

# Water Management in Beijing

**Anjun Pan**

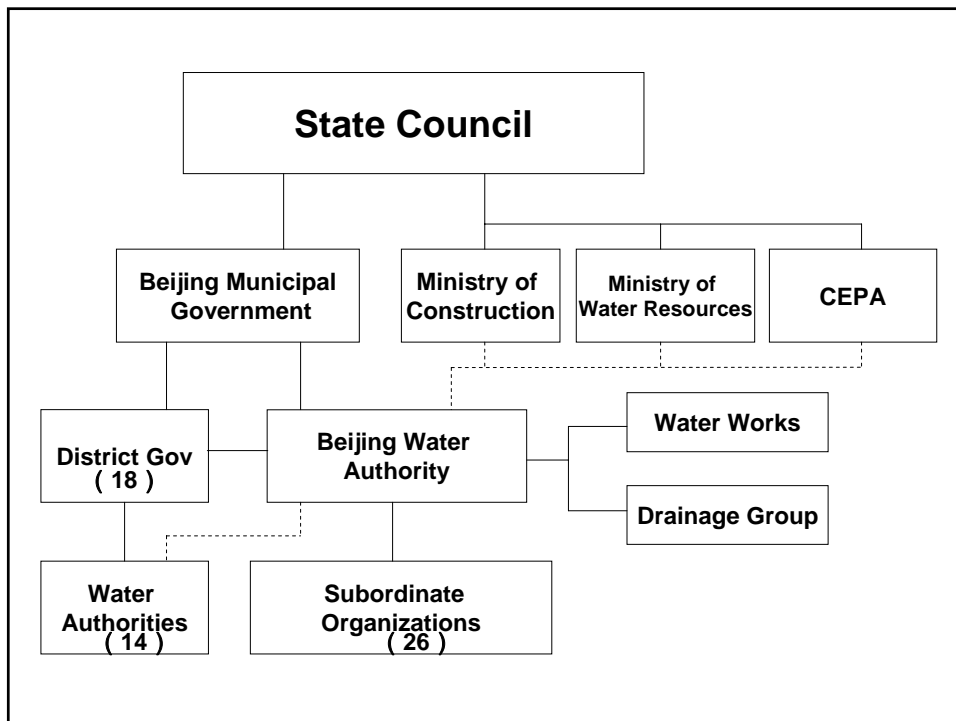
**Beijing Water Authority**

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## Our Institutions

- Beijing Water Authority (BWA) was newly established on May 19, 2004



## **Our management**

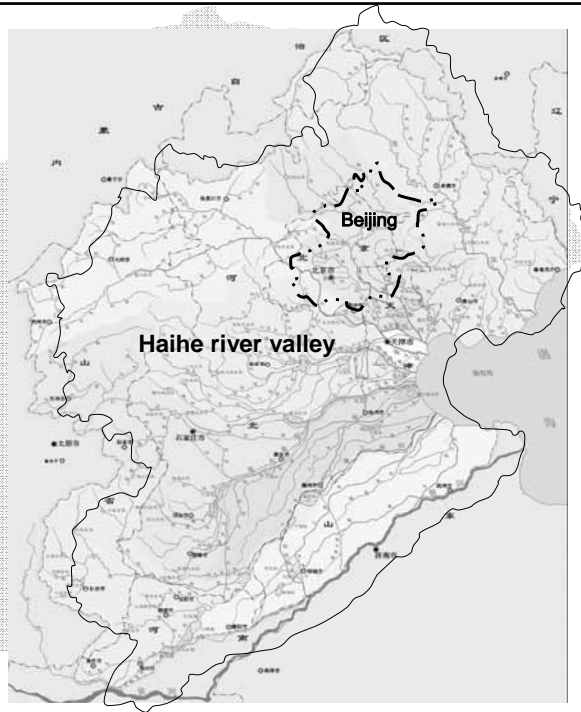
**We take three layers for water management within the Beijing Region.**

<b>Municipal level</b>	<b>Beijing Water Authority</b>	Responsibilities: Water resources, water supply and water pollution management and etc. within the municipality. Coordinating among districts/counties.
<b>District/County level</b>	<b>District/county Water Authority</b>	Responsibilities: Water resources, water supply and water pollution management and etc. within the district/county. Coordinating among subdistricts/towns.
<b>Subdistrict/Town level</b>	<b>Subdistrict/town Water Management Station</b>	Responsibilities: Water resources, water supply and water pollution management and etc. within the region.

