Water Rights Practice In China

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- Building Framework of Water Rights Based on the practical needs in China
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Why I want to talk about this speech

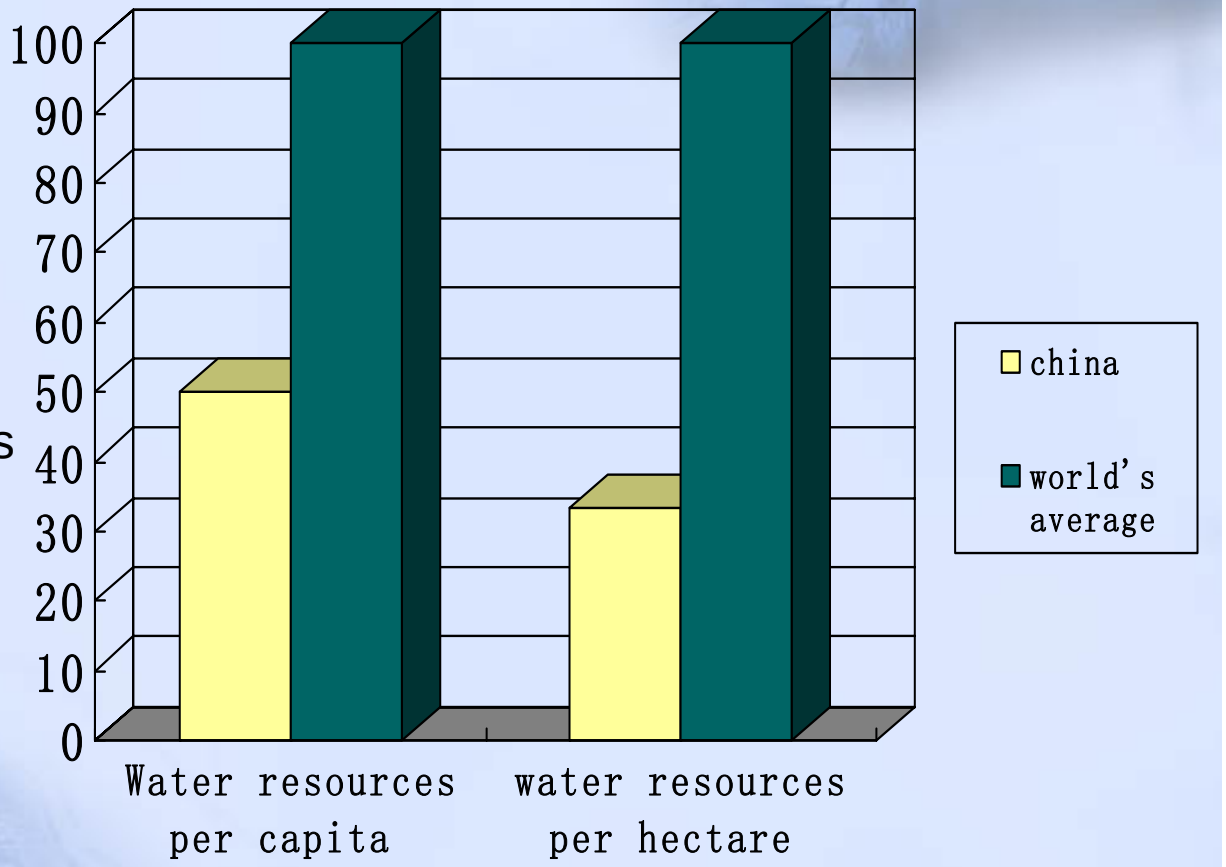
Water rights issues are of growing importance in all countries and particularly in China.


Songliao
Tarim river
Haihe
Yellow river
Huaihe
LakeTaihu
Yangzi river
Pearl river

Characteristics of China's Water Resources

- **Low per capita water resources:**

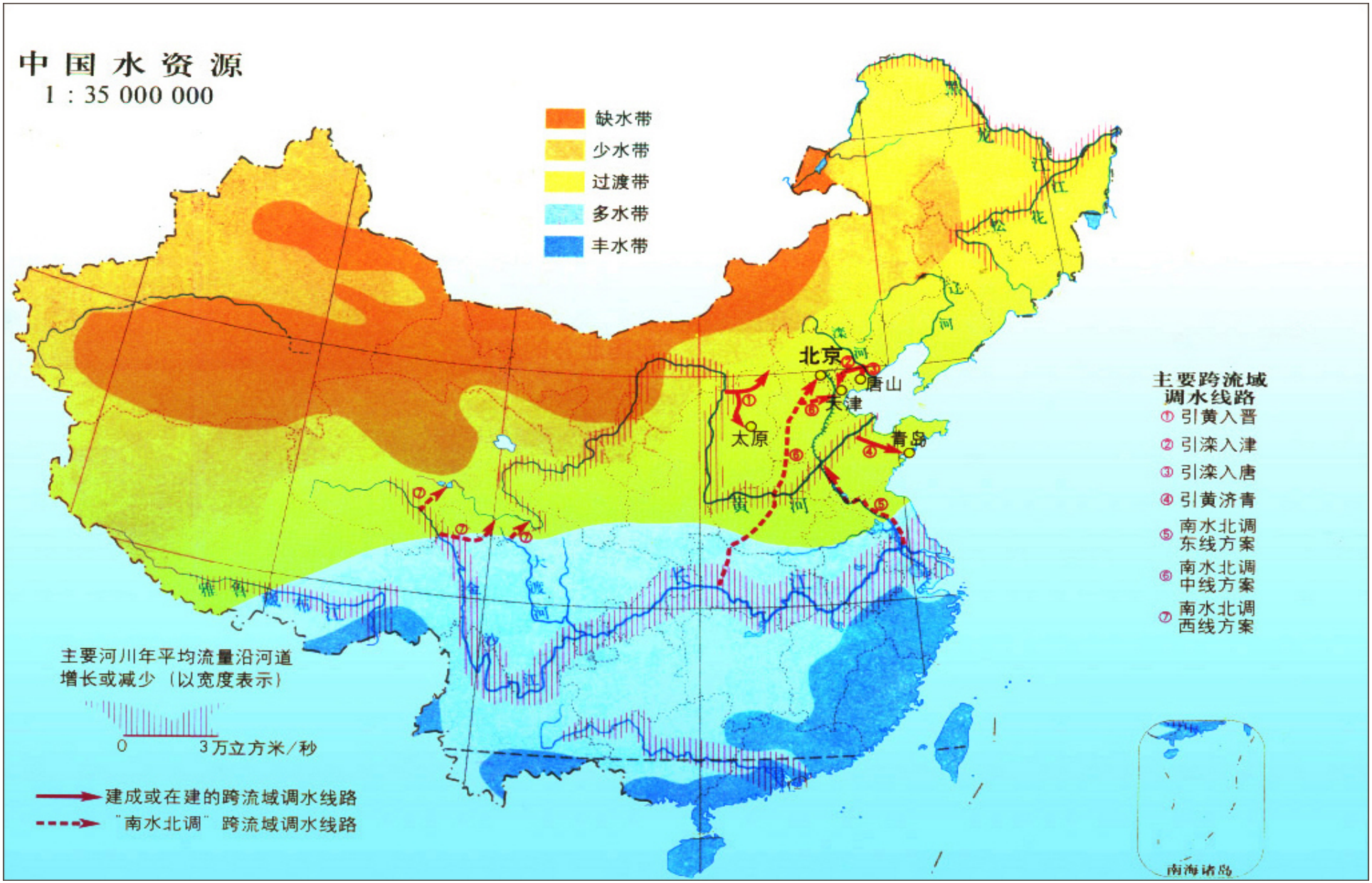
  The total water resources in China are approximately 2800 billion cubic meters. Water resources per capita are only 50% of the world average and water resources per hectare of occupied land only 1/3 of world's average.



Characteristics of China's Water Resources

- **Uneven temporal and spatial distribution of water resources:** Due to the geography, topography, and monsoon-influenced climate, rainfall varies vastly from year to year and between seasons. In the south (the wettest part of the country) precipitation in the wet years can be 4 times higher than in dry years. This ratio can be as high as 8:1 in the north.

North and South China Water Resources Comparison Chart

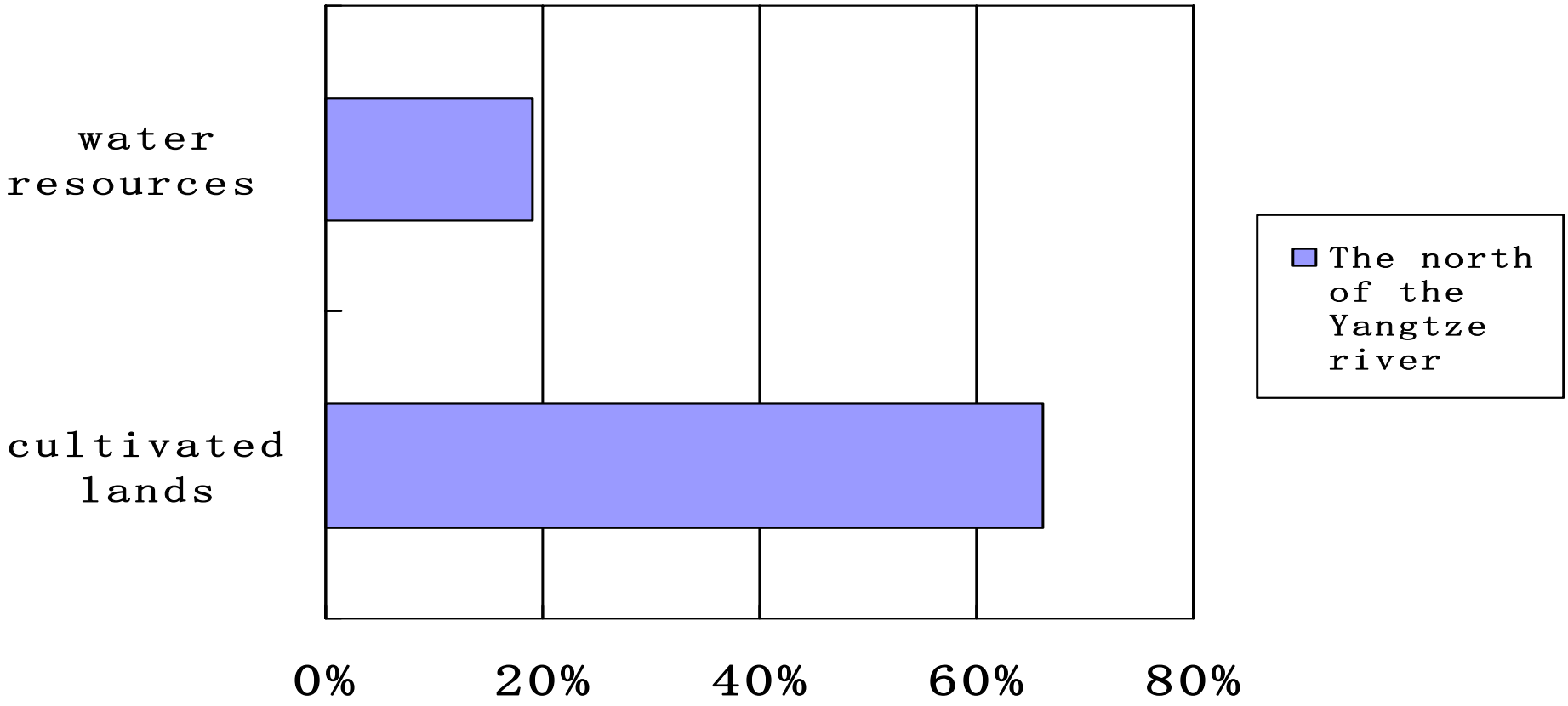


Characteristics of China's Water Resources

- **Distribution of water resources does not match population, cultivated land and economic distribution:** two-thirds of China's cultivated lands lies to the north of the Yangtze river, but only holds 19% of its water resources. In particular, the Yellow, Huaihe and Haihe river basins – which account for one-third of China's population and GDP – have only 7.7% of its water resources. Consequently the levels of water resource development differ significantly: extractions in the Haihe river basin exceed 90% of available water resources (including both surface and ground water) and in the Yellow river basin 50%; development in the Yangtze and Pearl basins in the south is less than 15%.

