

Capacity Building Workshop on Partnerships for Improving the
Performance of Water Utilities in the Asia and Pacific Region
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Providing Sustainable Water Services to Cities: The Chinese Experiences

By

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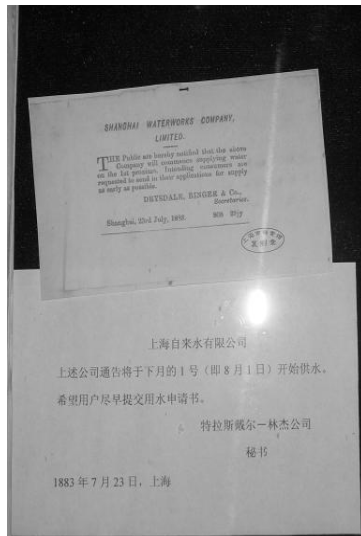
Outline

I. Overview of the Urban Water Supply Situation

II. Key Challenges and Issues

III. Water Market Reforms

I. Overview of the Urban Water Supply Situation



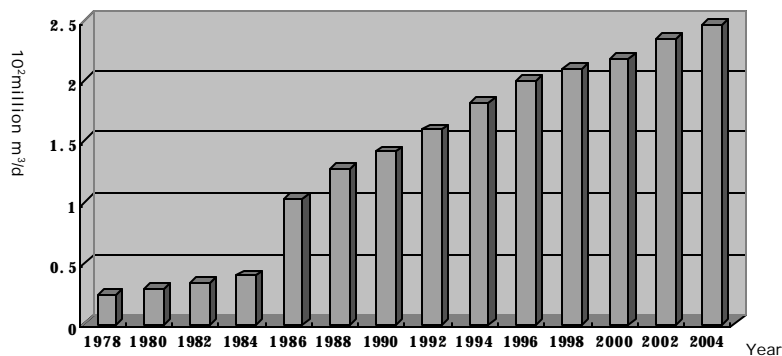
Overview of the Urban Water Supply Situation

❑ Water Supply Infrastructure

- 1949: 58 cities, 2.4 MCM, <20%
- 2004: 661 cities, 247 MCM, 88.85%

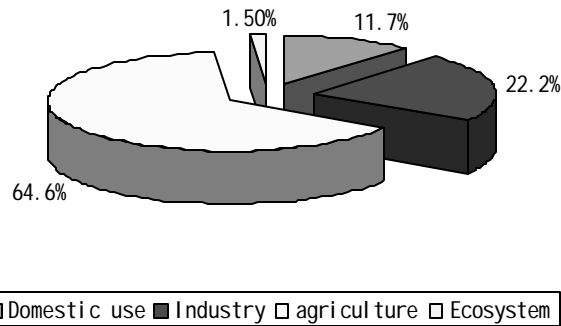
Overview of the Urban Water Supply Situation

National Urban Water Supply Capacity from 1978-2004



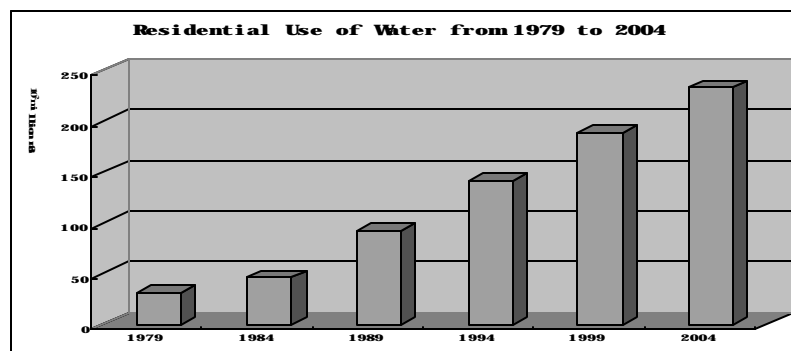
Overview of the Urban Water Supply Situation