## **Water Situation**

- **1. Natural Water Resources**

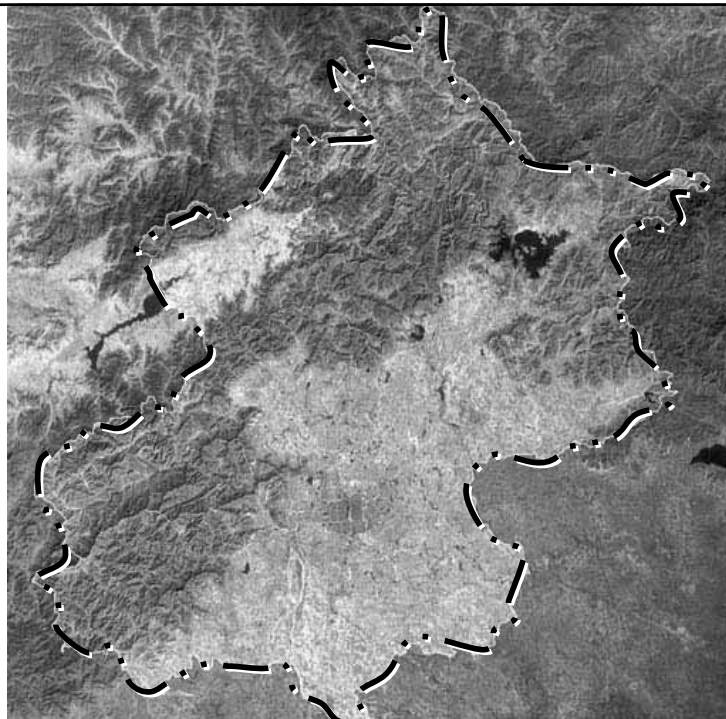
Beijing is located in the Haihe river basin. Its total area is 16,410 square kilometers



- 10,072 square kilometers of mountain areas

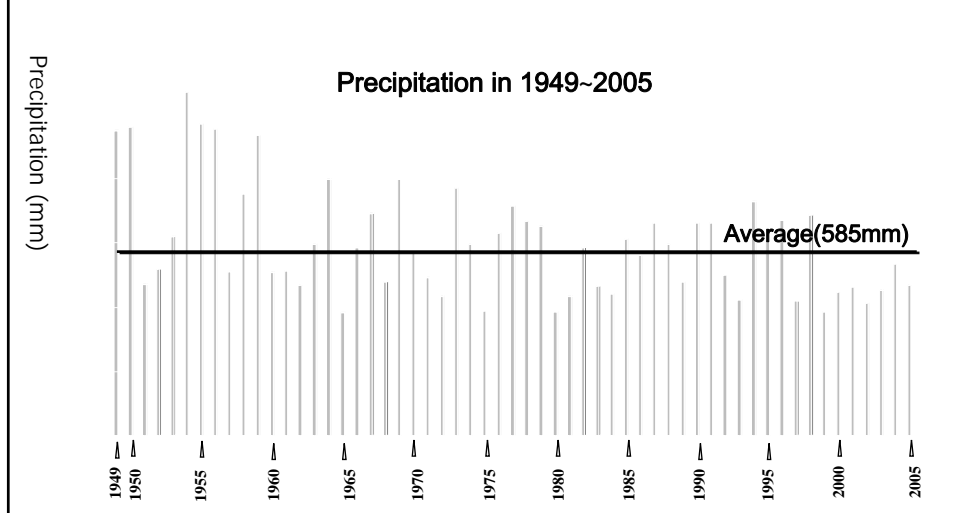
- 6,338 square kilometers of plain areas

- It is of the semi-arid and semi-humid continental monsoon climate, which inherits its less precipitation.