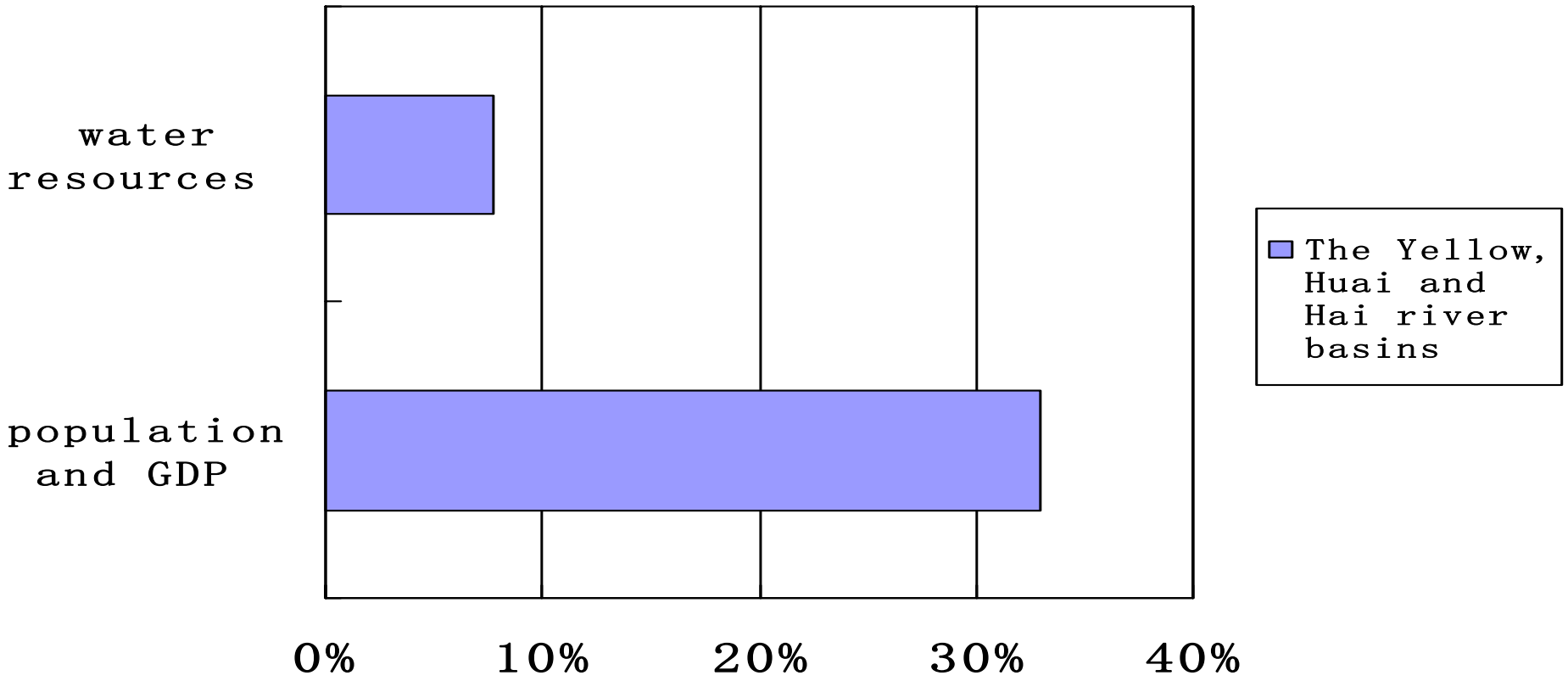
Distribution of water resources does not match population, cultivated land and economic distribution

◆Two-thirds of China's cultivated lands lies to the north of the Yangtze river, but only holds 19% of its water resources.



Distribution of water resources does not match population, cultivated land and economic distribution

- **The Yellow, Huaihe and Haihe river basins account for one-third of China's population and GDP ,which have only 7.7% of its water resources.**



Water resources issues in China

- **Severe water conflicts between supply and demand:** Based on normal demand levels and without over-drawing groundwater resources, the average annual water shortage in China is estimated to be 30-40 billion cubic meters. Water usage continues to increase: by 7.2% annually in urban domestic water use over the past 20 years, and by 5.2% in industrial sectors. This has resulted in water conflicts between industry and agriculture, between urban and rural areas and between regions.

Water usage continues to increase

1

The average annual water shortage: 30-40 billion cubic meters

2

The growth rate of urban domestic water use : by 7.2% annually over the past 20 years

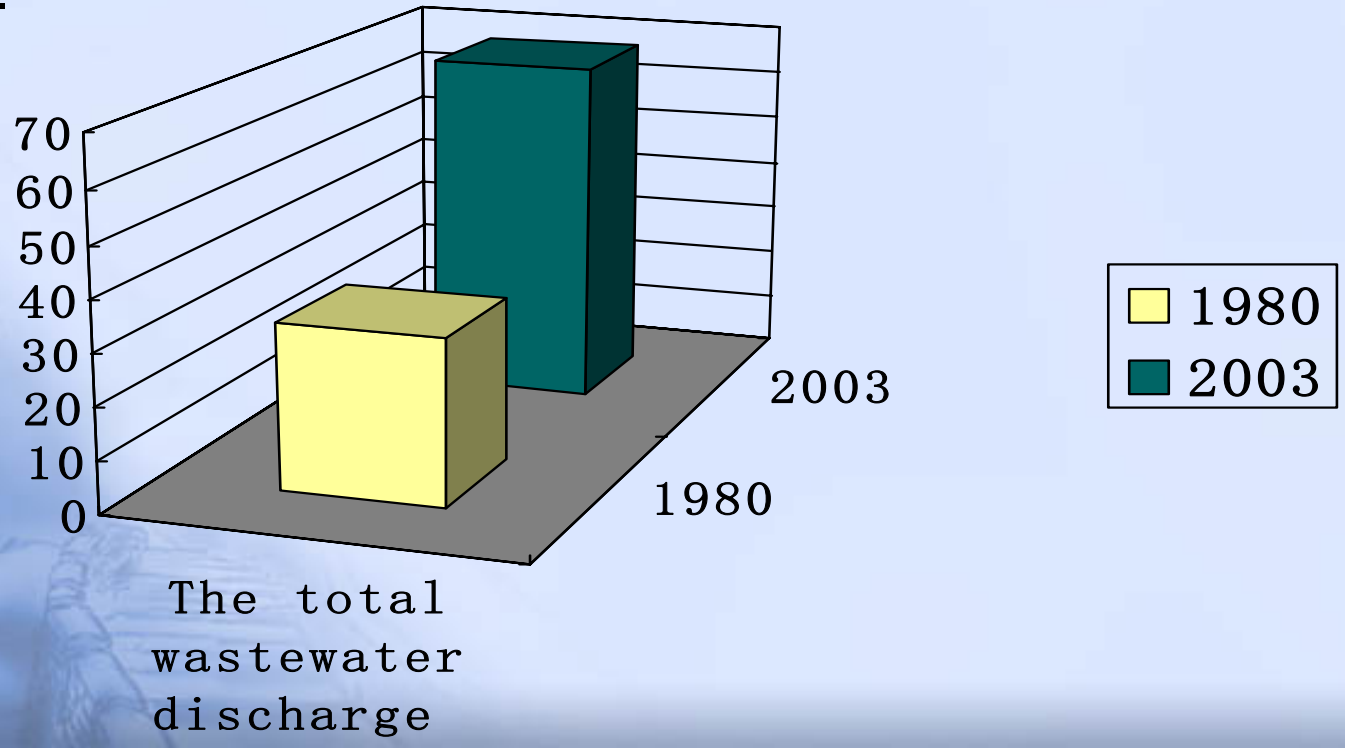
3

The growth rate of industrial sectors : by 5.2% over the past 20 years

Water resources issues in China

- **High water pollution:**

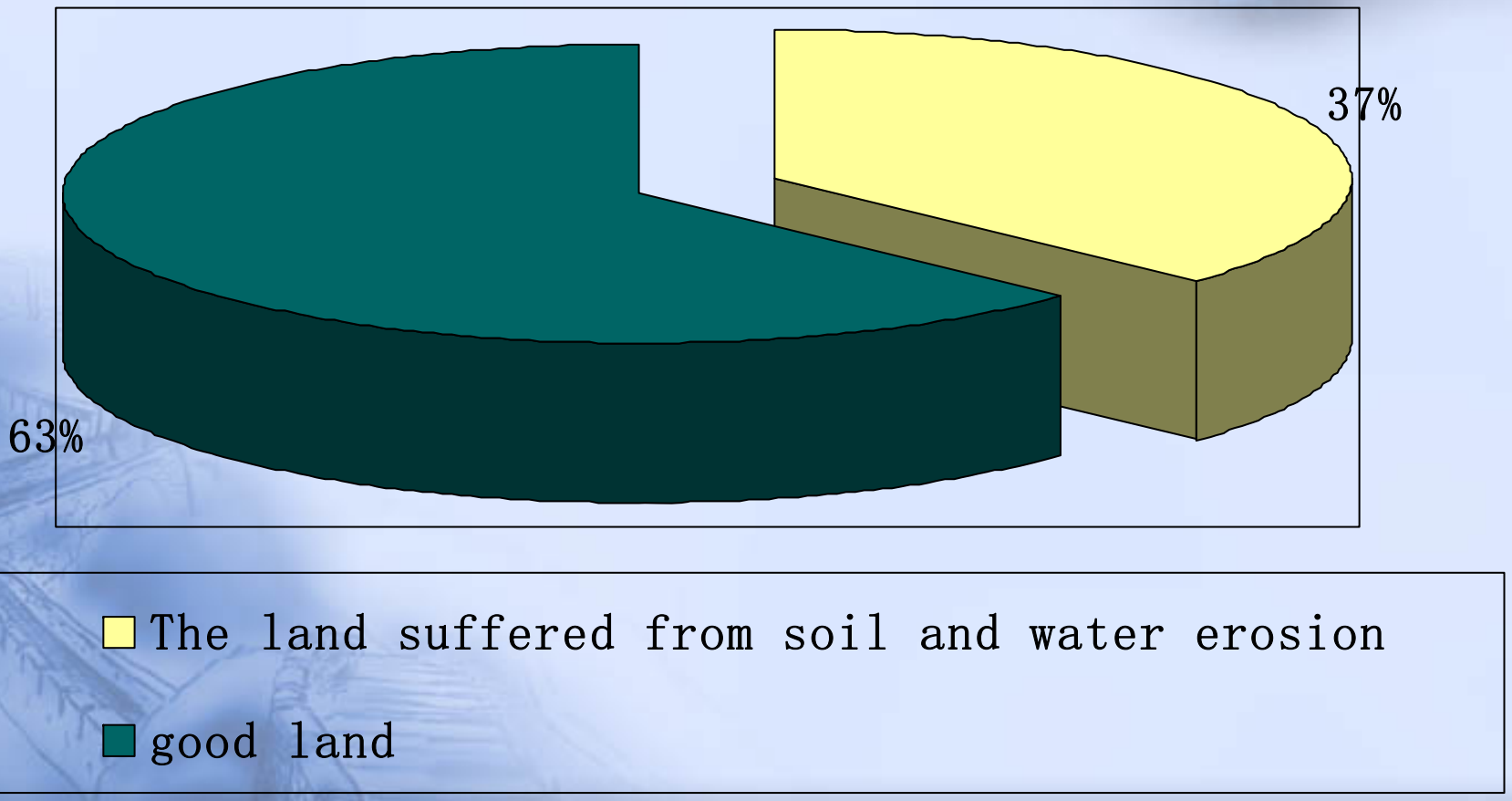
  The total wastewater discharge in 2003 was 68 billion tons, more than twice that in 1980. Discharge levels are making it increasingly difficult to maintain water quality and are threatening drinking water supplies.