Natioanl Water Consumption Structure,2004



Overview of the Urban Water Supply Situation

▪ Water Consumption



Overview of the Urban Water Supply Situation

Water Consumption
Per Capita: 211l/d

Surface water: 81.2%
Groundwater: 18.5%
Others: 0.3%



II. Key Challenges and Issues

- **Water Gap**
- **Insufficient Infrastructure**
- **Lack of investment**
- **Water Pollution**
- **Management Capacity**

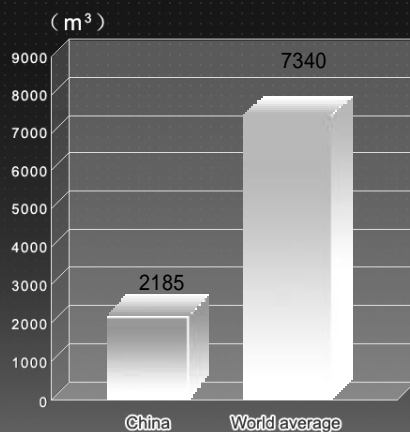
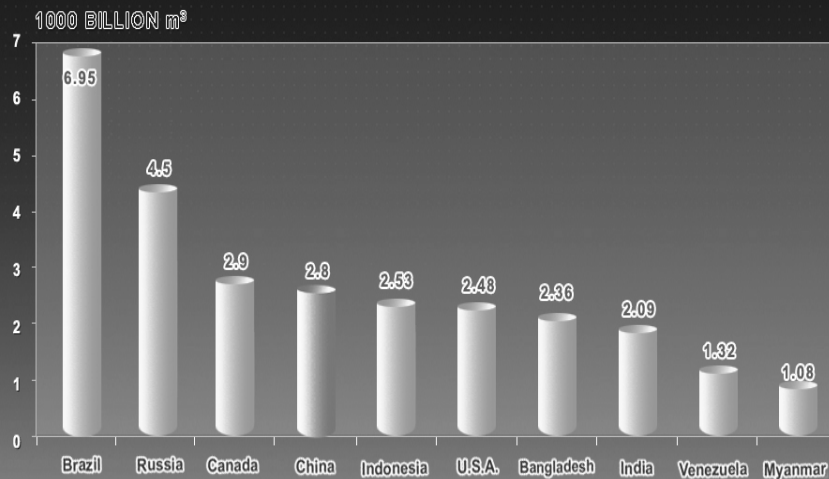
Key Challenges and Issues

- **Water Gap**
 - **Water Characteristics**
 - **Urbanization**
 - **Rapid Economic Development**
 - **Population Growth**
 - **Environmental Pollution**

Water Characteristics

- **Large volume, low availability**
- **Seasonal variations**
- **Huge regional differences**

Large Aggregate Volume

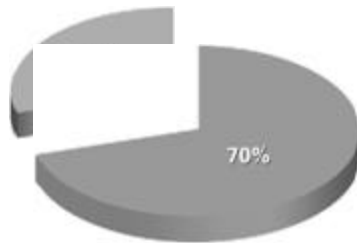


Low Per Capita Availability

Average annual water resources per capita is 2185 m³, less than 1/3 of the world average of 7340 m³, ranked 88th in the world.

Seasonal Variations

**Non-flood season
(8 months)**



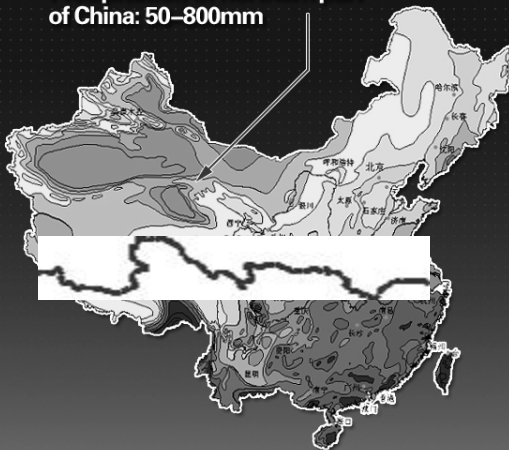
**Flood season
(4 months)**

Water is unevenly distributed within a year.

