CPSP Program in China

Zhanyi Gao
Chinese National Committee on Irrigation and Drainage (CNCID)

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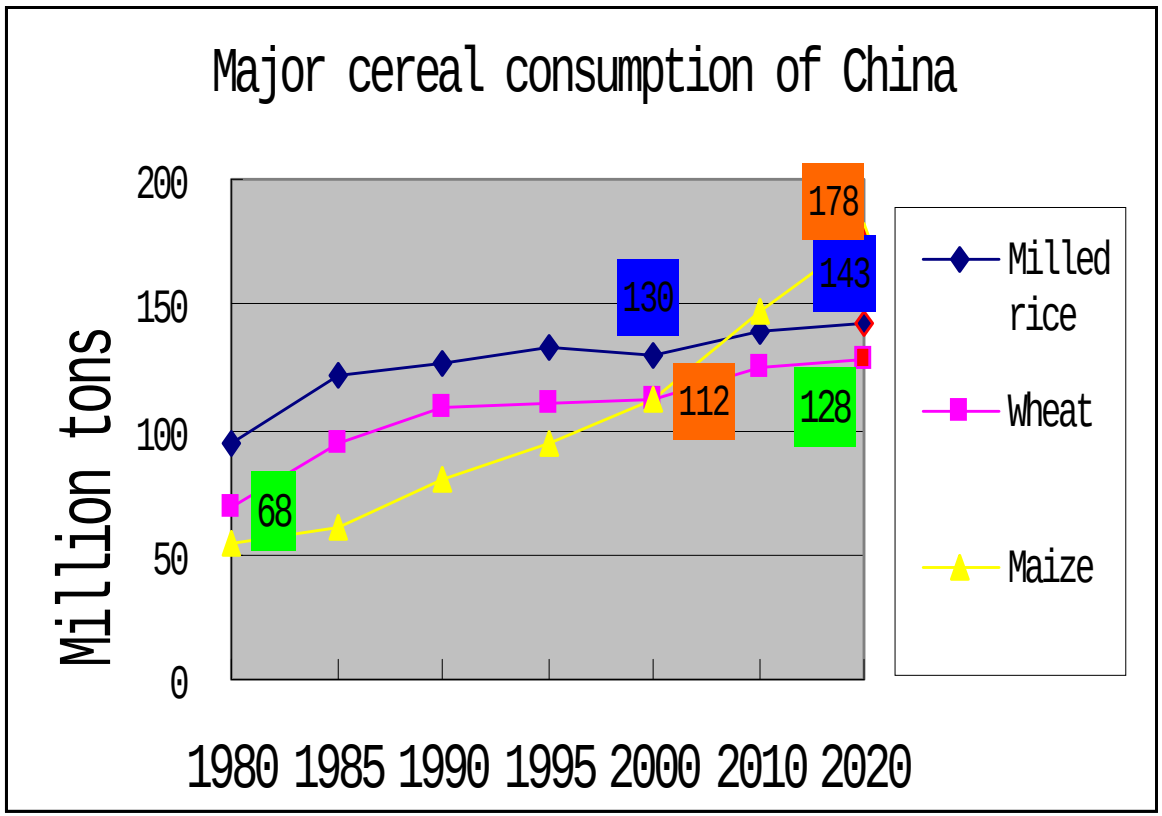
Introduction

- The background of this project
- The major problems of China's water and food .
- What this project has down
- What major outputs has been founded
- Policy Suggestions and the future work envisions