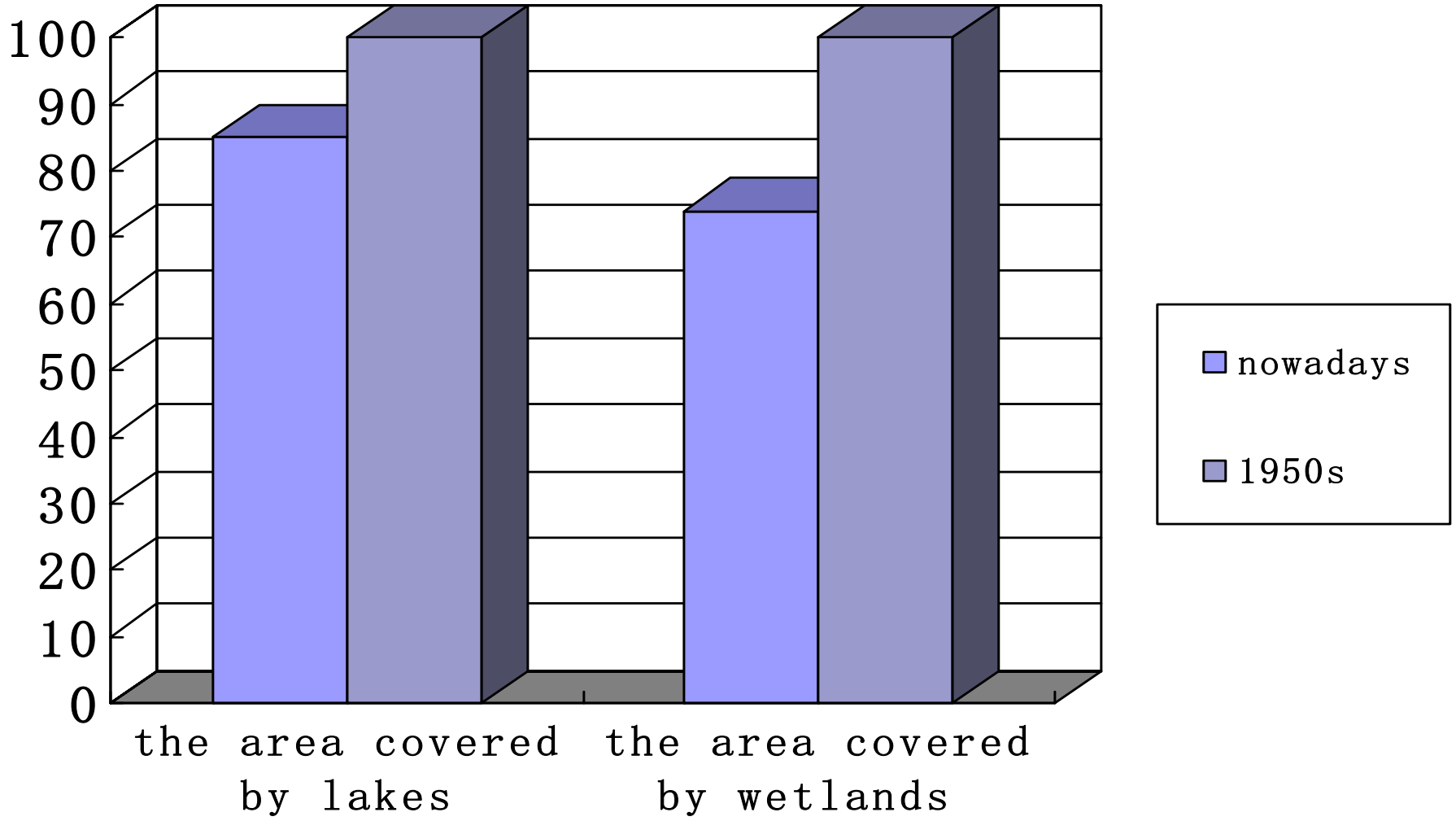
Water resources issues in China

- **Heavy water and soil erosion and a vulnerable natural environment:** Thirty seven percent of China's land area suffers from soil and water erosion. Since the 1950s, the area covered by lakes and wetlands has decreased 15% and 26% respectively. Groundwater is overdrawn on average by 10 billion cubic meters per year, resulting in land subsistence and seawater intrusion.

The chart of China’s land area suffered from soil and water erosion



The area covered by lakes and wetlands has decreased respectively



Summary

- Severe water resources issues ask China government to change the idea of management from water engineering to water rights

Why I want to talk about this speech

China and the United States can learn from each other's water rights

China and the United States can learn from each other's water rights

- **ON the one hand, at present, China's water rights are at an early stage . It is necessary to learn many mature ideas and methods from the United States.**

- Areas of similarities in China and the United States

----Facing the same natural rule of water resources

----Having greater differences of the natural distribution of water resources

----Managing the conflicts between economy and environment

----Need to integrate the existing rights and new rights

China and the United States can learn from each other's water rights

- On the other hand, China's unique conditions show the fact that China's water rights is different from any country in the world. It is value for the United States and the other countries to do research.
- China’s unique condition:

----a large number of population

----Centralized system

- The uniqueness of China’s water rights

----water allocation must be from central to the provinces to the counties and to individuals

---Farmer Water Users Association (FWUA) is the main body of a common property rights

Basically Introduction of Site Investigation about Water Rights pilot Projects in China

- Outline of site investigation
- Summary of four types of water rights and trading

Outline of site investigation

- On 2006, I joined the international project about “water entitlements and trading (WET)” as single law expert. This project is a joint initiative of the Australian Department of Agriculture, Fisheries and Forestry (‘DAFF’) and the Chinese Ministry of Water Resources (‘MWR’), with funding provided by the Australian Agency for International Development. Site investigation is the part of WET Project.


第二届中澳水资源管理研讨会
暨中国水权制度建设项目研讨会
Sponsors : Ministry of Water Resources, P.R.China
Australian Agency for International Development

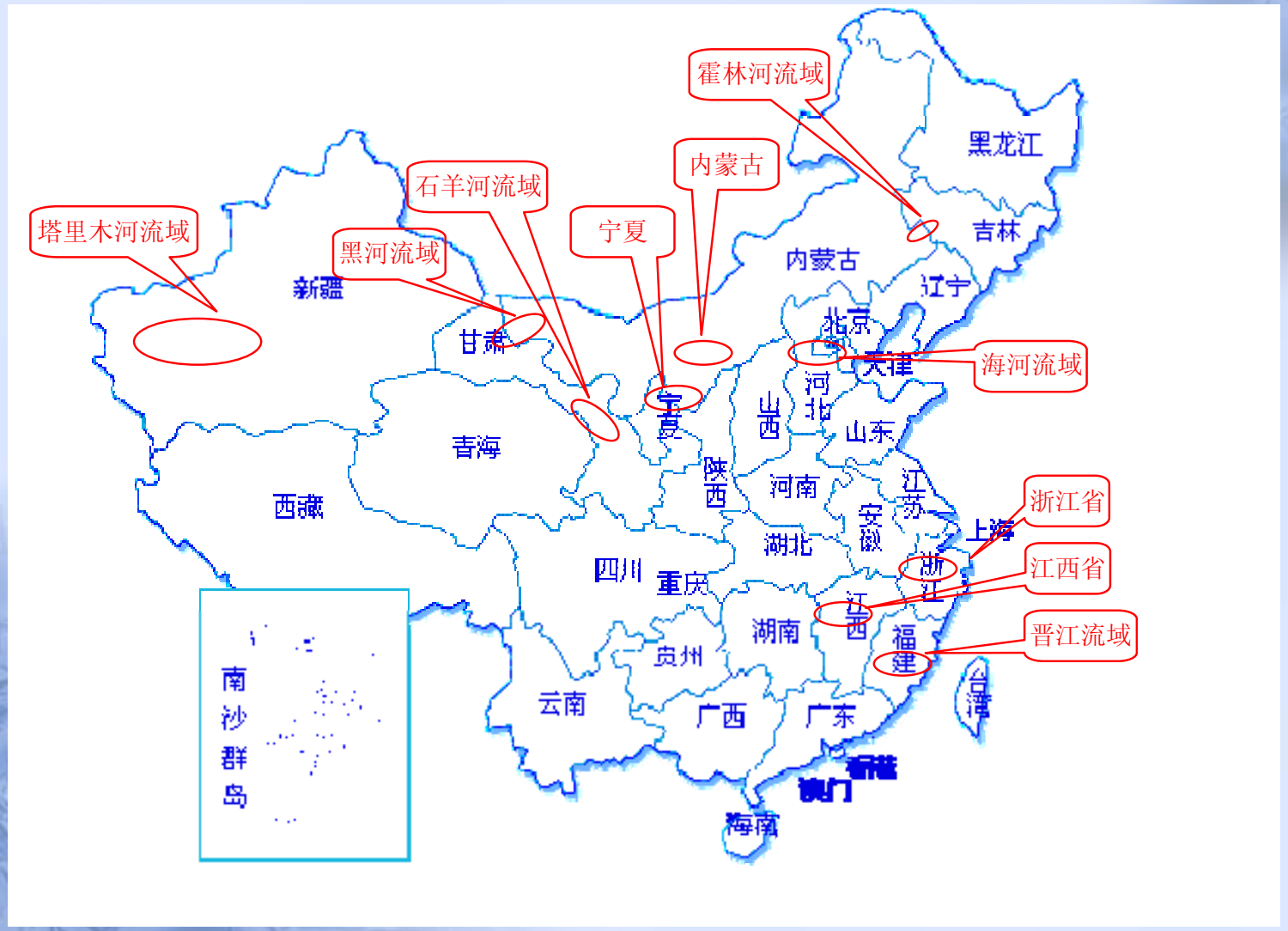

第二届中澳水资源管理研讨会

Outline of site investigation

- Site investigations include all cities and provinces or basins which develop water rights pilot projects in China.

Investigated Areas

- --Zhejiang Province
- --Fujian Province（Jinjiang River Basin）
- --Jiangxi Province（Fuhe River Basin）
- --Haihe River Basin（Luanhe River、Yongdinghe
- River,Weihe River,Jumahe River）
- --Gansu Province（Shiyanghe River Basin,
- Heihe River Basin）
- --Ningxia Autonomous Region; Inner Mongolia Autonomous
- Region; Xinjiang Autonomous Region（Talimuhe River
- Basin）
- --Jilin Province（Dalinghe River Basin、Huolinhe River
- Basin）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石羊河流域
宁夏
塔里木河流域
黑河流域
海河流域
浙江省
江西省
晋江流域
黑龙江
吉林
辽宁
新疆
甘肃
北京
天津
河北
山西
山东
青海
陕西
河南
江苏
安徽
上海
西藏
湖北
浙江
四川
重庆
江西
湖南
福建
贵州
台湾
云南
广西
广东
南沙群岛
海南

Investigation Range：
3 places in the south，7 places in the north

	Clearly Defining Initial Water Rights	Water rights Transfer	Water Management
Regional Water Allocation	Zhejiang, Jiangxi, Jinjiang River, Haihe River, Shiyanghe River, Heihe River, Ningxia, Inner Mongolia, Talimuhe River, Dalinghe River, Huolinhe River	Zhejiang, Ningxia, Inner Mongolia	Zhejiang, Jinjiang River, Heihe River, Ningxia, Inner Mongolia, Talimuhe River
Water Abstraction Permit	Zhejiang, Jiangxi	Zhejiang, Ningxia, Inner Mongolia	Zhejiang, Jiangxi
Water Ticket	Shiyanghe River, Heihe River	Shiyanghe River, Heihe River	Shiyanghe River, Heihe River

Four types cases of water rights and trading

- Regional water allocation
- water abstraction permits
- Farmers' water rights allocation
- Water rights transfer

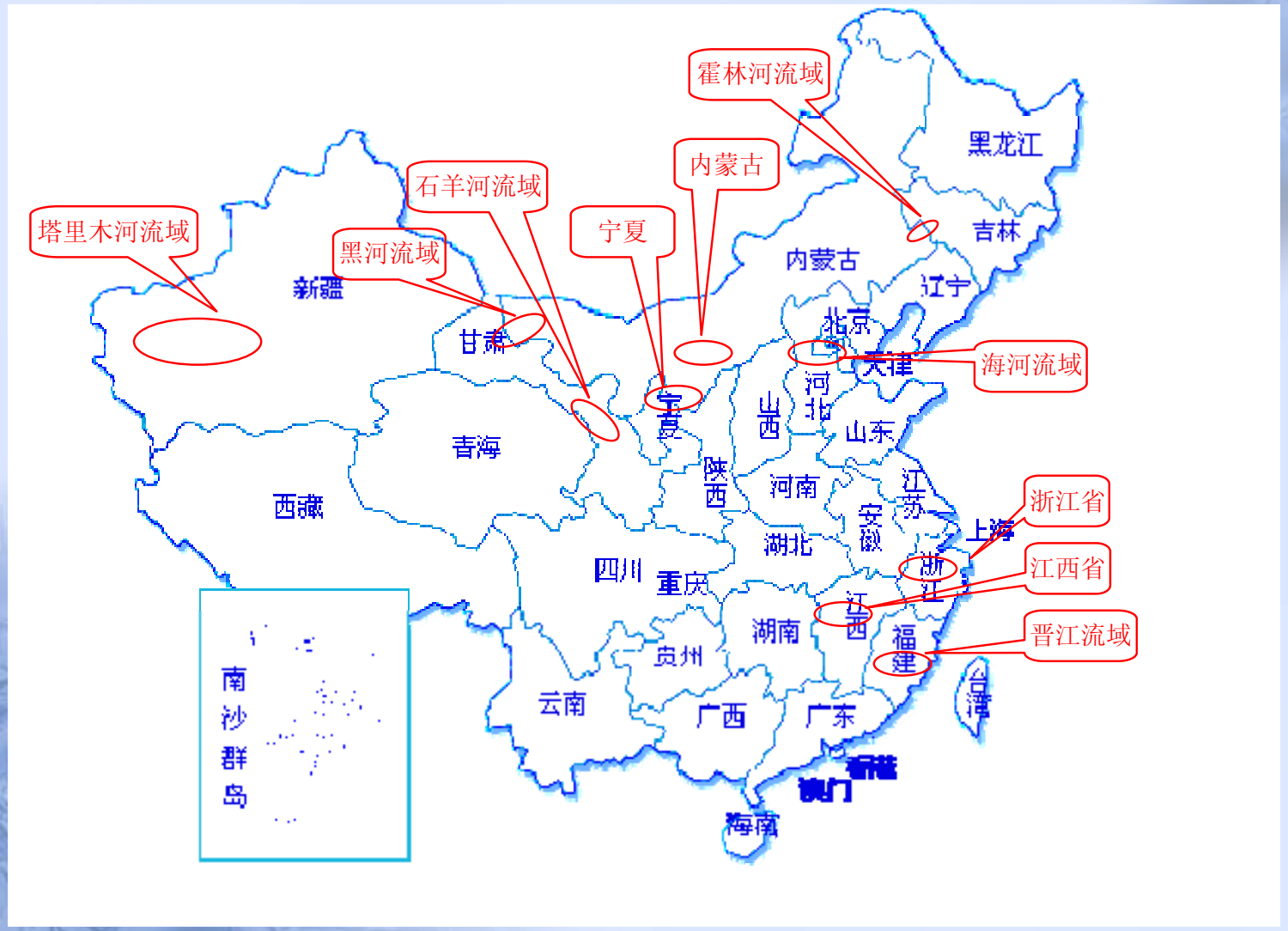
----regional water rights transfer

----industry sectors water rights transfer

Summary of Cases of Regional Water Allocation

- The scopes of Cases :