70% of rain concentrates in the flood season and 30% of rain concentrates in the non-flood season. Total runoff varies drastically between wet years and dry years.

Regional Differences

Precipitation in northern part of China: 50–800mm



In northern part of China:

Water resources: 19%

Percentage of population: 47%

Cultivated land: 65%

GDP: 45%

In southern part of China:

Water resources: 81%

Percentage of population: 53%

Cultivated land: 35%

GDP: 55%

Urbanization

- **Urbanization rate**

1979:17.9%

2005:43%

2010:47%

- **New Villages Movement**



Population Growth

- **Urban Population**

1978:76.82million

2005:540 million

2010:600 million



Rapid Economic Development

- o **GDP Growth Rate:
7-8%**



Water Pollution

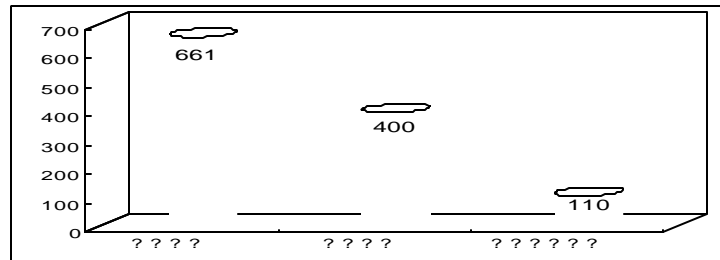
Eutrophication: occurs in 65% of the lakes

**40% river does not
meet the Grade III
national quality
standard.**



Water Gap

- China's population in 2030: 1.6 billion
- Water availability per capita in 2030: 1750 m³
- Total water demand: 700—800 km³
- Water gap between the demand and supply: 130-230 km³



Driving forces

- Natural reasons
- Human activities
- Shortage of capital

III. Water Market Reform

- ☐ **Strategies and Policy Reforms**
- ☐ **Legislative Shifts**
- ☐ **Institutional Shifts**

Strategy Reform

- ☐ **National Goal: to guarantee the access to clean and safe water**
- ☐ **National 11th five-year plan (2006-2010):**
 - **build a water saving and resources recycling society**
 - **To enlarge construction and rehabilitation of water supply infrastructure and piping system**

Policy Reforms

❑ Guidance Catalogue for Foreign Investment

- Foreign investment can participate in the construction and operation of urban water supply plants.
- Outbreak: the construction and operation of water pipeline network was first listed in the category of limited foreign investment
- Broaden the market approval for monopolized sectors and to introduce the competition mechanism

Policy Reforms

❑ Historical changes of Water Resources Law

- Article 7: The state will establish a water abstraction permit system, and anyone who consumes the water resource shall pay accordingly for this usage.
- Article 49: Water consumption will be charged based on the actual amount of water consumption, and the progressive water tariff system will be executed if users exceed their water quotas.

Institutional Changes

❑ Historical changes of Water Resources Law

- **Article 9: The state shall carry out a system of unified administration on water resources in association with administration at various levels and by various departments.**

Major Players

❑ Regulators

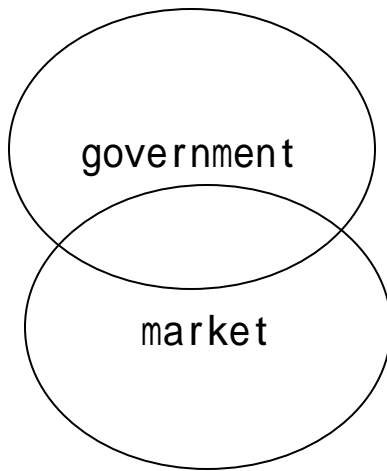
- **Ministry of Water Resources, MWR**
- **Ministry of Construction, MOC**
- **Ministry of Health, MOH**
- **Ministry of Treasure,...**

Major Players

- Investors
- Operators
- Researchers
- Lawyers,...



Incentives





Thank You