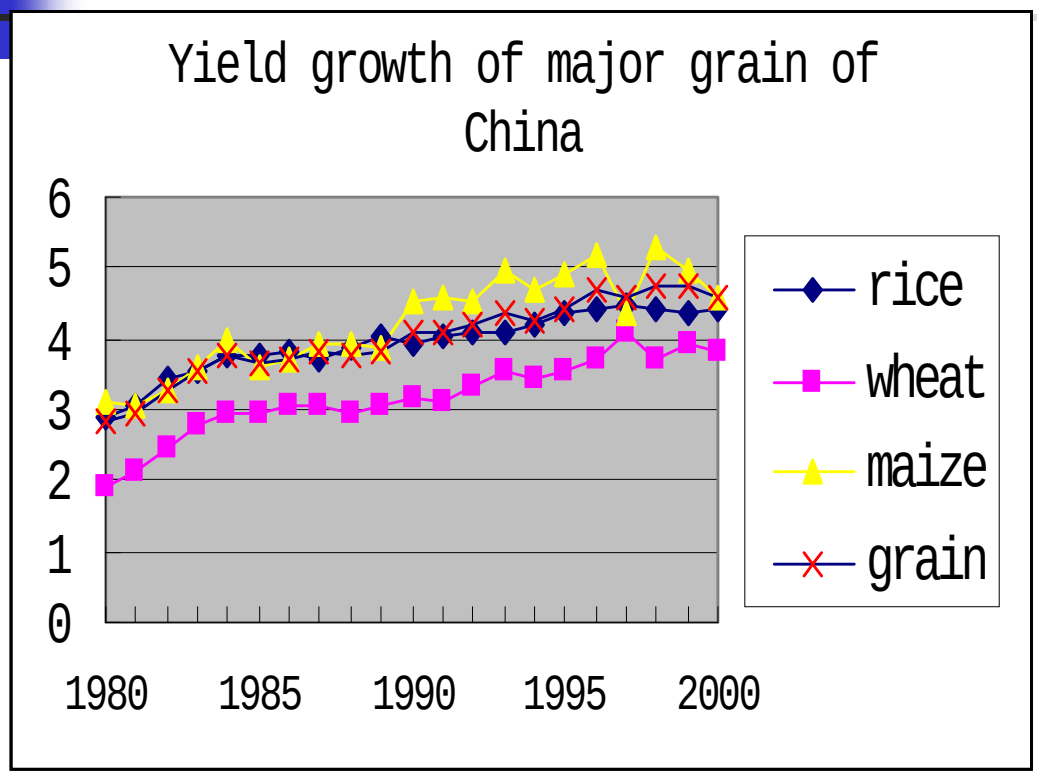
Rapid Increase of Domestic grain Demand



Annual growth rate

- Milled rice : 1.6%;
- Wheat: 2.5%
- Maize:3.8%

Grain production increase ------thanks to yield growth



Annual growth rate of rice is about 2.1%;
Wheat yield doubled, growth rate 3.54%;

Maize:2.12%.

Grain yield has reached to a high level, can it continue in the future?

What did major factors contribute to yield growth in the past two decades?

- Extensive adoption of advance agricultural technologies,especially high yield crop varieties;
- High irrigation stock ;
- Increase price of agricultural products in the early stage;
- Institutional reform carried out from 1980-1984---Household Responsibility System.

Food security closely link with water in China

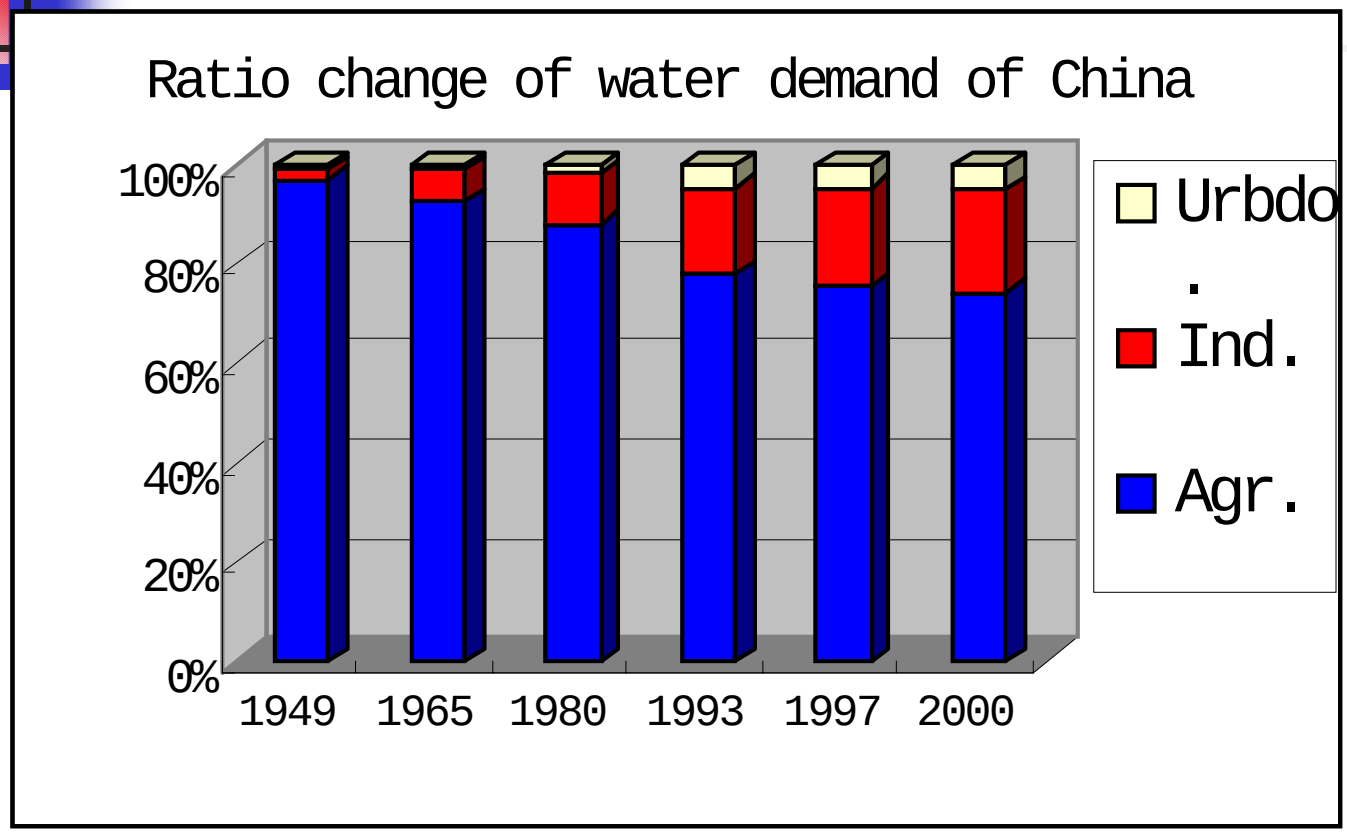
- Per capita water resource is low---2200m^3;
- Water resources is unevenly distributed ;
- Increased competition for water in agricultural and non-agricultural sectors;
- Irrigation infrastructure become weak because of natural aging and neglect of maintenance;
- Overexploited ground water in North China;
- Share of grain production increase in the north but decrease in the south.