1. Zhejiang province's regional water distribution
2. Fuhe basin 's water allocation in JIangxi province
3. JInjiang basin's water allocation in Fujian province
4. Haihe basin's water allocation
5. Shiyanghe basin's water allocation
6. Heihe basin's water allocation
7. Huolinhe basin's water allocation
8. Tarim river basin's water allocation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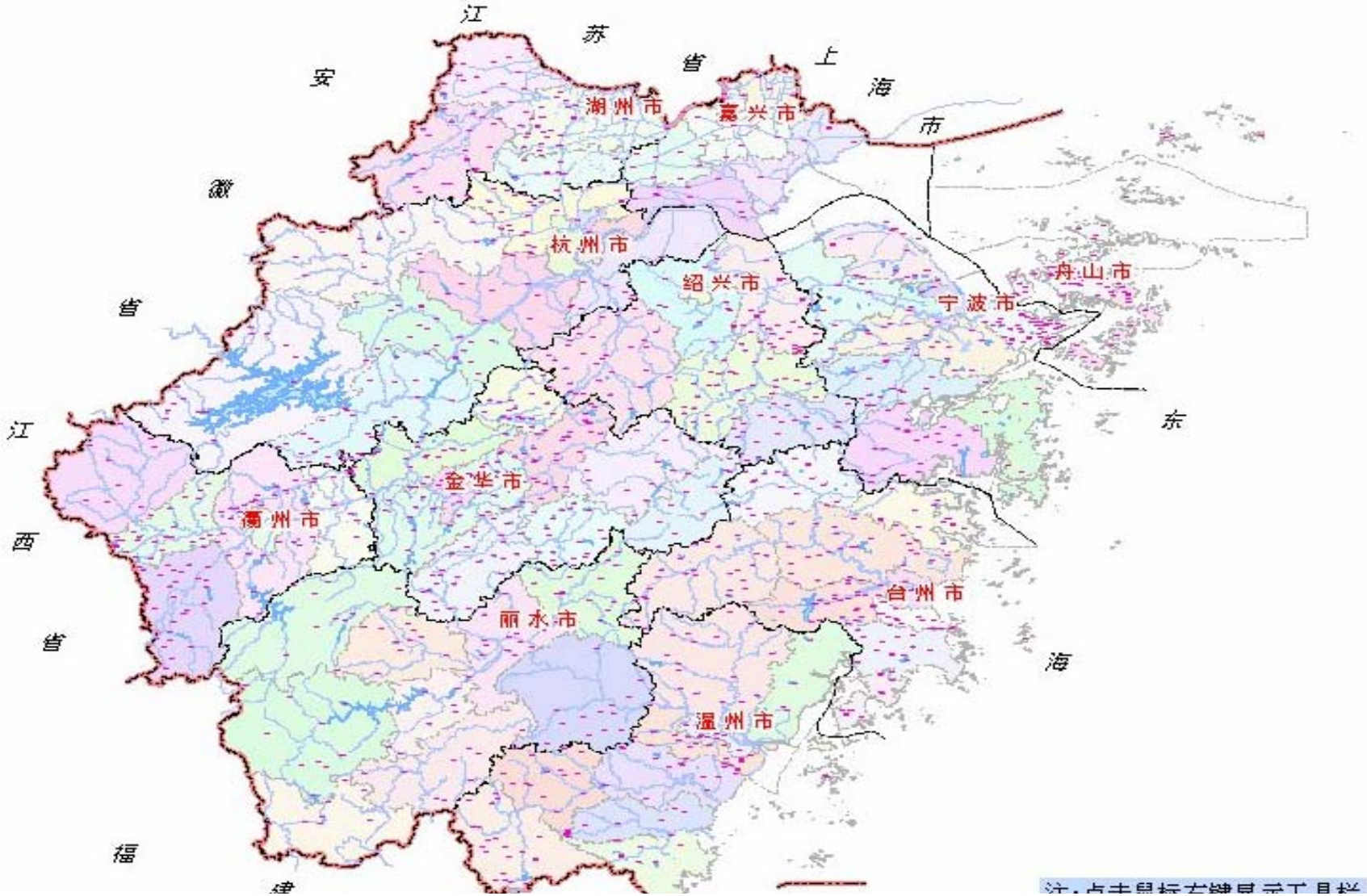
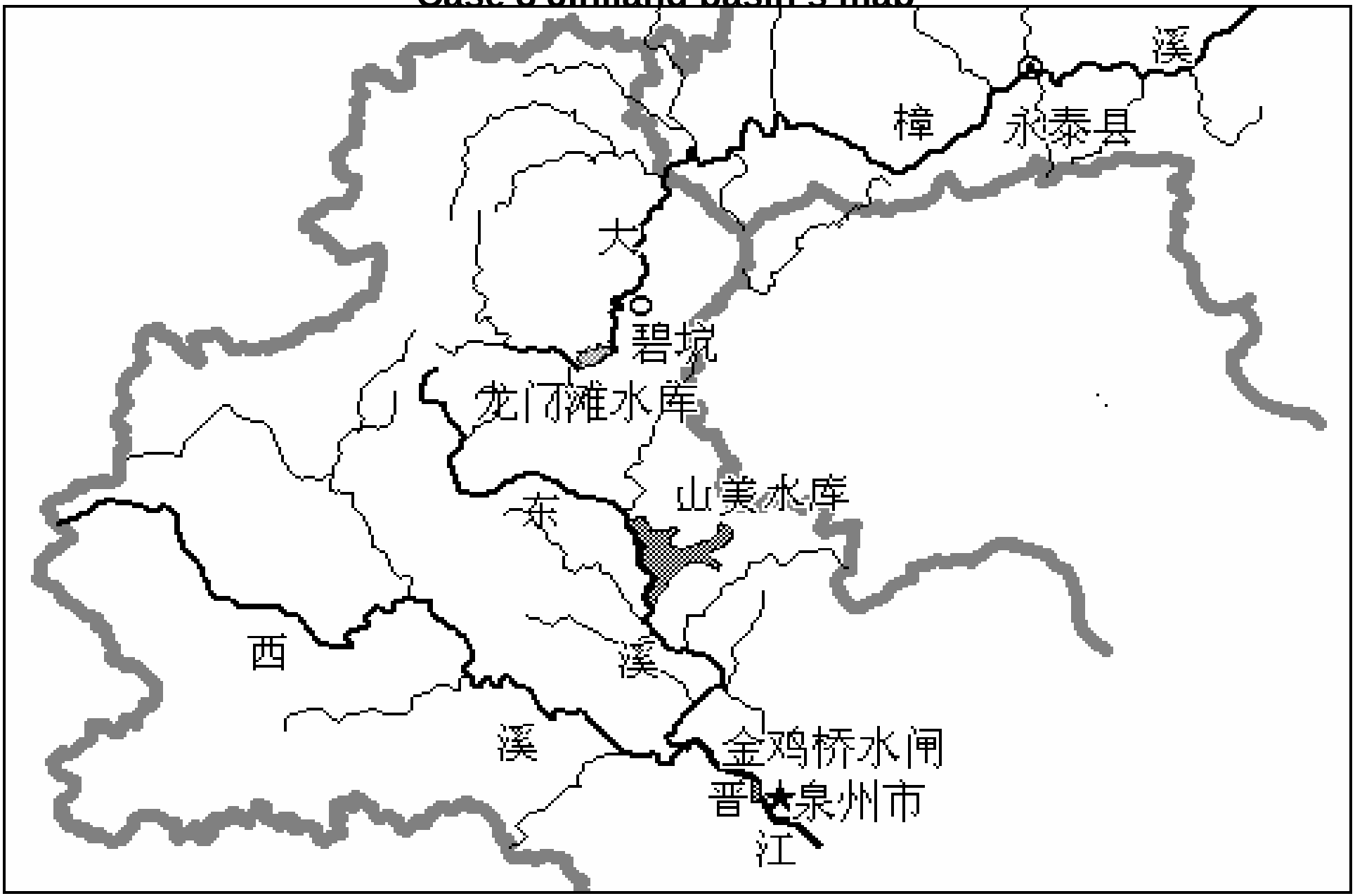
浙江省
江西省
晋江流域
黑龙江
吉林
辽宁
新疆
甘肃
北京
天津
河北
山西
山东
青海
陕西
河南
江苏
安徽
上海
西藏
湖北
浙江
四川
重庆
江西
湖南
福建
贵州
台湾
云南
广西
广东
南沙群岛
海南

