

## 2<sup>nd</sup> Asia-Pacific Water Summit Technical Workshop

**Sub-theme 5:** Water Risks and Resilience  
**Session WRR4:** Water Security and Sustainable Water Resources Management  
**Date, Time:** Friday, May 17, 2013, 1:30 – 4:30 p.m.  
**Venue:** D3 Pood-sorn

### Final 500-Word Summary

This session explored the changing picture of water security in the context of climate change in Korea and the Asia-Pacific, as well as strategies, challenges, and ways forward. The presentations surveyed the region's water security status; urban flood risk; Korea's water security; a disaster warning ICT tool; and participatory irrigation management in Korea. These presentations were then discussed by a panel and then in a Q&A.

The first presentation put the issue of climate change and water crisis in perspective. It surveyed various perspectives on water security, noting that the definition differs by sector. It reported on water trends and their relation to climate change at the global and regional levels and presented local insights for the Asia-Pacific. For example, rice production in northeast Thailand and maize production in East Sikkim, India, over the coming decades are expected to decrease in the face of projected rainfall patterns and increasing temperatures.

The second presentation presented the outcomes of the Regional Workshop on Climate Change and Urban Flood Management in Daegu in March. The sprawling urbanization of megacities in the Asia-Pacific—the world's second least urbanized region after Africa—into vulnerable areas is exacerbating the cities' risk of urban floods.

The third presentation concerned water security in Korea. According to this presentation, water security has evolved to involve ensuring *water supply (quantity and quality)*, *healthy aquatic ecosystems*, and *sustainable development and economic growth*, and *protecting civil society from water-related disasters*. Korea is very vulnerable in these terms according to a DPSIR-derived water security index.

The fourth presentation introduced the Smart Big Board (SBB), an ICT solution for disaster management developed by the National Disaster Management Institute in Korea. The SBB involves the integration of various data collection media, such as sensors, CCTV cameras, and SNS for reporting on and monitoring disasters. The integrated nature makes it possibly the fastest source of disaster information.

The fifth presentation revealed that Korea's irrigation management changed from being participatory to public in 2000 and built a case for participatory irrigation management.

In addition to covering the thematic presentations, the session identified water security

challenges and proposed ways forward. The challenges are uncertainty in climate prediction and nonstationarity of extreme events, developing early warning systems, knowledge and infrastructural capacity, building effective institutions, responsible urban planning, cross-sectoral partnerships and integrated ecosystem management, and financing. Korea's responses include technological efforts such as the Smart Water Grid, institutional efforts, and governance strengthening. Some of these, such as the SBB, may be adopted in developing countries without much difficulty, while others, such as the Four Rivers Restoration Project, may require greater adaptation or cutting down to size in order to be transferable. General recommendations for the region are strengthening the institutional framework, mainstreaming urban flood management, building data capacity, promoting a multi-stakeholder approach, mobilizing innovative forms of financing, and expanding flood insurance and social protection measures.