

SWITCH PROJECT: BEIJING, CHINA

BEIJING

<http://switchurbanwaterbeijing.yo2.cn/>



VISION & GOALS FOR URBAN WATER MANAGEMENT

- Integrate water supply analysis into city planning
- Adopt participatory methodology in water policy formulation
- Improve water use efficiency (rainwater harvesting, recycling etc.) particularly in urban agriculture
- Water price system reformation



BEIJING LEARNING ALLIANCE

The Beijing Learning Alliance (LA) was launched in May 2007, with participants from the Ministry of Construction, the Ministry of Water Resources, Beijing Water Bureau and farmers' cooperatives, enterprises, professional institutes and universities. Issues related to water use were presented and discussed, such as the protection of water sources, water saving management and water recycling. A study visit to a best practice water recycling site was organized during the meeting.

The LA has undertaken the following activities:

- Formal initiation of Beijing LA
- LA team organization
- Multi-Stakeholder Analysis
- Opening discussion and report on PhD students' research
- Demonstration project financing
- Information Management (workshop reports, city website, paper published on Urban Agriculture Magazine, LA Poster, reporting on academy's website)
- Training workshop
- Study visit to examples of best practices related to smart water use.



LA Members

- IGSNRR
- China Ministry of Water Resources
- China Ministry of Construction
- Water Conservation Office of Beijing Water Authority
- Beijing Academy of Environmental Protection Sciences
- Beijing Hydraulic Research Institute
- Chongqing University
- Qinghua University
- Huairou Fruit & Vegetable Cooperative
- Xiedao Resort



MEASURING SUSTAINABILITY

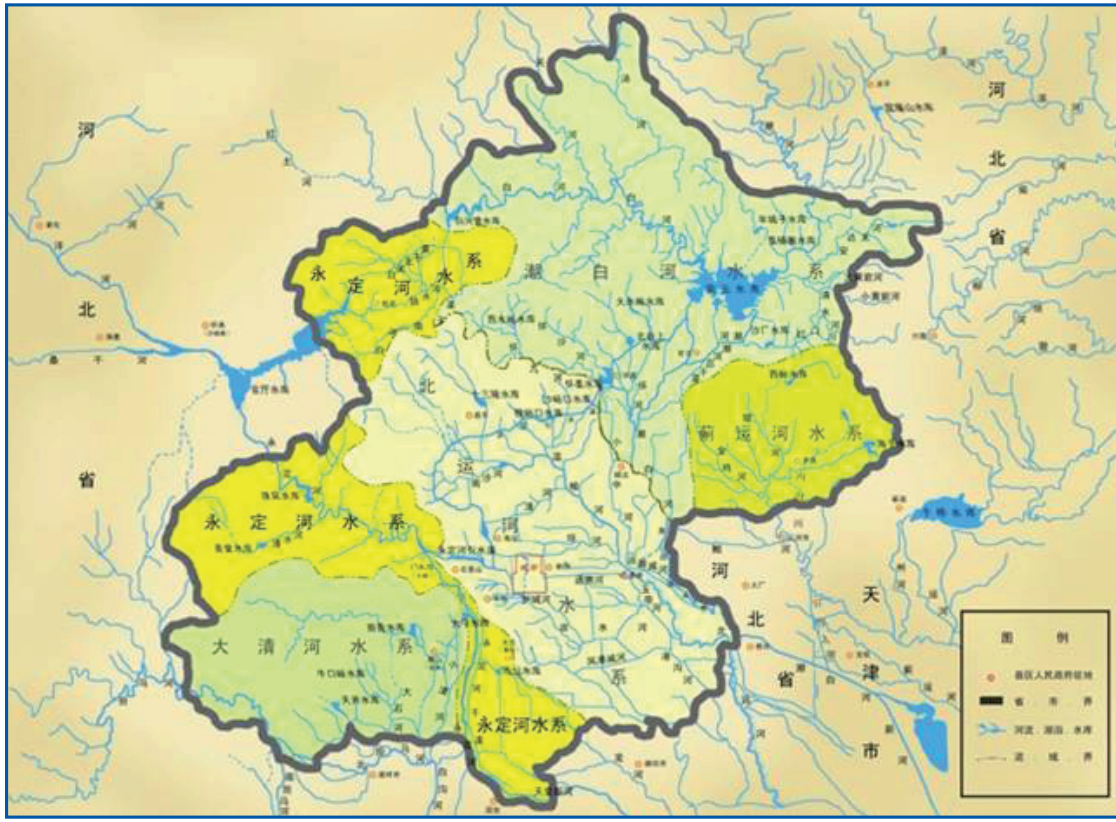
- Multiple functions of water use (associated with multi-functional urban agriculture)
- Source control of pollution
- Everyday water saving
- Graywater and rainwater utilization
- Improvement of water saving technology
- Integration with urban design and planning

BEIJING'S WATER SYSTEMS & PRESSURES

Beijing is one of the driest cities in the world. Decreasing water availability is hampering its economic development. The fresh water resource per capita in Beijing is about 300 cubic meters per year, or one-eighth of the national average and one-30th of the world's average. Agriculture is the biggest consumer of water in the city.

The challenges for Beijing water include:

- Water scarcity (demand is greater than supply), groundwater depletion
- Unbalanced rainfall in terms of both time and spatial distribution
- Insufficient use of water recycling



FACTS & FIGURES

The municipality of Beijing (2006):

- Land area: 16410 km², of which 11038 km² is farmland
- Population: 15.810 million
- GDP: 787 billion yuan (equals 78.7 billion Euro)
- GDP per capita: 50467 yuan (equals 5046.7 Euro)
- Total volume of water resource in the year: 2.45 billion m³
- Total volume of water used in the year: 3.43 billion m³
- Per-capita water resource: 157.1 m³

DEMONSTRATIONS

Huairou Fruit & Vegetable Cooperative is implementing efficient capture and use of rainwater, which is an integrated technology combining greenhouse surface rainwater collection with dripping irrigation. The collected rain water could be used for production (grape, vegetables, mushrooms) as well as recreation (supply for farm holiday ventures, fishing, etc.). In this way, multi-functional urban agriculture will be ensured by the project. In addition, the cost-benefit of rainwater harvesting and multi-functional water use will also be studied through this demonstration project.



POTENTIAL FUTURE SCENARIOS

A more efficient and multifunctional use of water to be achieved in the future:

The population of Beijing is increasing and results in increasing demand for water provision. It is estimated that water resources in Beijing have to serve about 18 million people, and this is almost reached. The demonstration of rainwater harvesting will contribute to water saving, which will enhance the competitive advantage of urban agriculture, thus creating job opportunities to urban producers and recreation sites for citizens.

RESEARCH FOCUS AREAS

- Beijing integrated water management
- Risk assessment and increased integrated water resources
- Cost-benefit analysis of rainwater harvesting