Water development status

Items	China	Song	Hai	Huai	Yellow	Yangtze	Pearl	Southeast	Southwest	Inland
Total Supply(km3)	553	62	40	55	39	174	84	32	10	58
Annual water resources	2812	193	42	88	82	961	471	259	585	130
Water transfer	0	0	4	10	-7	-7	0	0	0	0
Development Degree(%)	20	32	86	52	57	19	18	12	2	44

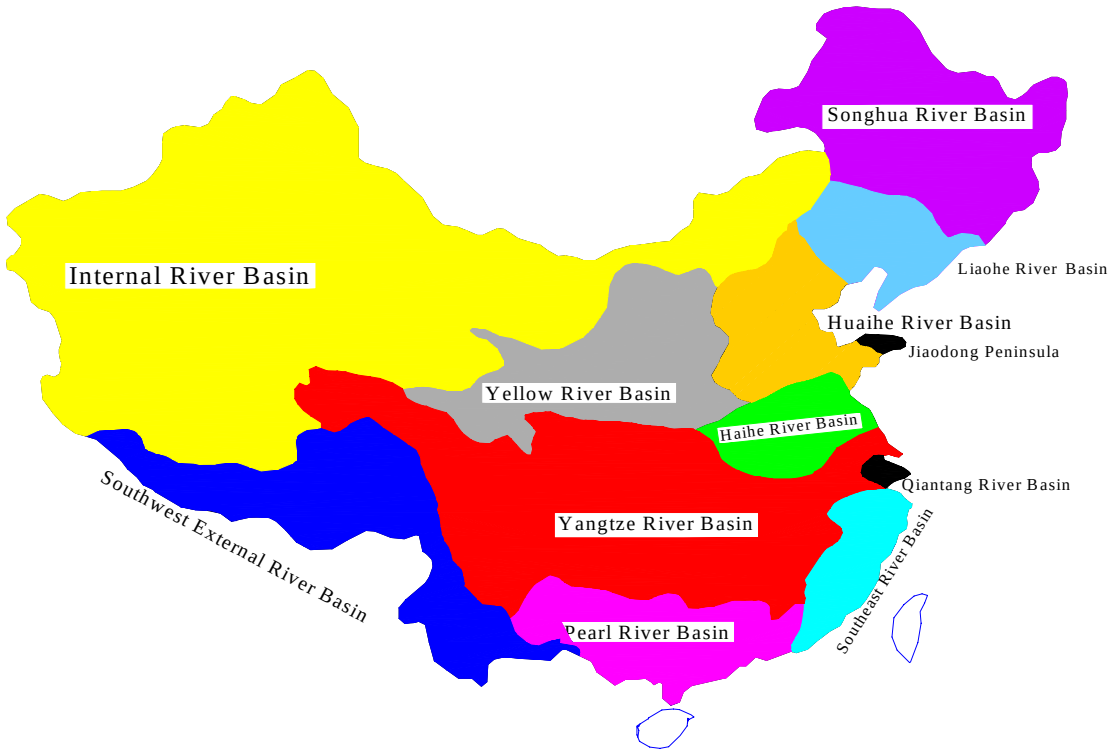
Water development degree in Haihe, Yellow, Huaihe and Inland basins has been more than 40%

Increased competition for water



Irrigation water withdrawal still accounts for major parts, but ratio has been declining

River Basins of China



River Basin Map of China

water shortage

drought

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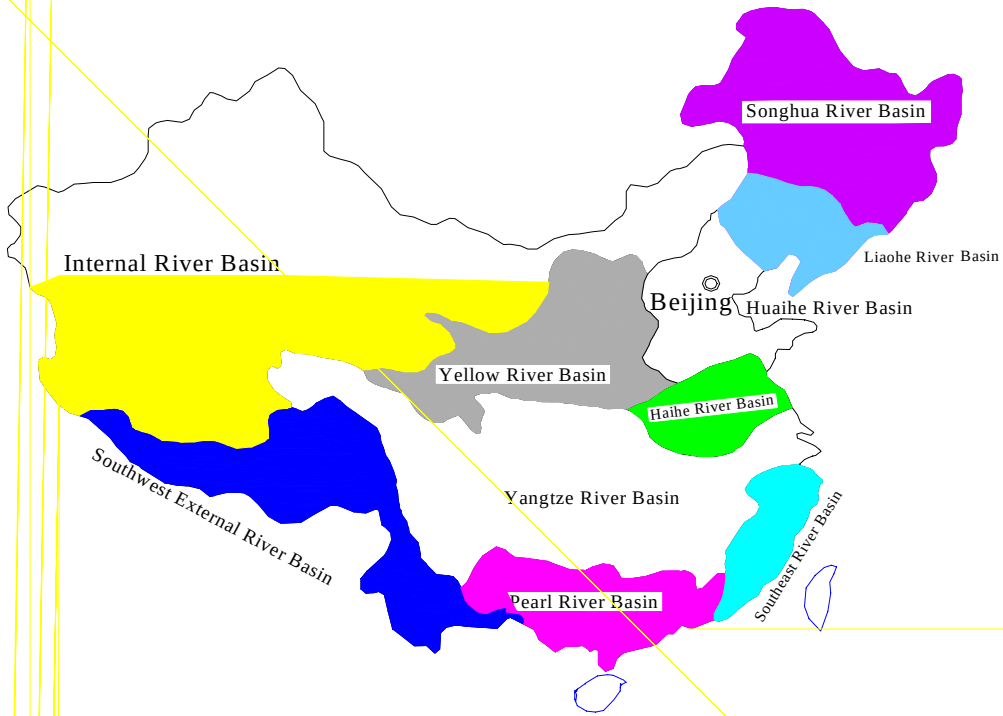
Solution 1 . Saving water

