WATER-SAVING IRRIGATION DEVELOPMENT STRATEGIES IN CHANGING SITUATION IN CHINA

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1. The changing situation

1. Climate change
   - Climate change resulted in more extreme weather conditions, like droughts and floods, causing yield losses
   - Land with irrigation and drainage facilities making agriculture more climate-resilience for food security

2. Increasing sector competition for water
   - % of water used for agriculture sector: 83% in 1995 to 62% in 2019, 71% in the world
   - The largest potential of water-saving, while maintaining food security

Ding Kunlun
klding@iwhr.com, China
1. The changing situation

3. Increasing water demand for ecological service
   - Control groundwater exploitation to keep its balance
   - Maintain the ecological and environmental quality of surface water bodies
   - Either reduce water intake (from rivers) or supply more water for ecological service (to lakes and wetlands)

4. Increased demand for food
   - Grain demand increased with population increasing
   - Demand increased for high water-consumption agricultural products

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2. Brief of Irrigation in China

1. 68 Mha of irrigation area, about 50% of the total cropland, produces 73% and 90% of total grain and cash crop production, respectively
3. Irrigation water per ha is 5475 m³ in 2019
4. Irrigation water use efficiency: 0.54 in 2018
5. Irrigation water productivity: 1.6 kg/m³ in 2019

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3. Irrigation development strategies

Water-saving irrigation development strategies:

**Strategy 1:** Put more effects to adopt sprinkler and drip irrigation, and the irrigation area with pipelines for water conveyance;

**Strategy 2:** Each year, aiming at 1.3 mha is to be transformed into efficient irrigation area;

**Strategy 3:** To launch a new program of 2021-2035 for the modernization of large scale irrigation schemes, focusing on water-saving, ICT use and smart irrigation for irrigation management, and improving ecological service of the schemes, etc.
3. Irrigation development strategies

Strategy 4: In any given region, the irrigated area and the agricultural/crop production must be determined by water, which is available for agriculture;

Strategy 5: “Total quantity control, quota management” — The total water amount for agricultural sector in a given area must be strictly controlled and irrigation norm should be managed precisely; and

Strategy 6: More effects will be input on the R&D of water-saving irrigation technologies, and on the dissemination of practical technologies and equipment in irrigation practice.