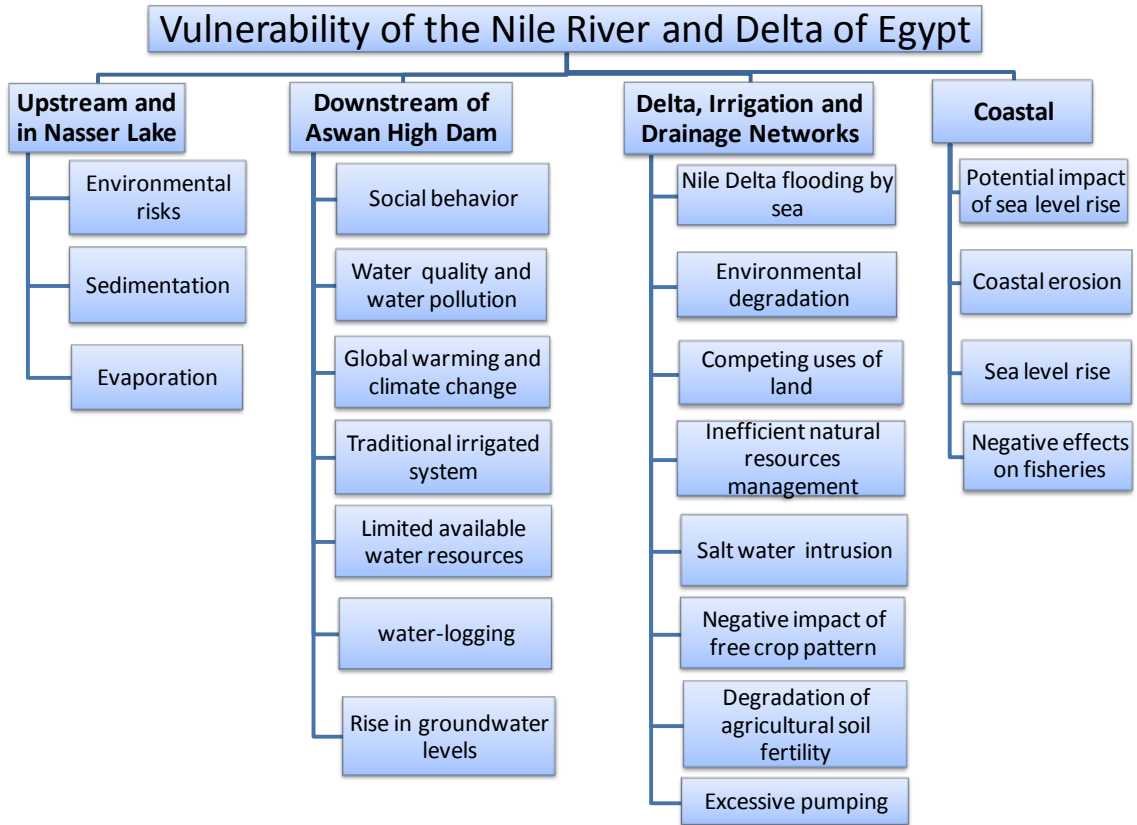


Fig. 1: Problems facing Nile River system and delta of Egypt

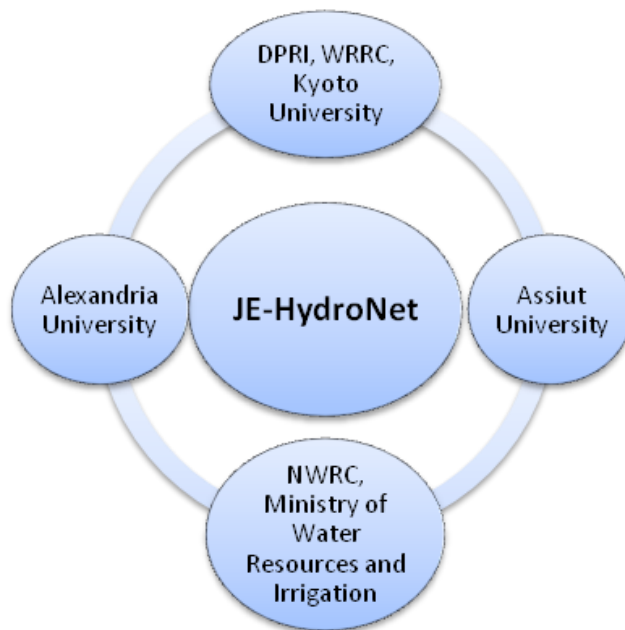


Fig. 2: Concept of the seminar and partners