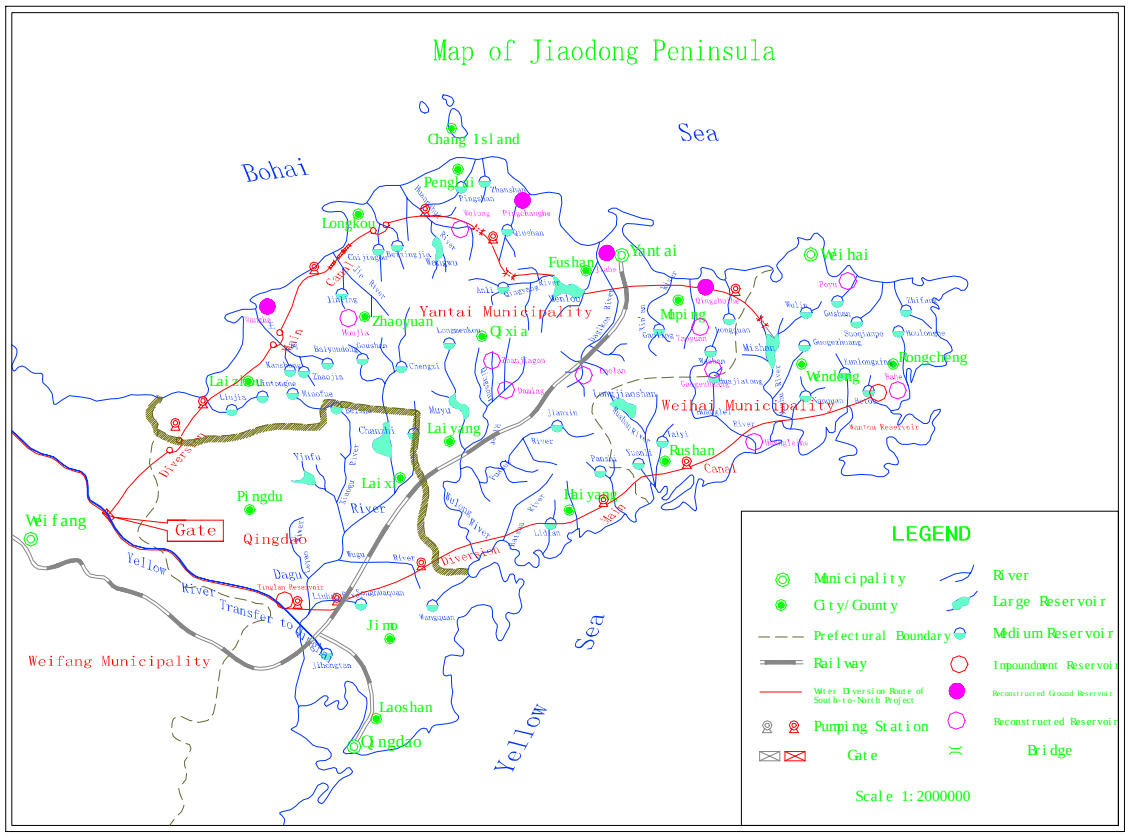

内蒙古自治区
Inner-Mongolia Autonomous Region
呼和浩特
Hubehaote
北京
Beijing
天津
Tianjin
大连
Dalian
辽宁
Liaoning province
锦州
Jinzhou
丹东
Dandong
甘肃
Gansu Province
西线
West Route
银川
Yinchuan
宁夏回族自治区
Ningxia Hui Autonomous Region
太原
Taiyuan
山西
Shanxi Province
河北
Hebei province
石家庄
Shijiazhuang
中线
Middle Route
格尔木
Ge'ermu
青海
西宁
Xining
延安
Yan'an
烟台
Yantai
威海
Weihai
济南
Jinan
青岛
Qingdao
山东
Shandong Province
连云港
Lianyungang
宝鸡
Baoji
西安
Xi'an
郑州
Zhengzhou
徐州
Xuzhou
江苏
Jiangsu Province
东线
East Route
河南
Henan Province
安徽
Anhui Province
合肥
Hefei
南京
Nanjing
江都
Jiangdu
上海
Shanghai
湖北
Hubei
宜昌
Yichang
武汉
Wuhan
杭州
Hangzhou
枝城
Zhicheng
重庆
Chongqing

