



# Introduction to Wastewater Treatment in *P.R.China*

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## Outline

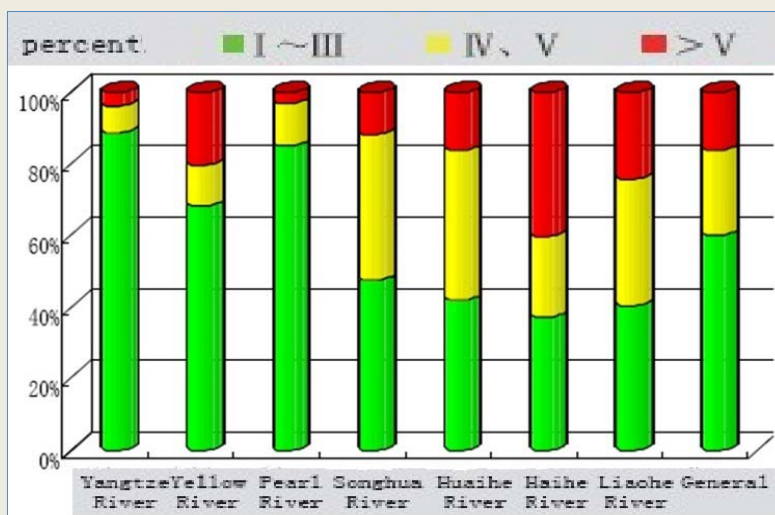


- **I . State of Water Pollution in China**
- **II . Development of Wastewater Treatment in Urban Areas**
- **III . Non-point Pollution Control in 12<sup>th</sup> Five-year in Rural Area**

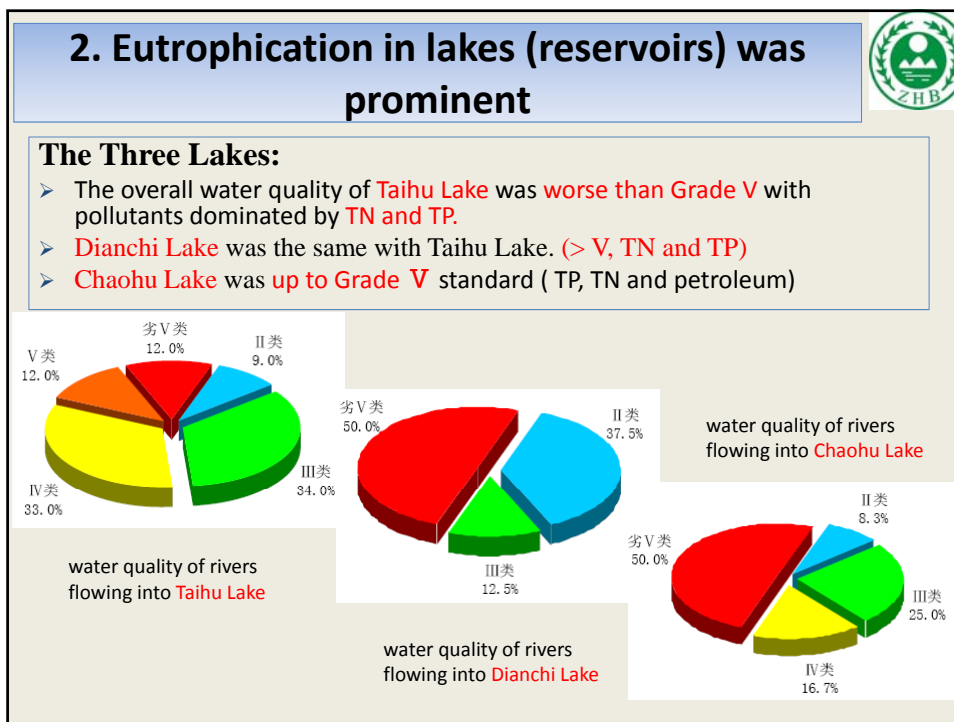
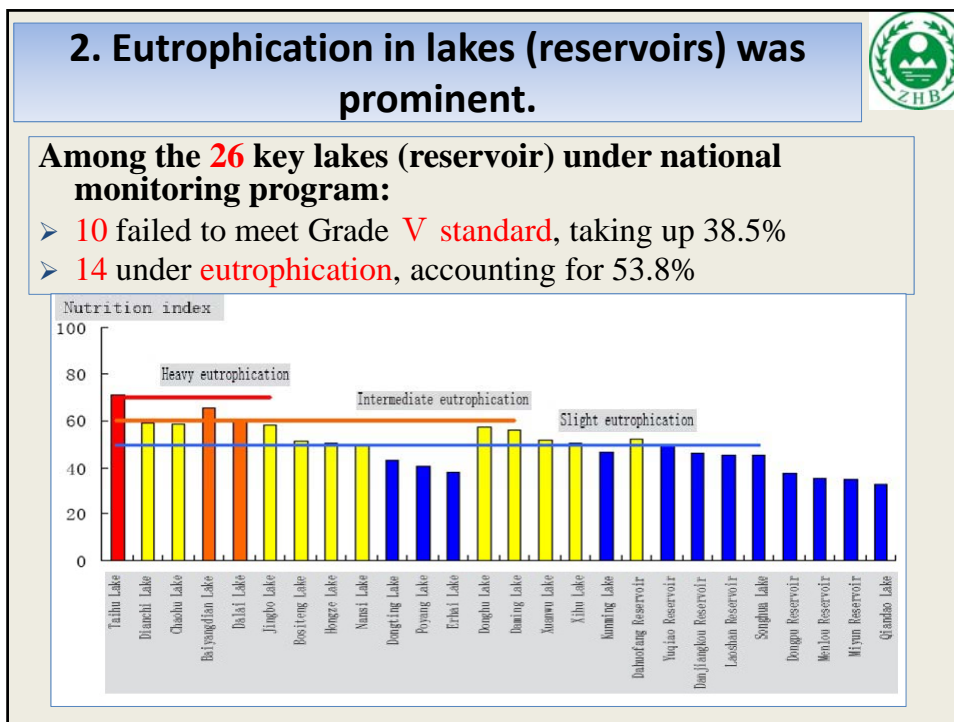


