

USDA Water Activities in Asia

米国農務省のアジアにおける水関係援助

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USDA Water Activities in Asia

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Outline

- ☞ About us: USDA/FAS/ICD/RSED
- ☞ USDA water projects in China
- ☞ U.S.-Japan Natural Resources Panels (UJNR)
- ☞ Future water activities in Asia

Who Are We?

USDA

United States Department of Agriculture

FAS

Foreign Agricultural Service

ICD

International Cooperation and Development

RSED

Research and Scientific Exchange Division

Research & Scientific Exchanges Division (RSED)

RSED is a leader in identifying and facilitating high priority international agricultural research and scientific capacity

<http://www.fas.usda.gov/icd/rsed/res-scient-exchanges.html>

RSED

- Promotes international cooperation to secure a safe and adequate food supply
- Fosters joint collaboration between US and international partners in:
 - Food Security
 - Sustainable Agriculture and Resource Management
 - Trade, Market Development, and Policy Linkages

Real-time Water Quality Monitoring & Watershed Management in Yellow River

Collaborators of the project

- ☞ U. S. Department of Agriculture,
 - Foreign Agricultural Service (FAS)
 - Economic Research Service (ERS)
- ☞ U.S. Environmental Protection Agency
- ☞ China Ministry of Water Resources (MWR)
- ☞ China Environmental Protection Administration (CEPA)
- ☞ Australian Bureau of Agricultural and Resource Economics (ABARE)

Site locations on the map

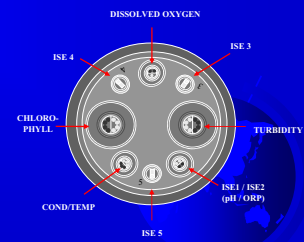


Huanyuankou site, Zhengzhou



自动监测系统的安装地点，郑州黄河花园口

Multi-parameters instrumentation



Water quality parameters:

water depth, temperature, pH, dissolved oxygen, conductivity, turbidity, ORP, chlorophyll, ammonium/ammonia, nitrate

Energy supply for the unit

- ☞ No electrical requirement
- ☞ A solar power generator and battery
- ☞ Ideal for remote areas

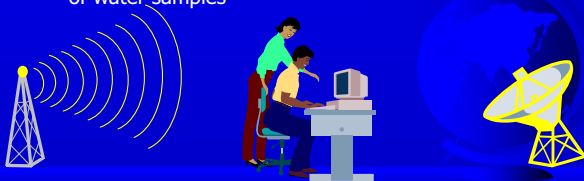


Water quality monitoring in Zhengzhou



Real-time data recording & transmission

- Monitoring data acquired by the unit are recorded & retrieved via cellular phone
- On-site continuous data collection & analysis of water samples



Wastewater Reuse for Irrigation

Challenges affecting Water Use and Availability

- ☞ Low precipitation
- ☞ Increased urbanization
- ☞ Conflicts and shared water resources
- ☞ Lack of policies for wastewater and water resource development.

Arguments for Wastewater reuse

- ☞ A practical and viable approach for the river basin;
- ☞ Necessary for sustainable water resource development and utilization;
- ☞ Positive socioeconomic consequences in saving the highest cost and best quality drinking water for human consumption.

Water reuse, Jinan site

- ☛ Location: Guanghangong Group, Inc. (beer brewery)
- ☛ Raw water: pH 9, SS below 800 mg/l, COD 1800-2000 mg/l, BOD 800-1000 mg/l
- ☛ Treated wastewater will be used for irrigation and industrial applications. Finish water flow rate: about 20 m³/day.

Current wastewater treatment plant at Jinan site



Treatment package plant at Jinan Site



USDA Water Proposals for Green Beijing 2008 Olympics



Progress to Date

- ☛ Two projects identified:
 - Engineering demonstration study for water protection of Green Olympics
 - Turning waste into gold: composted products to aid in the reforestation of Beijing

Engineering demonstration study for water protection of Green Olympics

- ☛ Forest Park to be built in northern part of Olympic Central Site
- ☛ Beijing Olympic Committee demands only reclaimed and rain water for the landscape water area
- ☛ Participants
 - USDA
 - Department of Energy/LLNL
 - Beijing Municipal Research Institute of Environmental Protection (BMRIEP)

Turning Waste into Gold: composted products to aid in the reforestation of Beijing

- ☛ China is the world's largest producer of meat and eggs (14,000 large-scale livestock operations)
- ☛ Beijing has goal for 180 million trees for a "Green Beijing"
- ☛ Address the pollution of land, air, and water from the generation of excess manure and the need for valuable composting products

U.S.-Japan Natural Resources Panels (UJNR)

- ☛ Under the U.S.-Japan S&T agreement
- ☛ 18 Cooperative Panels est. 1964
- ☛ USDA oversees nine panels focusing on Natural Resources
- ☛ Ensures communication and collaboration between U.S. and Japanese scientists, engineers, and technical specialists
- ☛ Proposed UJNR water panel would focus on cooperative efforts with Japan and other countries based on successful projects in China

Future water activities in Asia:

- ☞ Invite Japanese water specialists to attend the U.S.-China workshops on water.
- ☞ Organize water resources management regional workshops, meetings, and pilot research projects in the Mekong River Basin.
- ☞ Develop cooperative programs on global climate change with activities focused on dust storm effects, and soil & water conservations in North Asia.



Thanks

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