Locations of the two selected river basins for CPSP project in China

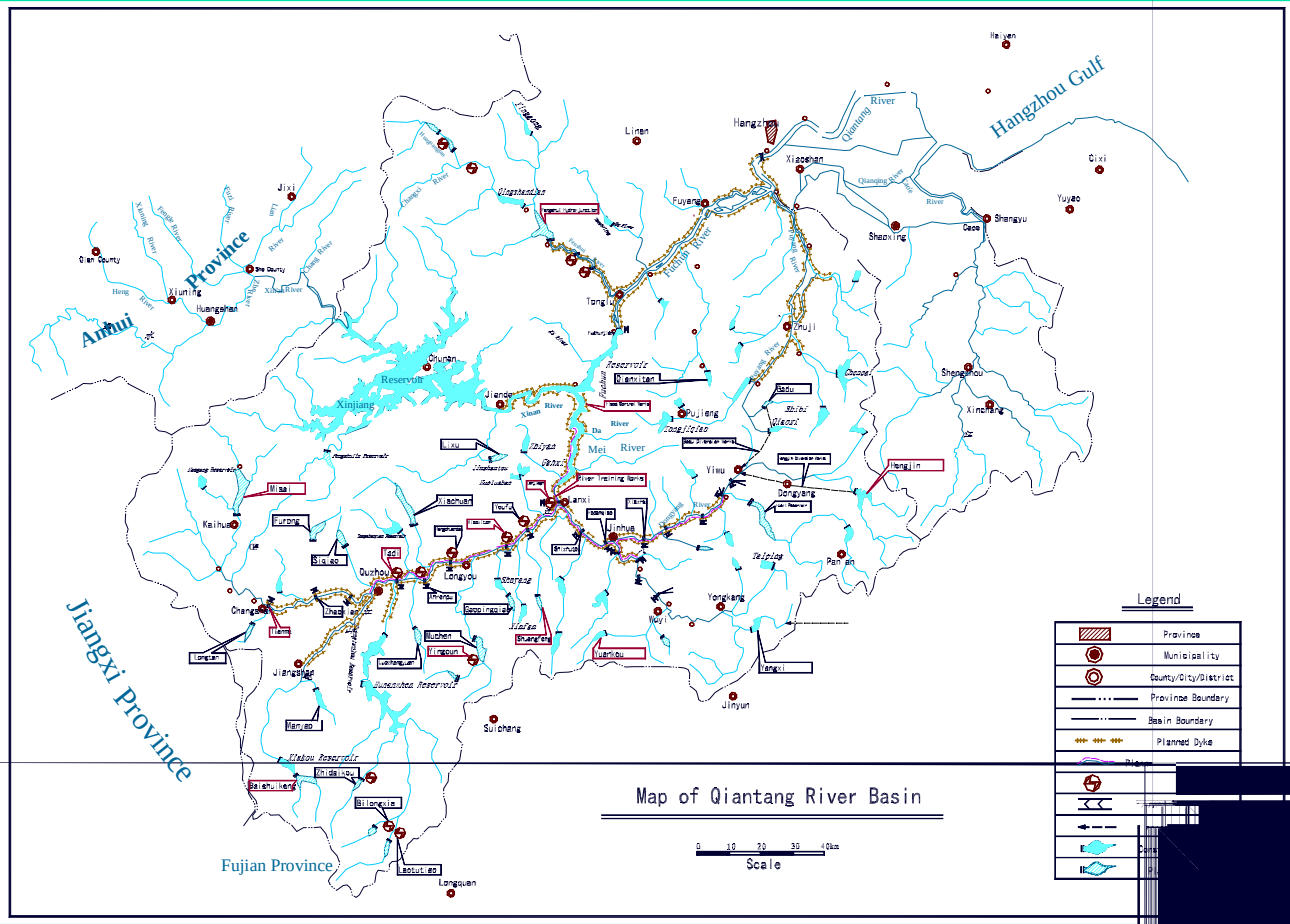