# I . State of Water Pollution in China

## 1. seven major river systems were under slight pollution



From *State of Environment 2010, China*



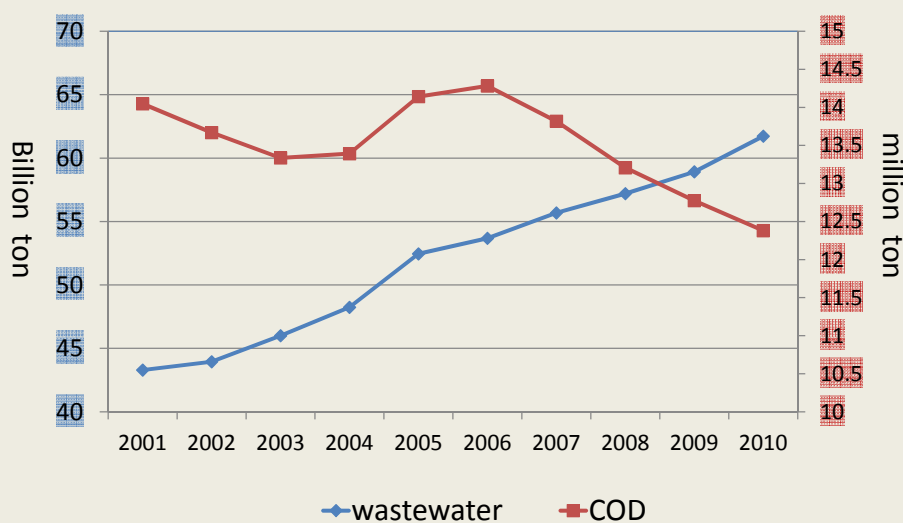
### 3. Water quality of major centralized drinking water sources in key cities