Case 1. Zhejiang province's Map



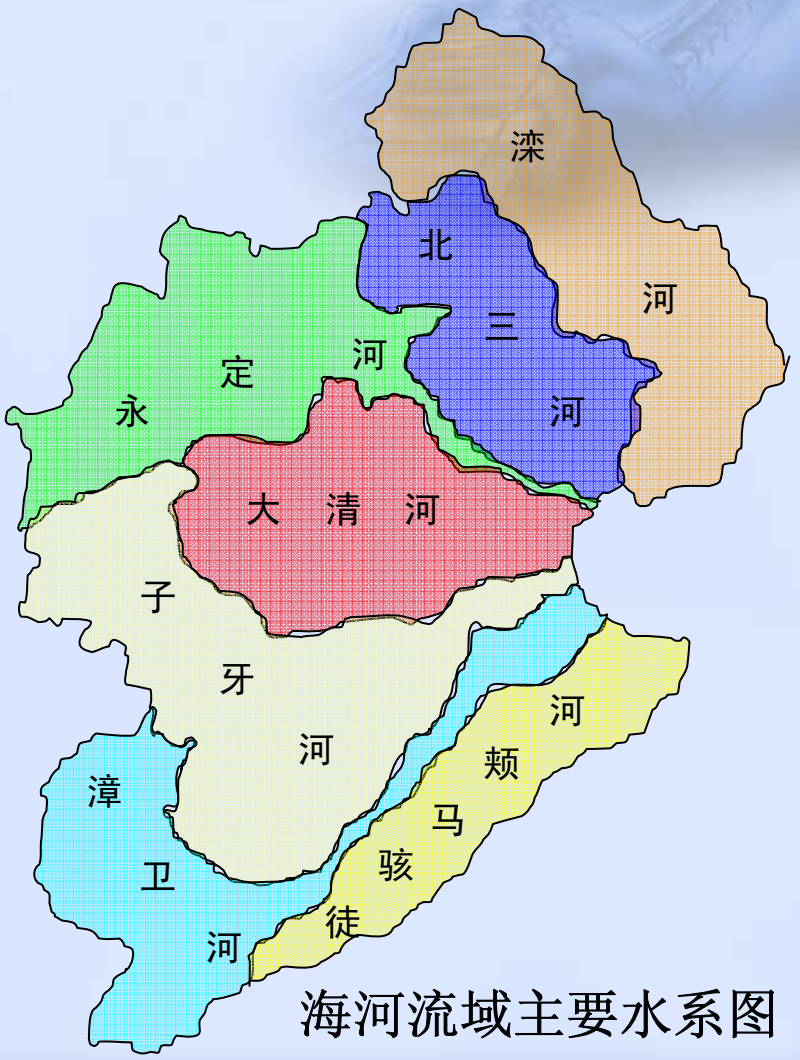
Case2 Fuhe basin ’s Map

Case 3 Jinjiang basin's map

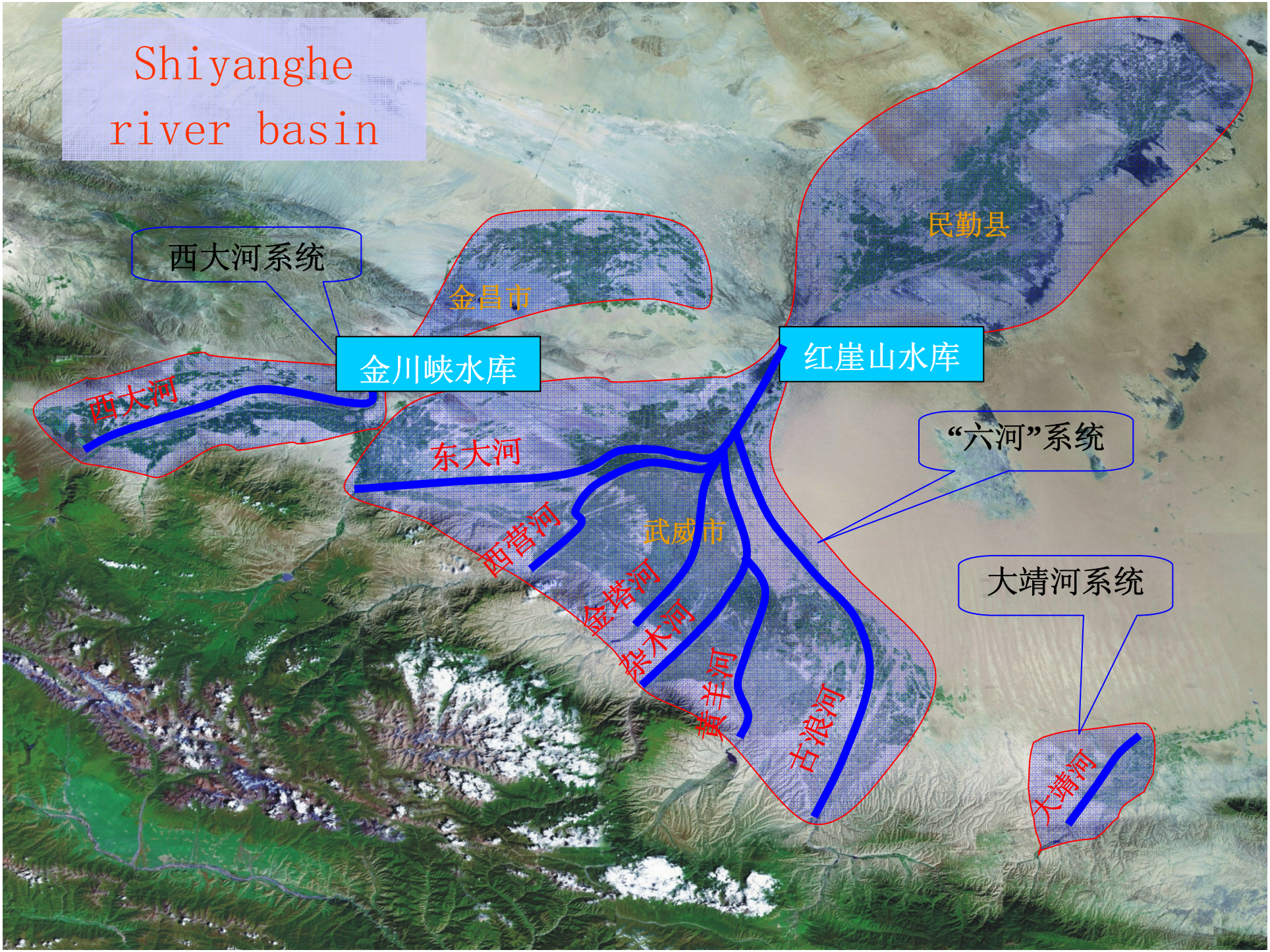


Cases 4 Haihe Basin's Map

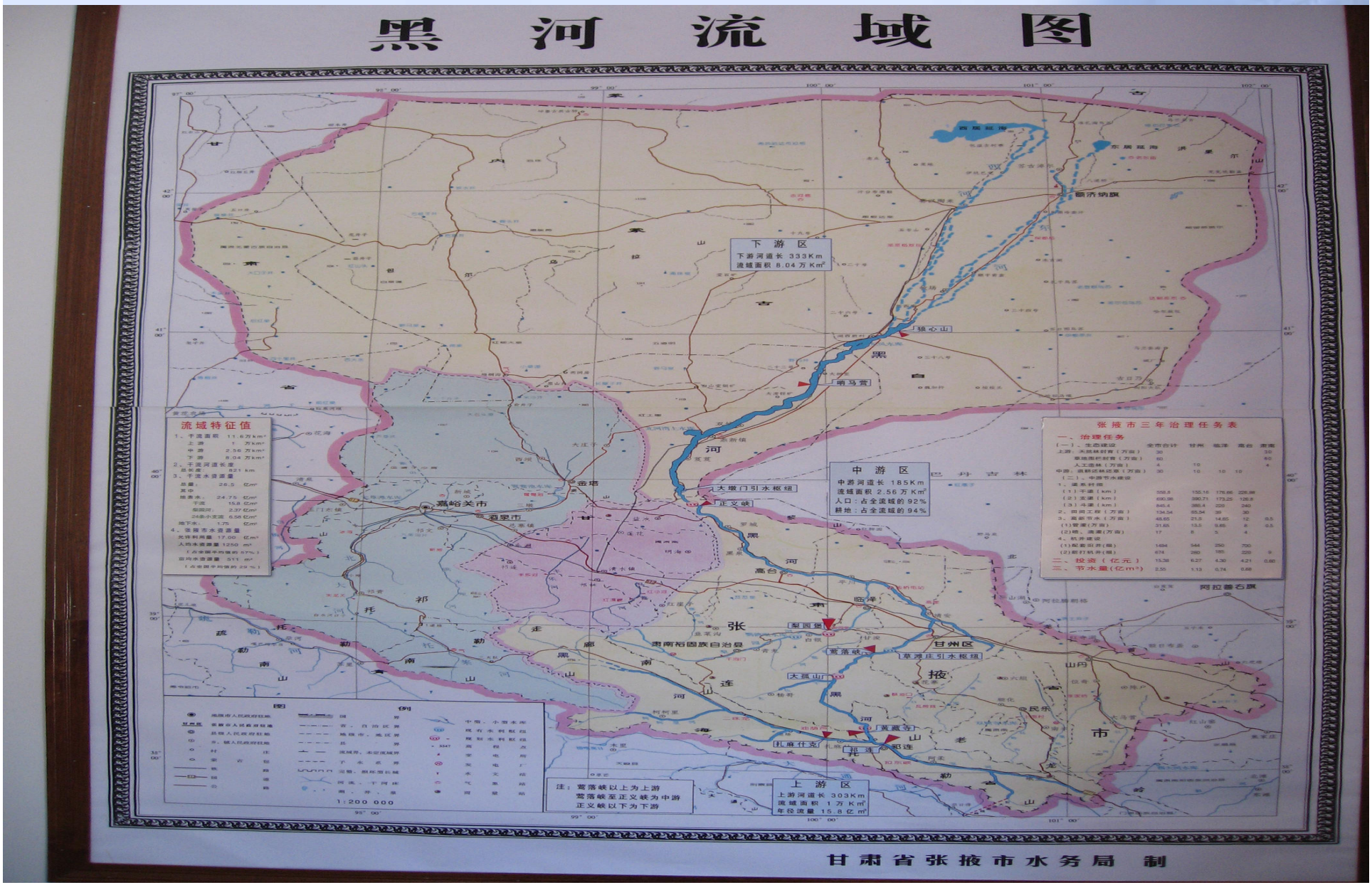
Haihe River basin has many inter-provincial rivers, such as Zhanghe River, Weihe River, Jumahe River, the Yongding River, the North three rivers Juhe River, the Luanhe River. the water relationship is very complex .



海河流域主要水系图


Shiyanghe river basin
西大河系统
金昌市
民勤县
金川峡水库
红崖山水库
西大河
东大河
“六河”系统
西营河
武威市
金塔河
大靖河系统
柴木河
黄羊河
古浪河
大靖河

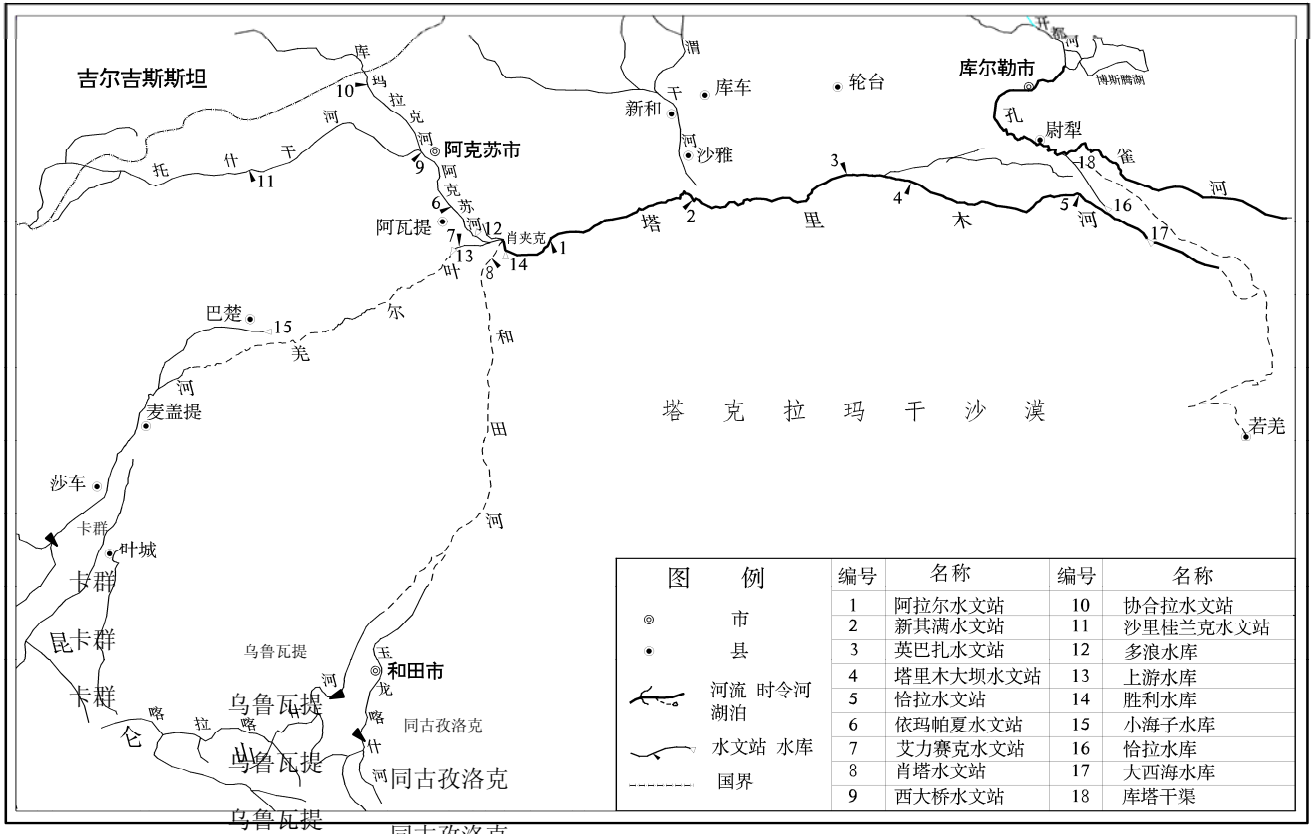
Case 6 Heihe River Basin's Map



Cases 7 Huolin River basin's Map

图 1

Cases 8 Tarim River Basin's Map



编号	名称	编号	名称
1	阿拉尔水文站	10	协合拉水文站
2	新其满水文站	11	沙里桂兰克水文站
3	英巴扎水文站	12	多浪水库
4	塔里木大坝水文站	13	上游水库
5	恰拉水文站	14	胜利水库
6	依玛帕夏水文站	15	小海子水库
7	艾力赛克水文站	16	恰拉水库
8	肖塔水文站	17	大西海水库
9	西大桥水文站	18	库塔干渠

Summary of Regional Water Allocation: North and South comparison

- Subject of WR allocation: supply quantity in South; Use quantity in North
- Period of WR allocation: dry season in South; whole year in North
- Level of WR allocation: in the future demand in South; in the present uses in North
- Adjustment system: exists in South; not in North
- Legal system building: North has more than South

Summary of Regional Water Allocation: common features

- The purpose is to border regional water boundary , reduce regional water conflicts and provide the base to promote water resources reallocation by economic measures.
- Formulation of allocation plan and technology program is emphasizes more on the construction of legal system
- Different levels plans Lack convergence and consistency. Convergence between water regulation plan and water allocation plan should be strengthened.