River Basin Map of China

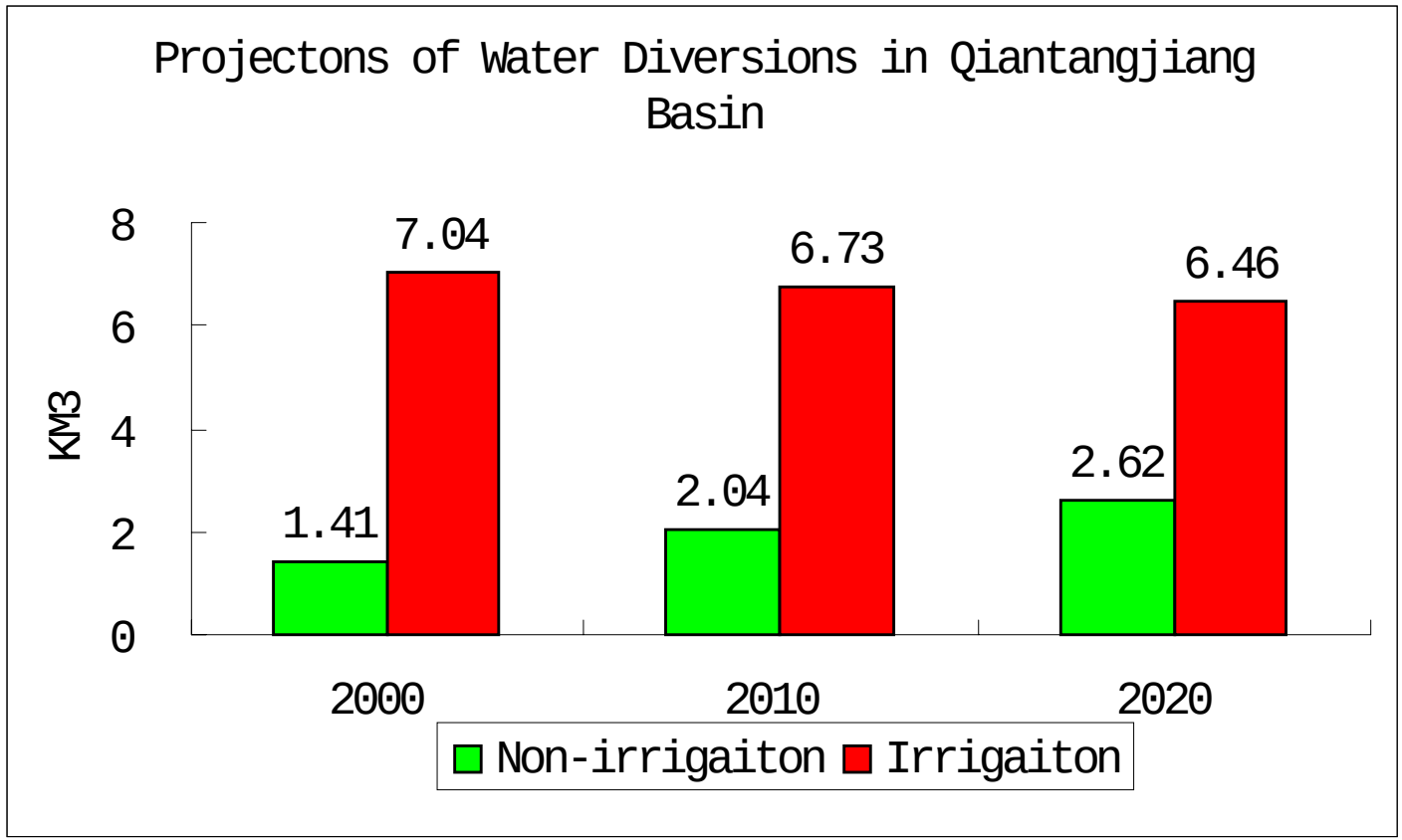
Jiaoidong Peninsula



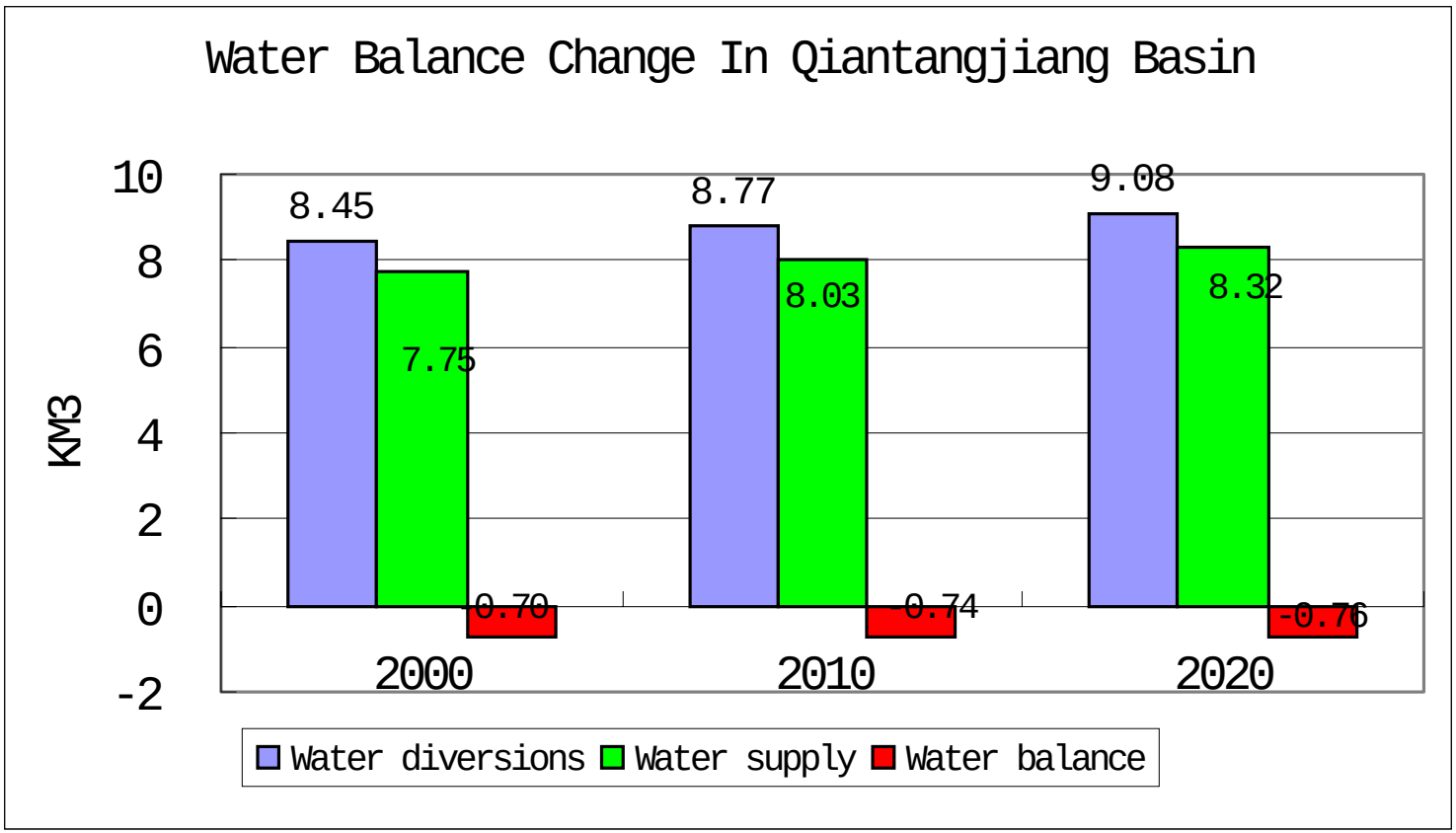