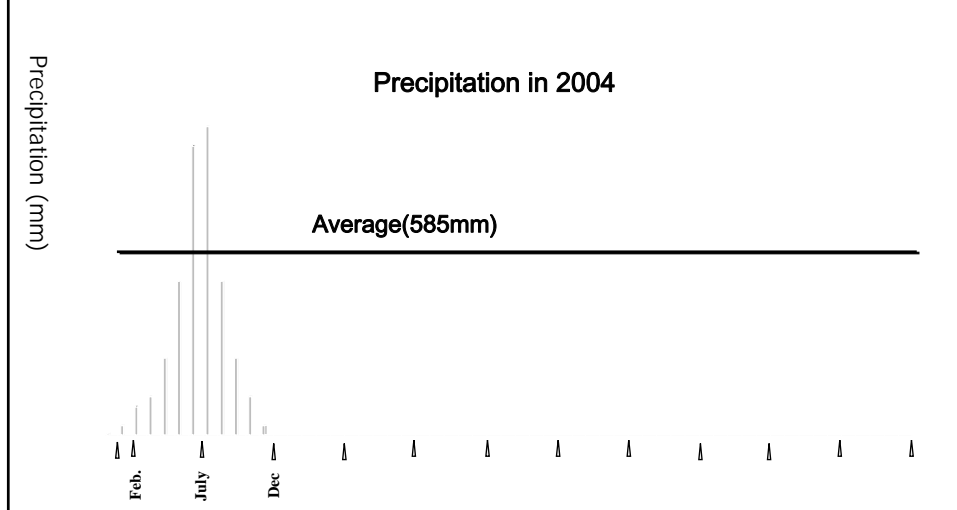
## 1. Natural Water Resources

**Average Precipitation=585 mm**



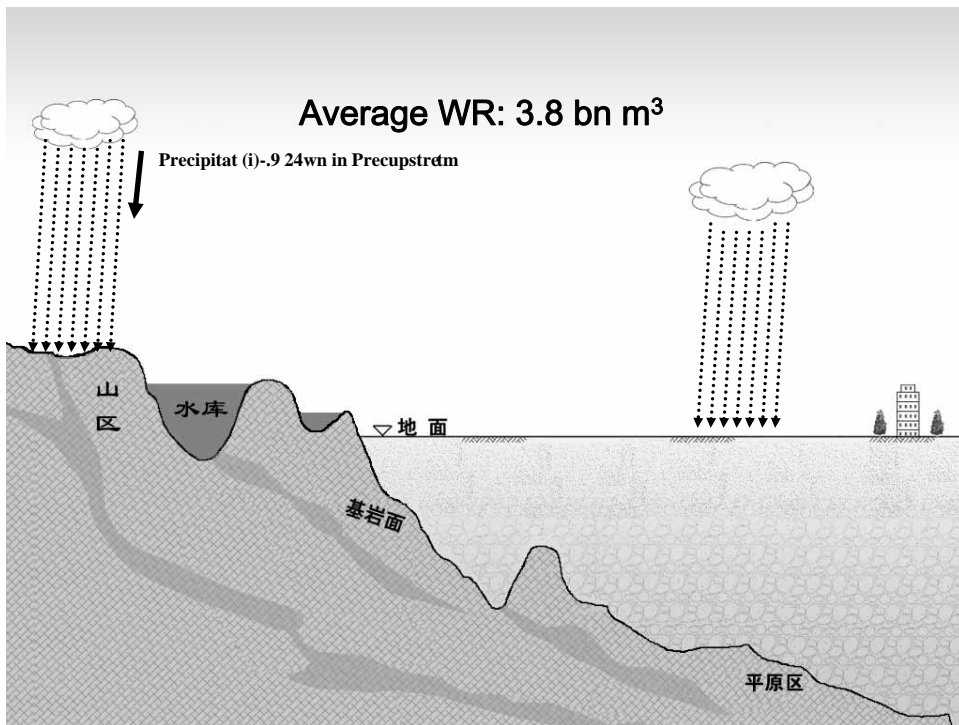
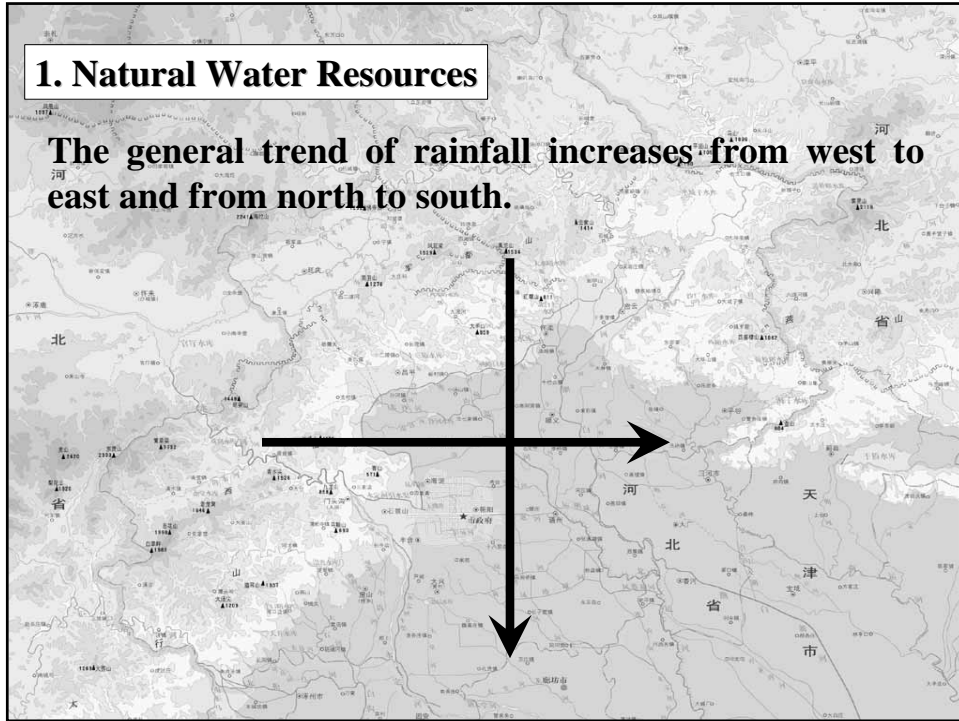
## 1. Natural Water Resources