Summary of Regional Water Allocation: common features

- Protection of water rights is behind allocation of water rights
- Water allocation plan lack security of implementation
- Management system and measures of regional water allocation are not clear
- Risk-sharing system is lacking (Here risk means the force majeure risk which is result of natural causes)
- Some regional water allocation is combined to water quantity and water quality
- Some regional water allocation is to meet the demand of water transfer

Summary of water abstraction permits

- Water abstraction permit system is relatively mature and standardized and same as American
- As to the numbers of surface Water permits, South is more than North; As to the ground water permits, North is more than South
- Agriculture water permits system is not perfect
- Large problems exist in measurement and monitoring of water permits, such as metering facilities and coverage

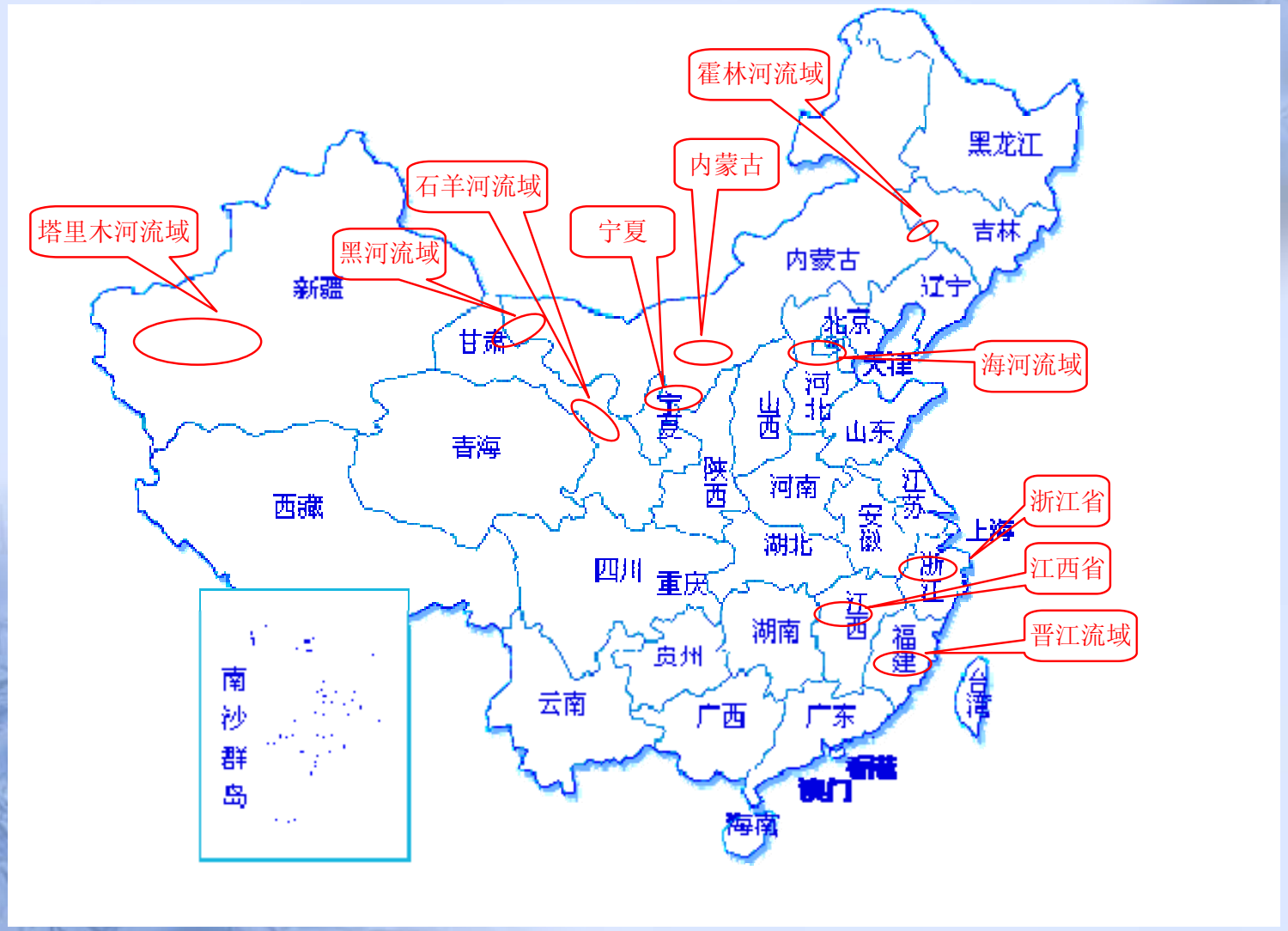
Summary of water abstraction permits

- Need to build the technology relation between the quantity of water permits and the quantity of water resources allocation plan
- Water rights from water permits lack adequate protection

Summary of Farmers' water rights allocation

- **The scopes of Cases :**

1. Shiyang River Basin
2. Liyuan River irrigation in Heihe Basin
3. South Shore of Yellow River Irrigation in Inner Mongolia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浙江省
江西省
晋江流域
黑龙江
吉林
辽宁
新疆
甘肃
北京
天津
河北
山西
山东
青海
陕西
河南
江苏
安徽
上海
西藏
湖北
浙江
四川
重庆
江西
湖南
福建
贵州
台湾
云南
广西
广东
南沙群岛
海南

Yongfeng Village of Shiyang River Basin water fixed distribution targets

永丰村各行业年用水（斗口）定额指标

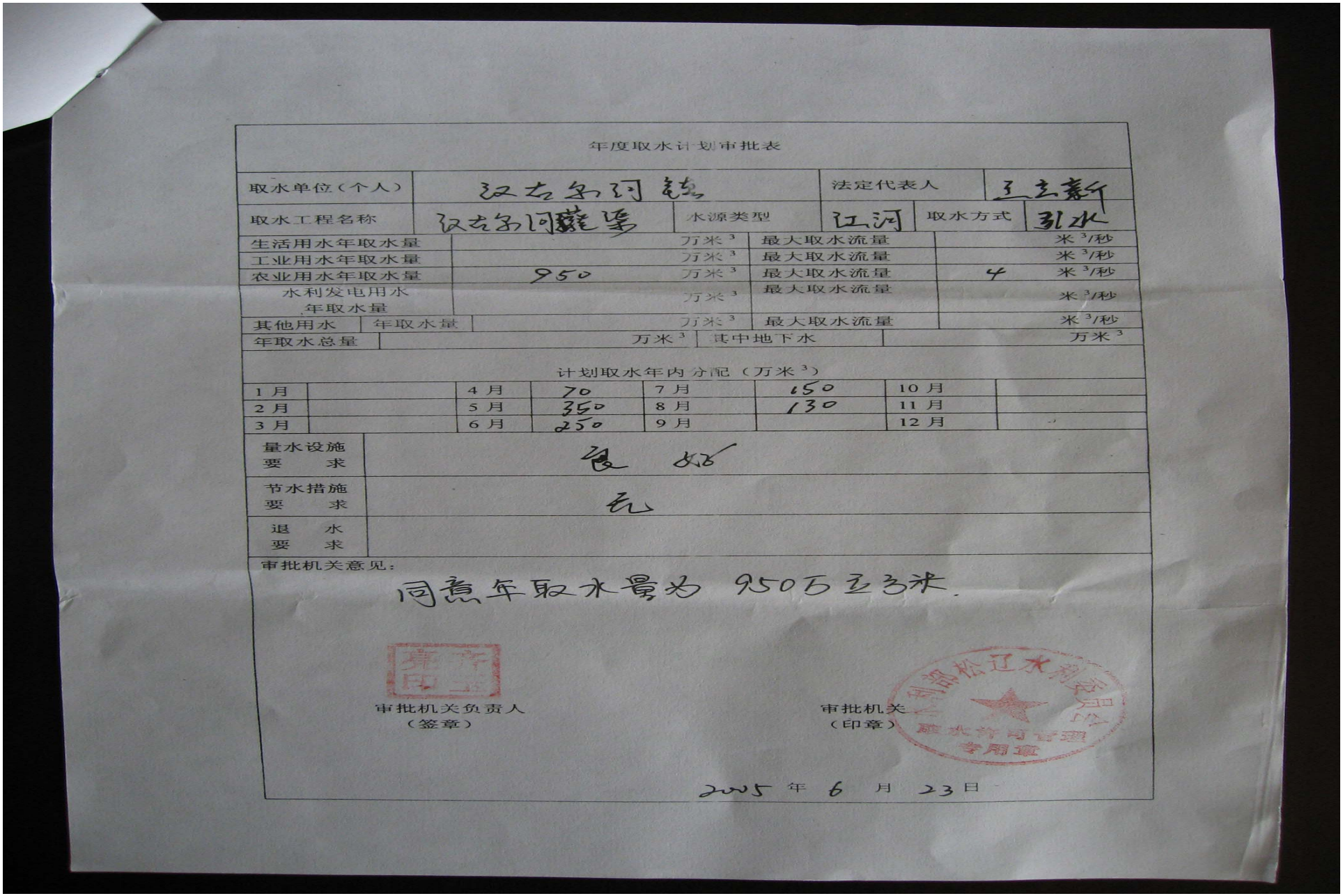
用水类型		数量（人/头/亩）	多年平均水平		2005年核定指标		核减水量（万 m^3）
			定额	年用水指标（万 m^3）	定额	年用水指标（万 m^3）	
合计				304.31		287.48	16.83
生活用水	农业人口	1696	14.6m^3/人	2.48	14.6m^3/人	2.48	
	大牲畜	900	18.25m^3/头	1.64	18.25m^3/头	1.64	
	小牲畜	24275	9.13m^3/头	22.16	9.13m^3/头	22.16	
农业用水	小麦	2081	423m^3/亩	88	398m^3/亩	82.8	5.2
	玉米	582	624m^3/亩	36.3	572m^3/亩	33.3	3
	带田	250	805m^3/亩	20.1	746m^3/亩	18.7	1.4
	经济	520	795.8m^3/亩	41.4	746m^3/亩	38.8	2.6
	林果	35	609m^3/亩	2.13	572m^3/亩	2.0	0.13
	复种	1568	422m^3/亩	66.2	398m^3/亩	62.4	3.8
工业用水	乡镇企业用水						
生态用水	生态林	153	500m^3/亩	7.7	495m^3/亩	7.6	0.1
	牧草	265	609m^3/亩	16.2	590m^3/亩	15.6	0.6

Shiyang River Basin farmers to buy water tickets

Shiyang River Basin farmers' water tickets

Construction picture of FWUA In Xijie Village in Heihe Basin

Hang Jing Qi Village' annual water plan for approval



年度取水计划审批表

取水单位（个人）	红古乡河镇		法定代表人	王志新	
取水工程名称	红古乡河灌渠	水源类型	江河	取水方式	引水
生活用水年取水量		万米³	最大取水流量		米³/秒
工业用水年取水量		万米³	最大取水流量		米³/秒
农业用水年取水量	950	万米³	最大取水流量	4	米³/秒
水利发电用水年取水量		万米³	最大取水流量		米³/秒
其他用水 年取水量		万米³	最大取水流量		米³/秒
年取水总量	万米³	其中地下水		万米³	

计划取水年内分配（万米³）

1月		4月	70	7月	150	10月	
2月		5月	350	8月	130	11月	
3月		6月	250	9月		12月	

量水设施要求	良好
节水措施要求	无
退水要求	

审批机关意见：

同意年取水量为 950万立方米.

审批机关负责人（签章）

审批机关（印章）

2005 年 6 月 23 日

Summary of the Allocation of Farmers' Water Rights

- Only in China North, such as Shiyang River Basin, Heihe Basin and Huanghe Basin
- Water tickets improve the implementation of collecting water charge and using water plan
- The nature of Water tickets is not clear
- The nature and legal status of FWUA is not clear
- The relationship between water tickets and common rights is not clear.