Qiantangjiang River Basin



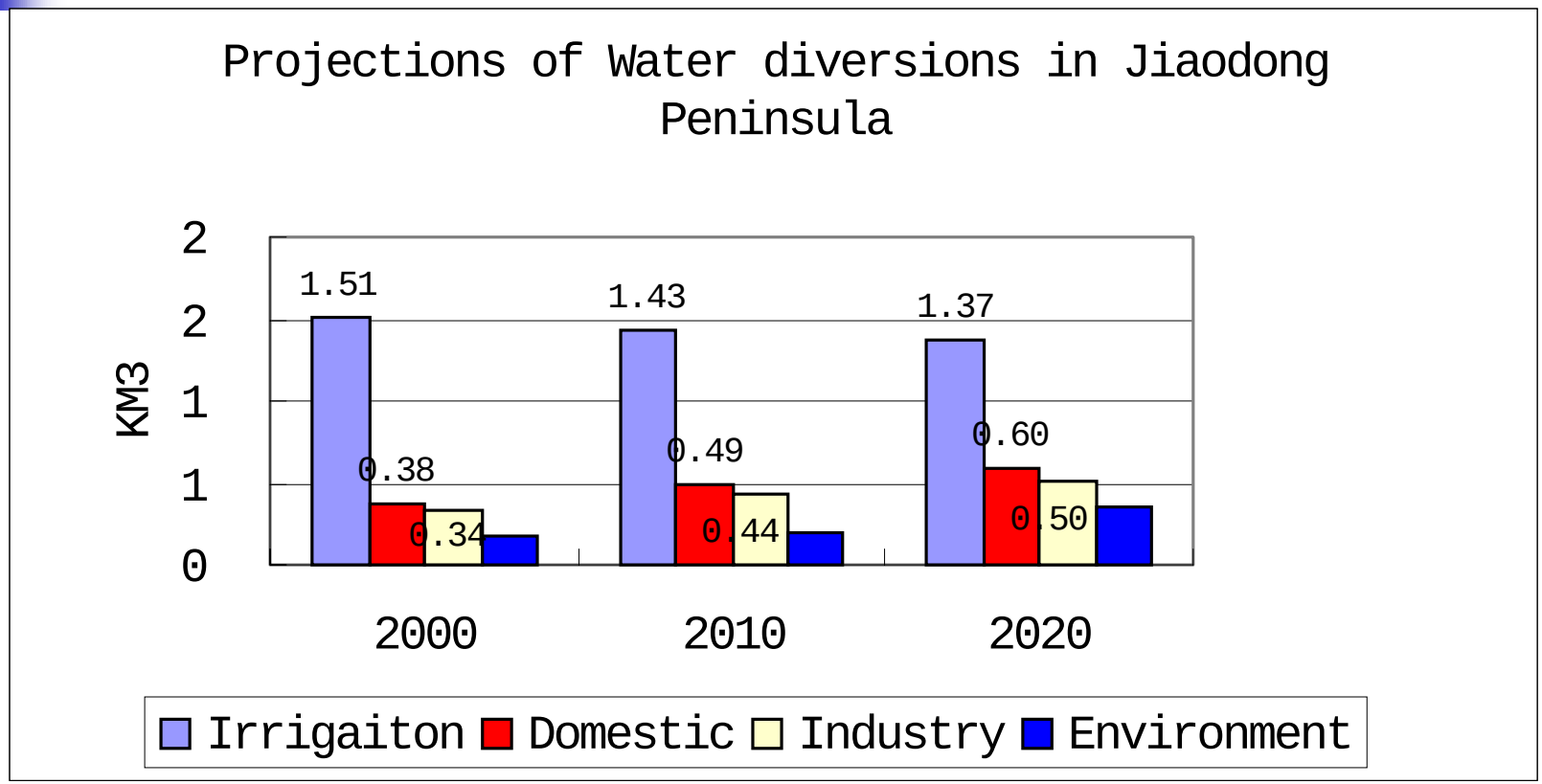
Projections of water diversions in Qiantangjiang Basin