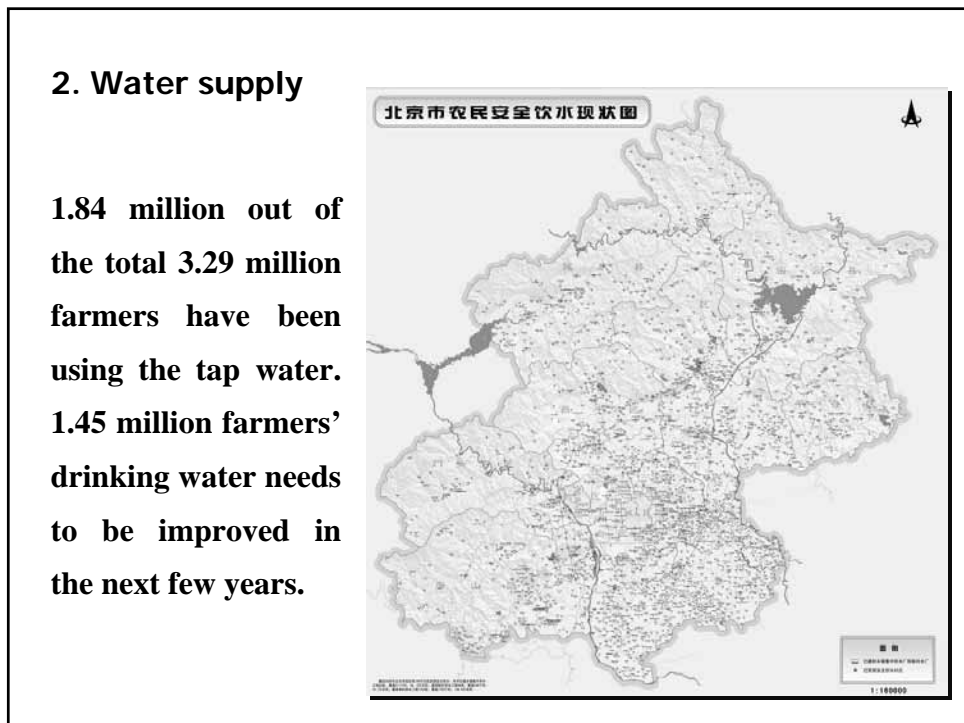
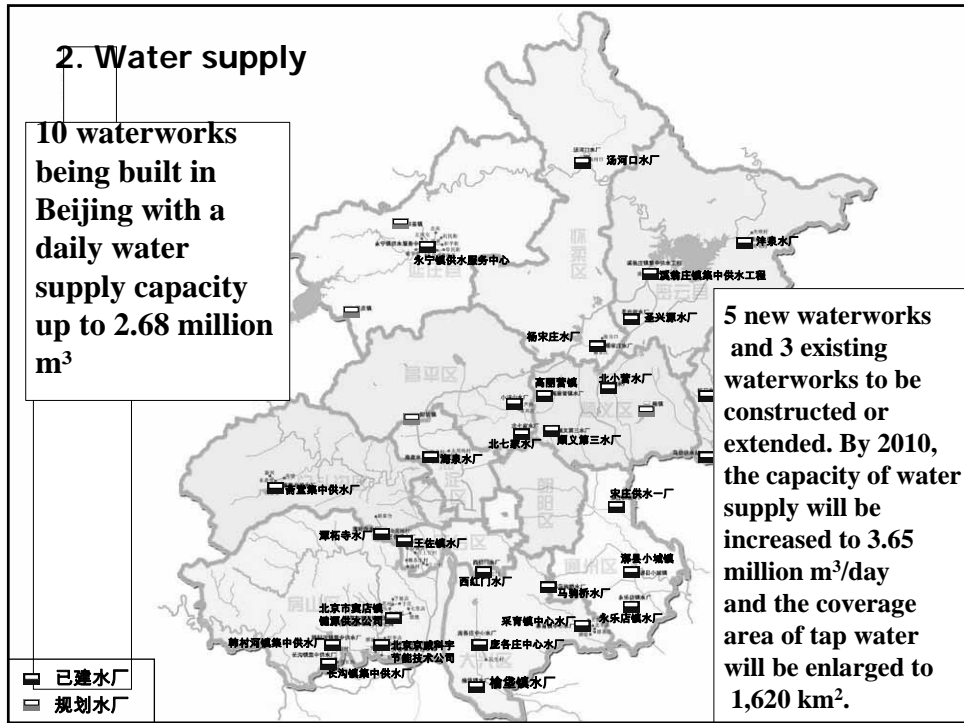
**Most of rainfall concentrates from June to September, which occupy 85% of the annual rainfall**