Summary of water rights' transfer

- **The scopes of Cases :**

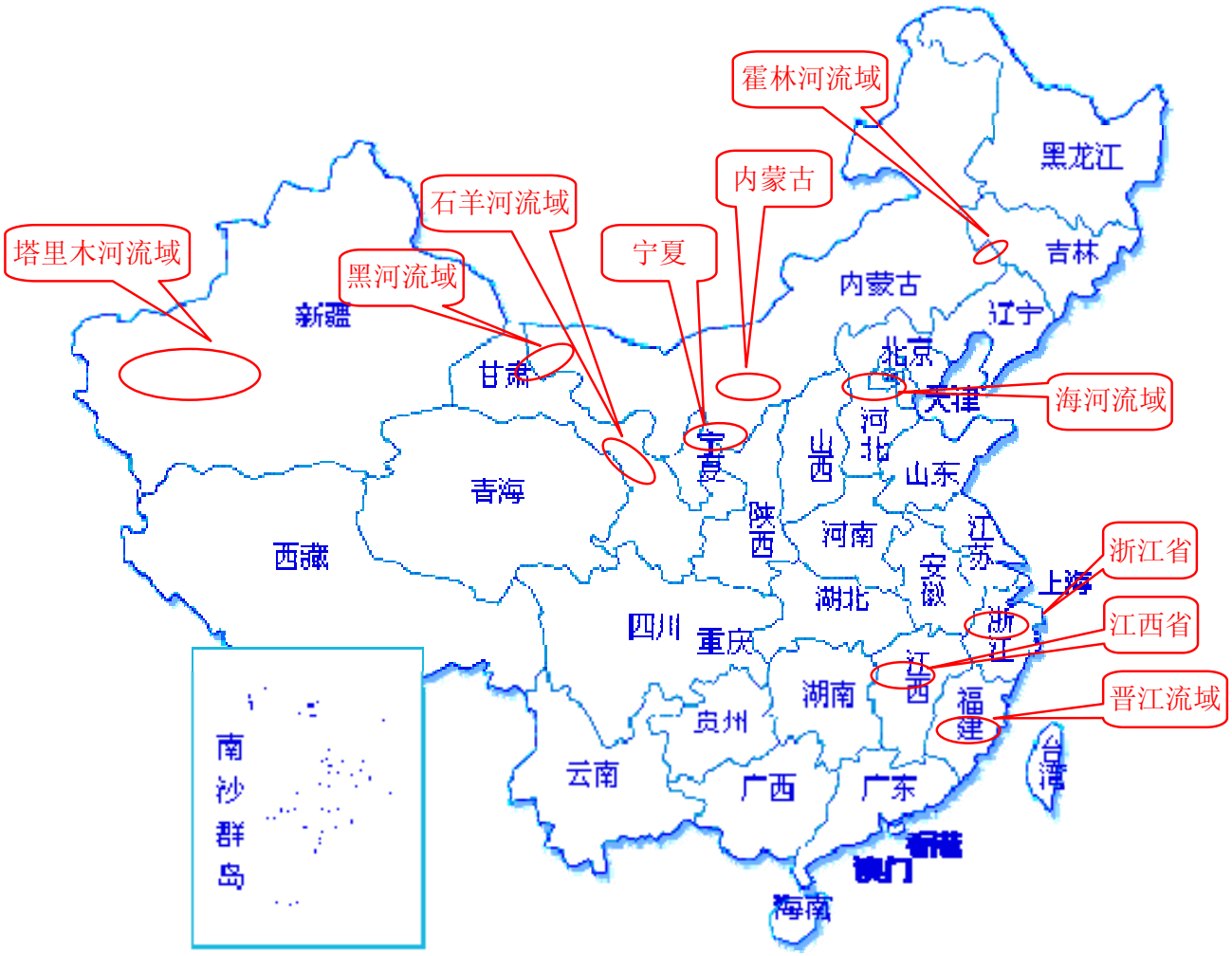
Regional water rights transfer

1. the South-to-North Water transfer
2. water supply contract between Yiwu city and Dongyang city in Zhejiang
3. water supply contract between Yuyao city and Cixi city in Zhejiang
4. water supply contract between Shaoxing city and Cixi city in Zhejiang

agriculture water rights transfer to industry water rights

5. Inner Mongolia Autonomous Region
6. Ningxia Autonomous Region

South-to-North Water Diversion Project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黑河流域
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吉林
内蒙古
辽宁
新疆
甘肃
北京
天津
海河流域
宁夏
山西
河北
山东
青海
陕西
河南
江苏
浙江省
西藏
安徽
上海
湖北
四川
重庆
浙江
江西省
江西
湖南
福建
晋江流域
贵州
云南
广西
广东
台湾
南沙群岛
海南

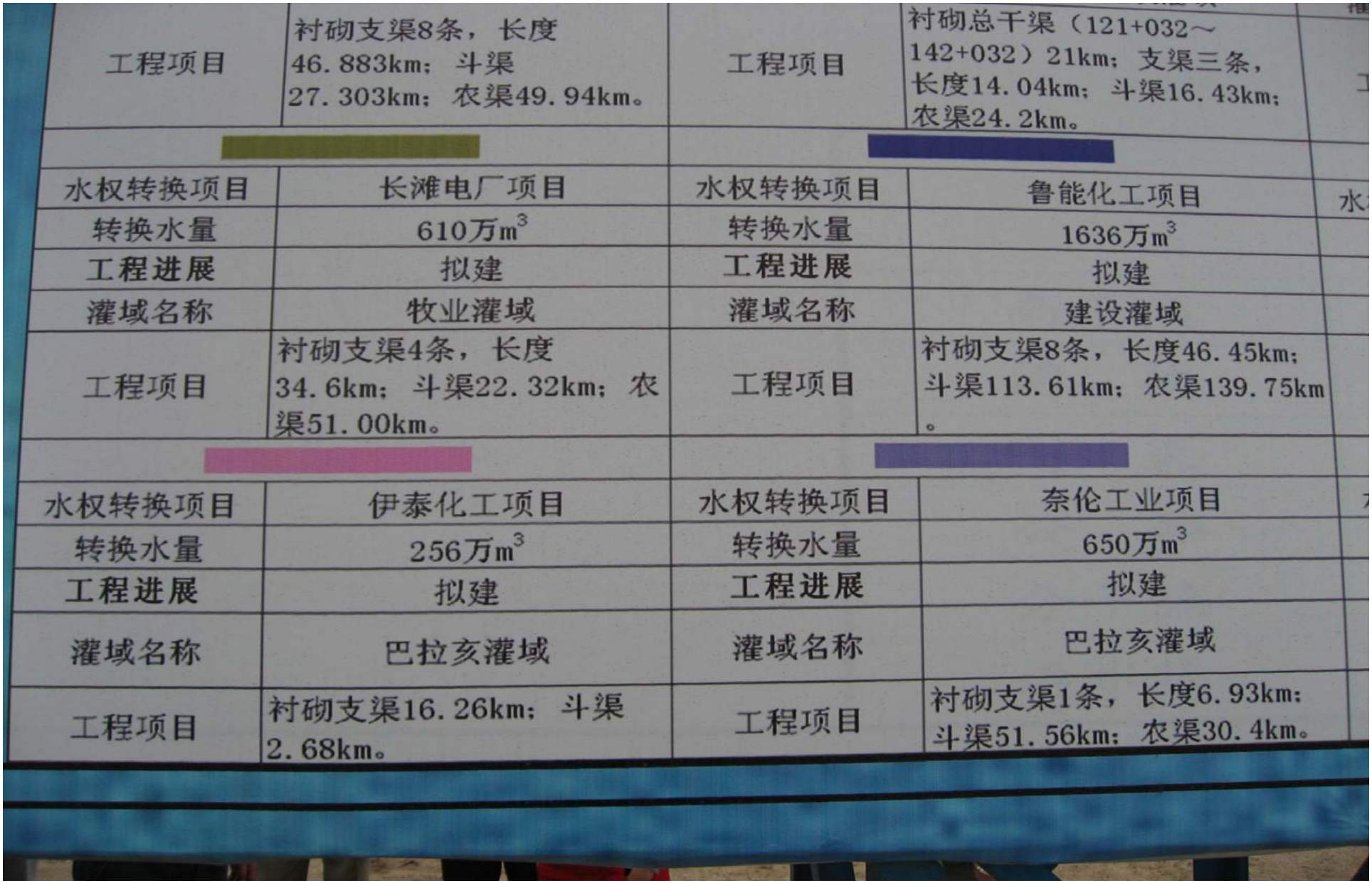
Hengqin reservoir and Yiwu city

Lianghui Reservoir of Yuyao city and Cixi city

Shaoxing city and Cixi city

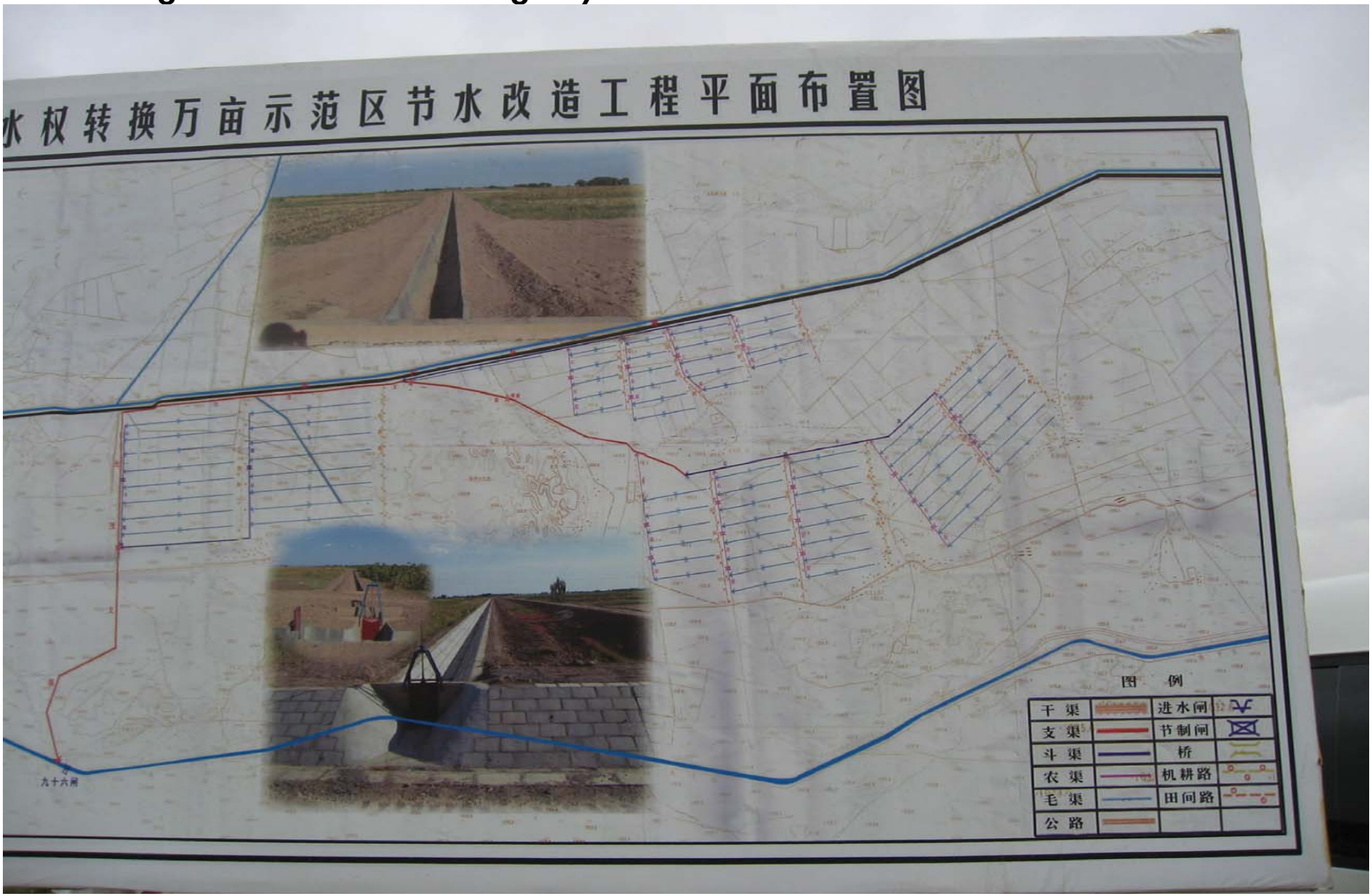
Tangpu reservoir of Shaoxing city

The Signboard of transferring agriculture water to industry water (Inner Mongolia Autonomous Region)



工程项目	衬砌支渠8条，长度46.883km；斗渠27.303km；农渠49.94km。	工程项目	衬砌总干渠（121+032～142+032）21km；支渠三条，长度14.04km；斗渠16.43km；农渠24.2km。
水权转换项目	长滩电厂项目	水权转换项目	鲁能化工项目
转换水量	610万m^3	转换水量	1636万m^3
工程进展	拟建	工程进展	拟建
灌域名称	牧业灌域	灌域名称	建设灌域
工程项目	衬砌支渠4条，长度34.6km；斗渠22.32km；农渠51.00km。	工程项目	衬砌支渠8条，长度46.45km；斗渠113.61km；农渠139.75km。
水权转换项目	伊泰化工项目	水权转换项目	奈伦工业项目
转换水量	256万m^3	转换水量	650万m^3
工程进展	拟建	工程进展	拟建
灌域名称	巴拉亥灌域	灌域名称	巴拉亥灌域
工程项目	衬砌支渠16.26km；斗渠2.68km。	工程项目	衬砌支渠1条，长度6.93km；斗渠51.56km；农渠30.4km。

The Layout of transferring agriculture water to industry water (Inner Mongolia Autonomous Region)



Ningxia lining the rural irrigation channels

Summary of water right transfer

- Water rights transfer only in region and industry sector
- Only exist permanent water rights transfer, not temporal water rights transfer
- All water rights transfer in industry sector depend on lining irrigational channels, not on improving irrigational methods.
- Lack of legal system and procedure of water rights transfer
- Transfer price is not appropriate. Such as the price in industry sector water rights transfer mainly reflect in the cost of project

Building Framework of Water Rights Base on the practical needs in China

- The definition of water rights
- Framework of the initial allocation of water rights and basic requirement in China
- Framework of the water transfer and basic requirement in China

Water Rights—A Restricted Usufructuary Right

1. Established on the Basis of State Ownership for Water Resources, a Result Arising from Division of Ownership and Using right, a Utilizing and Profit Right

2. **Difference between Water Resources Ownership, Water Right and Water Property Right:**

Water Resources Ownership--a right enjoyed by a particular subject, in China, enjoyed by the State

Water Property Right—property right of water contained in the storage or diversion facilities or instruments of a certain civil subject, enjoyed by ordinary civil subject

Water Rights—Combination of Developing Right and Existence Right

Existence Right Lies in:

Meeting People's Basic Needs and Requirements for Ecological Water Use and Social Equity Maintenance;

Developing Right Lies in:

Satisfy Sustainable Development Need in Economy and Society

Existence Right and Developing Right should be Mutually Facilitated, Contained and Incorporated for Each Other.