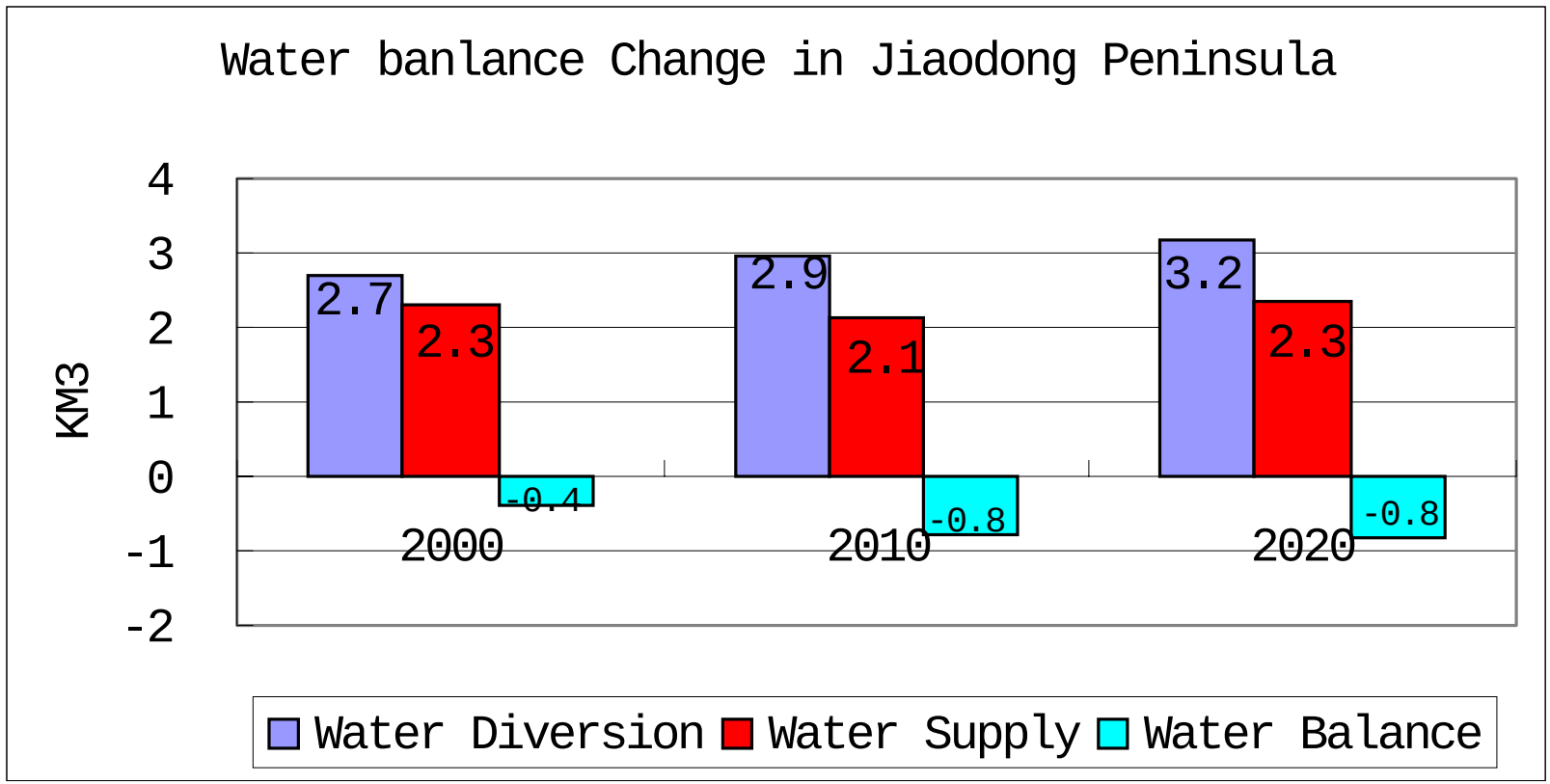
Water balance Change ----------Qiangtangjiang Basin



Water diversion Projections
------- Jiandong Peninsula



Water Balance Change
----Jiaodong Peninsula



Conclusions

- Two basins will face water shortage problems due to rapid increase of non-irrigation water diversions or uneven distribution water resources;
- Qiantangjiang basin,where water resources are abundant, will face water shortage of inadqut storage capacity. Irrigation water diversions decrease due to adjusting of agricultural structure and improve irrigation efficiency
- Jiaodong Peninsula, where water resources are scarce, will face physical water shortage. Irrigation water diversions decrease due to fail to compete water with non-irrigation sector.

Suggestions

- Enhance of water management and extension of water saving technology to improve water use efficiency;
- Carry out Water transfer Scheme;
- Increase technology investment, especially breeding technology of anti-drought variety and water saving technology

Future Research work

- Set up more scenarios to analyze the methods of solving water shortage problem using PODIUM model;
- Research the guarantee mechanisms of improvement irrigation efficiency such as reform of water price, infrastructural investment,

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Thank you