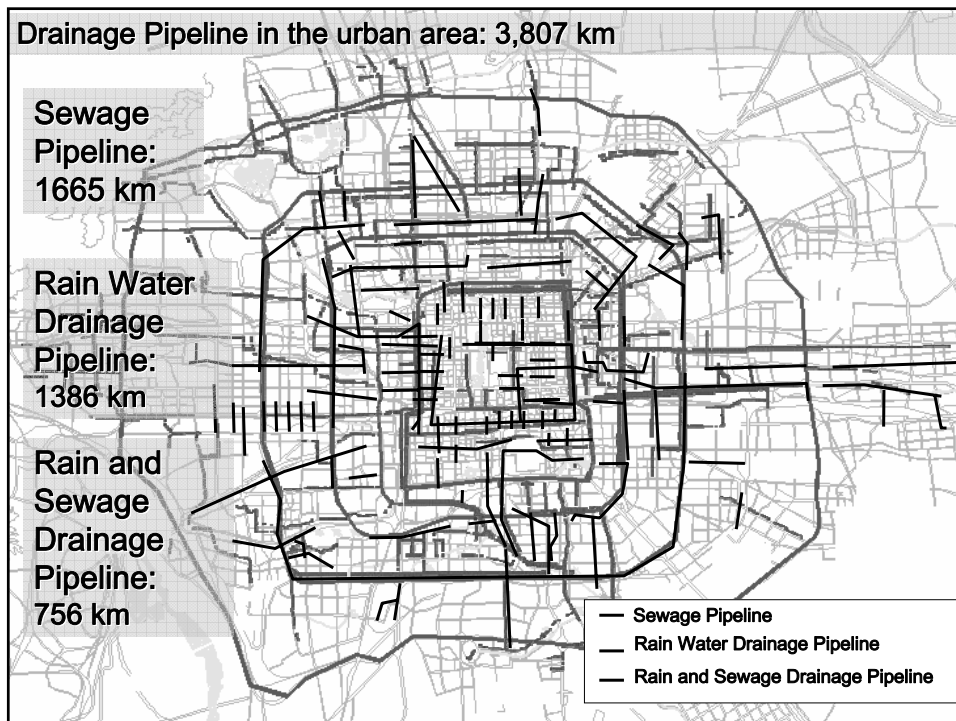
# 1. Natural Water Resources

The general trend of rainfall increases from west to east and from north to south.