- **113** key cities
- 395 centralized drinking water sources
  - 245 surface sources
  - 150 groundwater sources
- total withdrawal of 21.76 billion ton
- **substandard** water stood at 5.18 billion t, taking up **23.5%**



### 4. Discharge of waste water and major pollutants





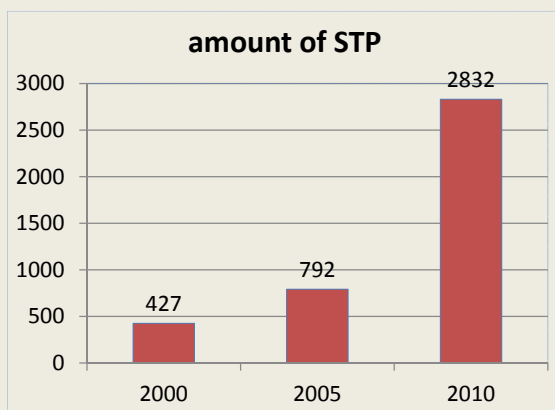
## **II . Development of Wastewater Treatment in Urban Areas**

### **1. Features of WW Discharge in Urban areas**

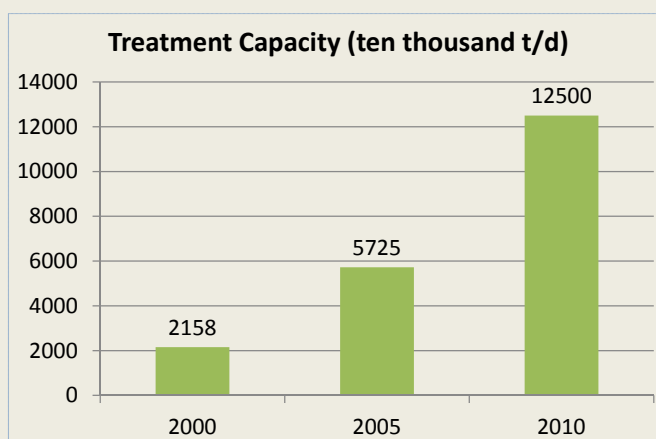


- **Huge amount ——  $\approx$  70% of total discharge**
- **Centralized Discharge**
- **Large population affected**

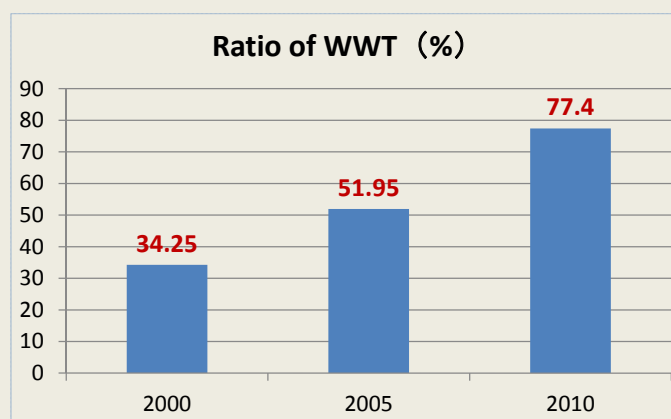
## 2. Rapidly developed of WW Treatment



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- Till the end of 2010, more than **90% cities** and more than **60% counties** have operated sewage treatment plants.
- In **16 provinces** (of 35), every county has one Sewage Treatment Plant or more.



### III. Non-point Pollution Control in 12<sup>th</sup> Five-year in Rural Areas

#### 1. Non-point pollution weighs



##### ● The 1st National Census on Pollution Sources

➤ 2007 ~ 2010

➤ Involved  
570,000 people

➤ Obtained **1.1 billion** pieces of data





## 1. Non-point pollution weighs



- Agricultural and rural pollution has a **big impact** on water environment.

➤ Its **COD** discharges totaled 13.24 million tons, **43.7%**

➤ main source of **TN** (total nitrogen), which were measured 2.70 million tons, **57.2%** of the total.