Water Rights—Amalgamation of Government's Private Right and Public Power

Government's Private Right Lies in:

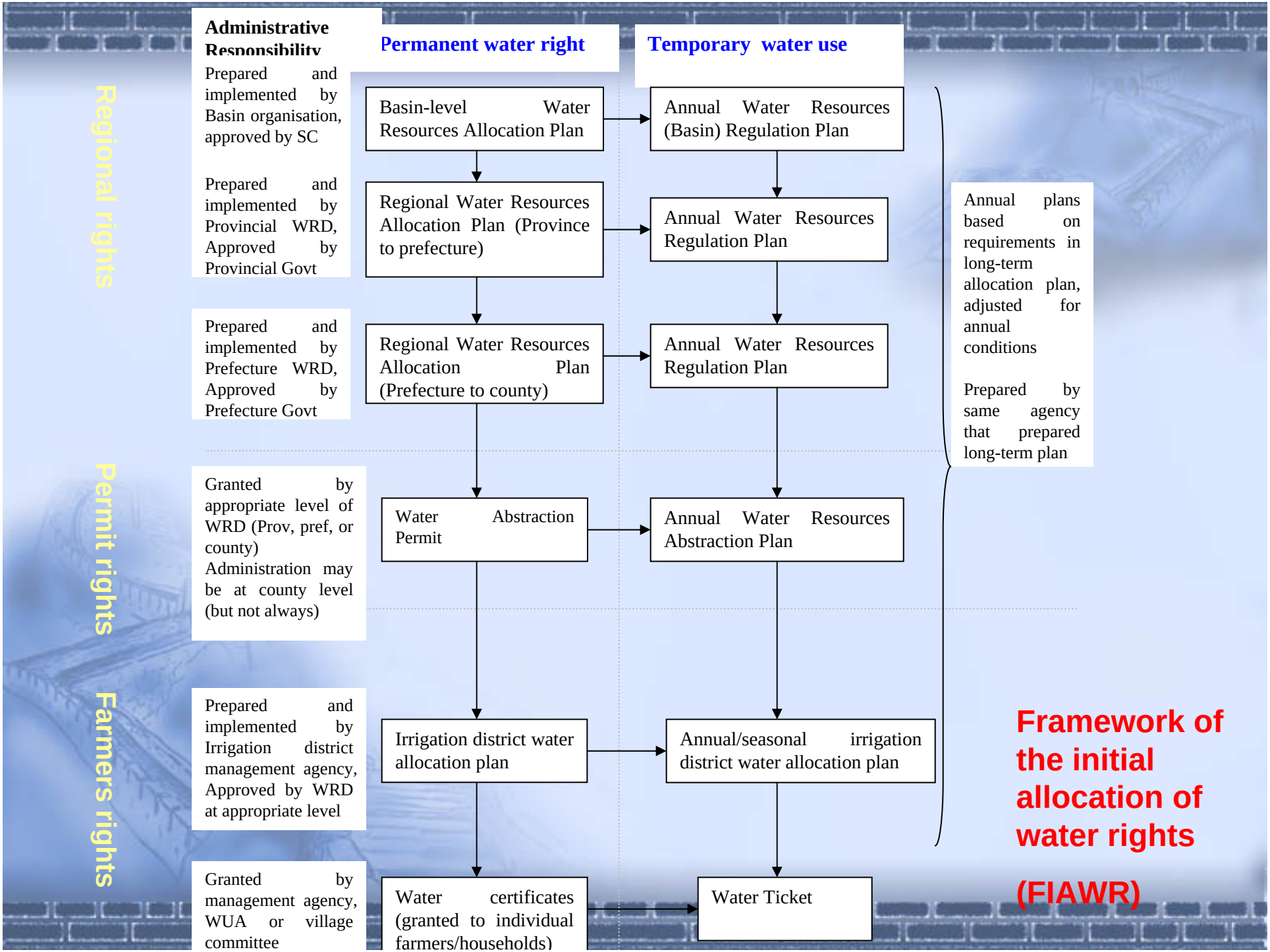
State Council and Administrative Departments for Water Resources under the State Council, as the agent of the State, administer the resources, exercise authorized competency for the "owner"—the State;

Government's Public Power Lies in:

State Council and Administrative Departments for Water Resources under the State Council, as the trustee for environment, society and future generations, protect water resources, exercise public trust rights, advance orderly development of water trading market, minimize disadvantageous impacts on environment, society and the third party, exercise public management rights

Key Point Lies in:

Clear and Scientific Definition of the Boundary between Rights and Power by the State Council and Administrative Departments for Water Resources under the State Council.


Administrative Responsibility
Permanent water right
Temporary water use
Regional rights
Permit rights
Farmers rights
Prepared and implemented by Basin organisation, approved by SC
Basin-level Water Resources Allocation Plan
Annual Water Resources (Basin) Regulation Plan
Prepared and implemented by Provincial WRD, Approved by Provincial Govt
Regional Water Resources Allocation Plan (Province to prefecture)
Annual Water Resources Regulation Plan
Prepared and implemented by Prefecture WRD, Approved by Prefecture Govt
Regional Water Resources Allocation Plan (Prefecture to county)
Annual Water Resources Regulation Plan
Annual plans based on requirements in long-term allocation plan, adjusted for annual conditions
Prepared by same agency that prepared long-term plan
Granted by appropriate level of WRD (Prov, pref, or county)
Administration may be at county level (but not always)
Water Abstraction Permit
Annual Water Resources Abstraction Plan
Prepared and implemented by Irrigation district management agency, Approved by WRD at appropriate level
Irrigation district water allocation plan
Annual/seasonal irrigation district water allocation plan
Granted by management agency, WUA or village committee
Water certificates (granted to individual farmers/households)
Water Ticket
Framework of the initial allocation of water rights
(FIAWR)

A Brief Description for **FIAWR**

- Horizontal (blue): water rights is classified as permanent water right and temporal water right according to water's geographical characteristics and water nature rule.
- Vertical (yellow): water rights is classified as regional water rights , permit water right and farmer water right according to water's multiple value and the existing ownership structure in China

A Brief Description for FIAWR

Water rights at three distinct levels:

-----Regional water rights – Right of a region to a share of the water resources in a trans-boundary basin or aquifer, granted under a water resources allocation plan;

-----Permit water rights – Right of a water abstractor to a volume of water, granted under a water abstraction permit issued by the water administrative department (at appropriate level) or basin organization;

-----Farmer water rights – Right to water of farmers or others within a cooperative or irrigation district to a share of the water granted (under permit) to the cooperative or irrigation district.

Basic requirement of FIAWR

7 combinations

---- Combination of Persistency and Adaptability

----Combination of Water Volume and Water Right

---- Integrity of Government Power and Liabilities

----Combination of Qualified Water Right and Instant Water Right

----Combination of Water Volume and Water Quality

---- Combination of Surface Water and Ground Water

---- Combination of Water Abstraction, Water Consumption and Water Use

2 Linkages

---- Linkage of Power Division between Central Government and Local Governments

----Linkage among Plan, Scheme, Arrangement, Quota and License

Basic Requirements for FIAWR

Combination of Stability and Adaptability

Stability: ***Provide Stable Anticipation;***

Adaptability: ***Existing Unpredictable Objective Risks in Water Right Development and Management***

Practice: ***Heihe River Basin***

Uniform Path Option: ***Scientific & Feasible Setup of Adaptable Procedures in Water Right Initialization rather than Invariable Water Allocation***

Combination of Water Volume and Water Rights

--Water volume allocation only defines the technical boundary of water volume, however, no defining of its legal boundary

-- Practice: ***most of the pilot***

--Uniform Path Option: ***based on water allocation, build and perfect all institutions and project monitoring facilities, realize the volume of water transferred as a right***

Basic Requirements for FIAWR

Reunification of Government Power and Liabilities

Government Power: ***as the agent of water resources ownership, to release initial water rights and maintain trading orders;***

Government Liabilities: ***as the trustee for environment and future generation, protect and enhance public interests.***

Practice: ***Shiyanghe River, Heihe River and Tarim River***

Uniform Path Option: ***in many cases, during water right initialization reduction of current water use volume is to supply the environmental water. Because environment benefits all people, so government should bear this reduction cost and build public financial input system***

Combination of Permanent Water Right and Temporal Water Right

- **Permanent Water Right:** ***need for maintaining steadiness;***
  Temporal Water Right: ***need for maintaining flexibility***
  former is the basis for the latter, the latter is the result of the former

- **Practice:** ***Zhejiang, Inner Mongolia, Ningxia, Shiyanghe River Basin, Heihe River Basin, Tarim River Basin***

- **Uniform Path Option:** ***conversion of water allocation and water resources regulation from volume to right***

Combination of Water Volume and Water Quality

- **Combined Nature for Water Right in Existence Right and Developing Right Needs Combination of Water Volume and Water Quality**
- **Practice:** ***North and South China***
- **Uniform Path Option:** ***Market, Cooperation and Monitoring***

Combination of Surface Water and Ground Water

Surface water and ground water is an integrity and can be converted into each other. Water allocation restricted to surface water allocation will not only cause incomplete distribution of water volume, but also engender implementing difficulties.

Practice: ***Shiyanghe River Basin***

Uniform Path Option: ***incorporate surface water and ground water into unified regulation track from all aspects of WR allocation, realize combination of surface water and ground water***

Combination of Water Abstraction, Water Consumption and Water Use

Water Consumption (Regional and Individual water users): *the basic point for water allocation*

Practice: *Tarim River Basin*

Uniform Path Option: *combination of Individual water abstraction and water consumption; build risk sharing system for regional and individual water consumption*

Linkage of Power Division between Central Government and Local Governments

Differences in time and space distribution of water resources determine regional discrepancy of WR allocation

Practice: ***6 Differences between the North and the South***

Uniform Path Option: ***Central Government relying on power of procedure; Local Governments relying on Power of discretionary***

Linkage among Plan, Scheme, programme, Quota and License

All plans, schemes, programme, quotas and licenses constitute an institutional path for water allocation of river basins, regional areas, relevant sectors and individuals. The linkage among them is the basis and method to achieve water right initialization target

Practice: Shiyanghe River Basin

Uniform Path Option: establishing *unified system of standard, procedure and criterion for making plan, scheme, programme, quota and license*

Framework of Water Rights Transfer (FWRT)

	Permanent Water Right	Temporary Water Right
Regional Water Right	Regional permanent water right transfer Practice: Zhejiang Province	Regional temporary water right transfer Practice: No
Permit Water Right	Permit permanent water right transfer Practice: Inner Mongolia and Ningxia	Permit temporary water transfer Practice: No
Farmers Water Right	Farmers permanent water right transfer Practice: No	Farmers temporary water transfer Practice: No

A Brief Description for **FWRT**

- FWRT classified water rights transfer as the two types and three levels. i.e.
- Two types means Permanent water rights transfer and temporary water rights transfer
- Three levels means regional water rights transfer, permit water rights transfer and farmers water rights transfer
- Total is 6 kinds of water rights transfer.

Basic Requirements for FWRT

Mainly reflect how to build the public management system for government at all levels to maintain transaction security.

Existing Support and Future Needs for Framework

- Existing support and future needs for FIAWR
- Existing support and future needs for FWRT

Existing support and future needs for FIAWR

	WR Allocation planning	**Engineering Measurement Facilities**	Legal System
Existing	Have been carried out in central and local government	Most basins and region have not been set up	The existing legal provisions stipulate: 1. the ownership of water resources (water law) 2. central government and basins develop and implement WR Allocation Planning 3.the condition and procedures to apply water permit and Paid use of water resources
Needs	Technical guidelines on formulation of WR allocation	Emphasize on the role of project to board the boundary of water rights, not just the role to reduce water consumption	1.Enhance government public trusteeship duties 2.Enhance stability and security of various types of water rights 3. Improve the system to protect water rights and constrain the government power 4.Improve the system of negotiation, solution dispute and Public participation

Existing support and future needs for FWRT

Existing:

Basically blank

Existing support and future needs for FWRT

Needs in the future:

1.Transaction security mechanism
----the grading and classification management system
----the demonstration system
---- the evaluation and examination and approval system
2. Transaction price mechanism
----price assessment guideline
----price monitoring system
---- price assessment agencies' qualified management
3. Mechanisms for dealing with disputes
----government department and procedures and methods
---- model contracts
4.Water bank

Thank you !