### 3. Wastewater Treatment

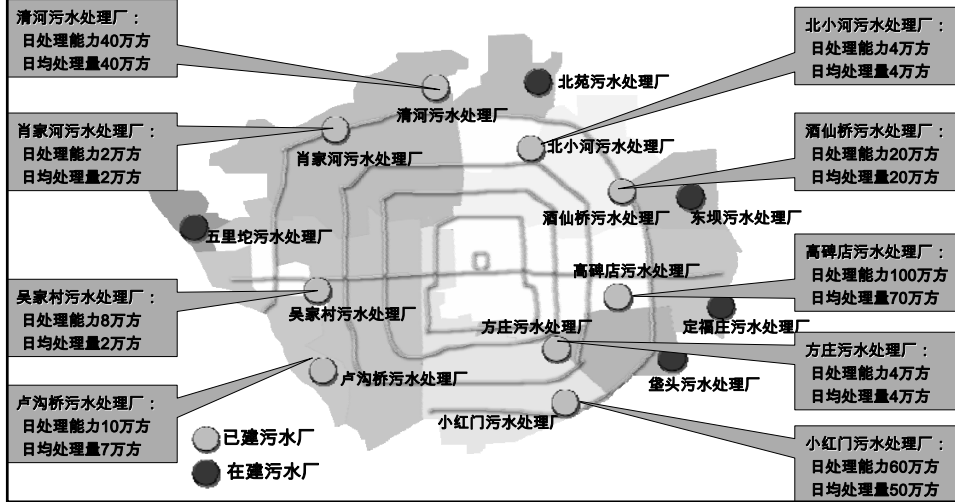




• Wastewater treatment plants

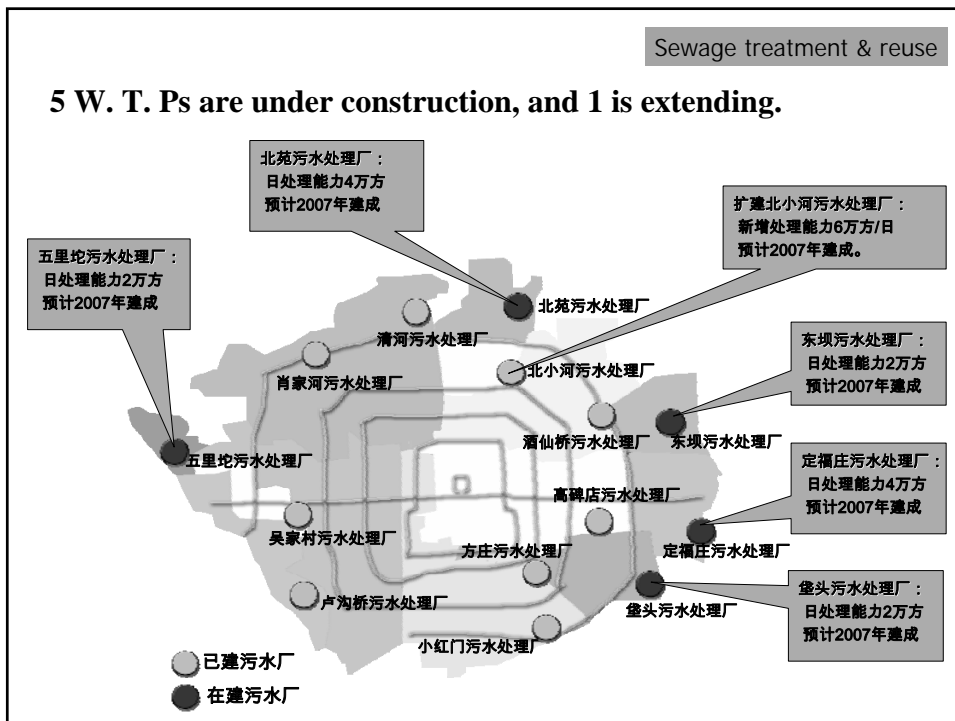
Wastewater Volume = 0.8 bn m<sup>3</sup>;

