

■ Innovative irrigation water management for sustainable food security ■

Challenges to ensuring food security in the 21st century, issues like climate change and population growth, and the need to manage the world's rapidly growing demand for water in a sustainable way are intertwined. World food demand is projected to nearly double by 2050. Most Asian countries, however, have limited land and water resources for agricultural and irrigation expansion. Irrigated agriculture in Asia, which contains 70% of the world's irrigated land, has tremendous potential to contribute to achieving food security by raising the productivity of existing irrigated farmland. As water resources shrink, and competition from other sectors grows, irrigated agriculture must produce more food with existing or even less water, prevent the deterioration of water quality through contamination, and use poor-quality water for safe food production. Climate change could add further uncertainty to the water supply.

To explore innovative ways to increase irrigation water-use efficiency, minimize externalities associated with traditional irrigation systems, reuse agricultural water, and harness nontraditional sources like waste and low-quality water, the APO in cooperation with the NPO, Ministry of National Food Security and Research, FAO, US Department of Agriculture, and World Confederation of Productivity Science organized a seminar on Innovations in Irrigation Water Management for Sustainable Food Security in Islamabad, Pakistan, 21–25 January.

Nineteen participants from 10 member economies, seven local observers, and six experts from the International Water Management Institute, ROK, Pakistan, Turkey, and the USA attended. ROK expert Dr. Jin-Yong Choi was impressed

with participants' qualifications and attitude toward learning. Expert from Pakistan Muhammad Saleem stated that excellent country papers by participants had provided valuable information. Participant Kuo-Hua Lin of the ROC, along with several others, singled out relatively new ICT applications to monitor and control irrigation systems as a high point of the resource presentations.



Briefing on use of biogas and solar energy for pumping groundwater for drip and sprinkler irrigation at the Water Resources Research Institute, National Agricultural Research Centre, Islamabad. RHS solar panels for a photovoltaic pumping system can be seen behind participants.

To observe innovations in irrigation water management such as the use of solar and biogas energy for sprinkler and drip irrigation, as well as bioremediation of sewage for agricultural use, participants visited the National Agricultural Research Centre's project areas in Islamabad and Fatehjang. They also formulated action plans to improve irrigation water management in the Asia-Pacific region. It was agreed that irrigated agriculture would continue to play an important role in achieving food security in the region but innovative policy and technology interventions would be needed to ensure efficient, effective, and ultimately sustainable use of water resources. ☺