➤ main source of **TP** (total phosphorus), 284,700 tons, **67.4%**

## 2. Environmental Problems in Rural areas



➤ Heavy pollution

➤ Poor environmental infrastructure construction

➤ Weak basis of environmental management

- The problems could hang over the security of **food** and **drinking water**.


## 2. Policy of *Promoting Environment Protection by Award*



- National Teleconference on Rural Environmental Protection (July, 2008)
- Put forward by **Li Keqiang**, the *Vice Premier* of the State Council.

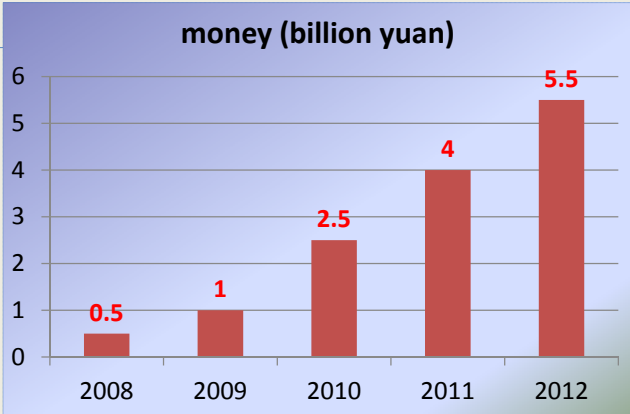


## 2. Policy of *Promoting Environment Protection by Award*



- Set up *Central Financial Special Fund of Rural E P.*
  - Arranged 4 billion yuan from 2008 to 2010, and driven about 8 billion regional investment.
  - This year(2011), have arranged 4 billion yuan (equal to the past 3 years)

It benefits 6600+ villages with more than 24 million peasants .



Year	Money (billion yuan)
2008	0.5
2009	1
2010	2.5
2011	4
2012	5.5

### 3. National Major S&T Program for Water Pollution Control and Treatment



- The **largest** science & technology program

- 2006~2020, **3 stages**.

- **MEP** lead, together with **other 9 Ministries** (MoC, MoS&T, NDRC, MoF, MoA, MoWR, MoE, CAS, CAE)

- Arranged 3.2 billion yuan for the 1<sup>st</sup> stage, of which **0.4 billion** was about rural water environ-protection.

- **Rural** water pollution control will be emphasized in 12<sup>th</sup> five-year .

### 3. National Major S&T Program for Water Pollution Control and Treatment



- Some achievements:



Several technologies for treating household sewage

### 3. National Major S&T Program for Water Pollution Control and Treatment



- Some achievements:



Several technologies for reducing the pollutants in the river

### 4. Thinking and tasks in 12<sup>th</sup> Five-year




- National Working Conference on Rural Environmental Protection (Mar, 2011)

➤ Bring forward the task on rural environmental protection of 12<sup>th</sup> five-year




### 4. Thinking and tasks in 12<sup>th</sup> Five-year



- 1
- 2
- 3
- 4
- 5

### 4. Thinking and tasks in 12<sup>th</sup> Five-year



- 1 plan

➤ The 12<sup>th</sup> Five-year Plan of National Rural Environmental Protection

#### 4. Thinking and tasks in 12<sup>th</sup> Five-year



- **2 laws**

- **Pollution Prevention Regulations for Livestock and Poultry Breeding**

- **Soil Environment protection law**

#### 4. Thinking and tasks in 12<sup>th</sup> Five-year



- **3 to the countryside**

- **Environmental Law Enforcement**

- **Environmental Monitoring**

- **Environmental Publicity & Education**

#### 4. Thinking and tasks in 12<sup>th</sup> Five-year



- **4 -wheel promotion**

- Promotion by award (Central fund)
- Promotion by founding (eco-village)
- Promotion by reducing (pollutants discharge)
- Promotion by assessing (government performance)

#### 4. Thinking and tasks in 12<sup>th</sup> Five-year



- **5 key aspects**

- Protecting Rural Drinking Water Source
- Domestic Sewage Treatment
- Domestic Refuse Disposal
- Livestock and Poultry Breeding Pollution Control
- Soil Environmental Protection



**Thank you!**

**XIE XIE**