9 W. T. Ps treat 70% of sewage.



Sewage treatment & reuse

5 W. T. Ps are under construction, and 1 is extending.





## **Finance and Water Prices**

**Water Utilities are financed by both water prices and governmental funds:**

### **1. Water Prices**

**Our water prices consist of water resources' fee, hydraulic engineering's fee, water purification cost, wastewater disposal cost. The current average water price is 5.04 RMB/m<sup>3</sup>, but it varies among different users.**

**For example: Domestic water price is 3.70 RMB/m<sup>3</sup>, in which water resources' fee is 1.10, hydraulic engineering's fee is 0.62, water purification cost is 1.08, and wastewater disposal cost is 0.90 RMB/m<sup>3</sup>.**

### **2. Governmental Grants and Others**

- Governmental Grants are mainly used for water resources protection, flood control, water saving and rural water projects, and the maintenance and operation costs also come from government.**
- Water supply and wastewater disposal in urban area are mainly invested by enterprises, including Loans, BOT, etc..**
- Operation costs for water supply are mainly collected from water prices and those for wastewater disposal are paid by our water authority from the levied wastewater disposal costs.**

## **Our Challenges**

### **Water shortage**

**According to the prediction, the annual water consumption will be up to 4.2 billion m<sup>3</sup>/year, which exceeds the availability of water resources in the region.**

### **Wastewater Treatment**

**By 2005, 70% of our wastewater was treated and 30% of that was discharged into rivers without any treatment.**

## **Our Solutions**

**In order to meet the water demands, three main measures must be taken into practices in the coming years.**

**1) water-saving society must be speed up and even more restricted management will be strengthened. Our goals are as follows:**

**a) Water saving equipments for residents and institutions will reaches up to 90% and 100% respectively.**

**b) Water saving irrigation area will reaches over 95% and agricultural water consumption will be in negative growth.**

**c) The recycling rate of industrial water use will increase to 93% and the industrial water use keeps frozen.**

**2) By 2010 the whole the project of “South-to-north Water Diversion” will be finished and 1 billion m<sup>3</sup> of water will be conveyed from Yangtze River, which takes 1/3 of our local water.**

3) To upgrade and extend 9 reclaimed water plants with the production capacity of 0.65 million m<sup>3</sup> per day. 0.6 billion m<sup>3</sup> of treated wastewater will be reused.



## Conclusion:

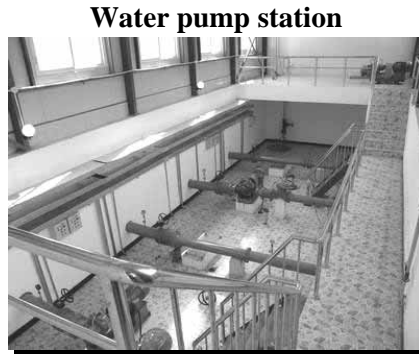
1) Beijing cannot guarantee its water supply by its own water resources, so the water diversion from south China is inevitable.



**2) The existing water supply and wastewater treatment facilities in both urban area and rural areas are insufficient due to the increase of population and social-economic development. More water facilities must be constructed.**



**Water supply works**



**Water pump station**

**3) In order to release the water crisis, water-saving society construction is the most fundamental measure.**



**River Basin**

Thank you for your attention!