Systematic Water Governance and Smart Water-Saving: China's Practices for Enhancing Agriculture Resilient and Sustainable Water Use

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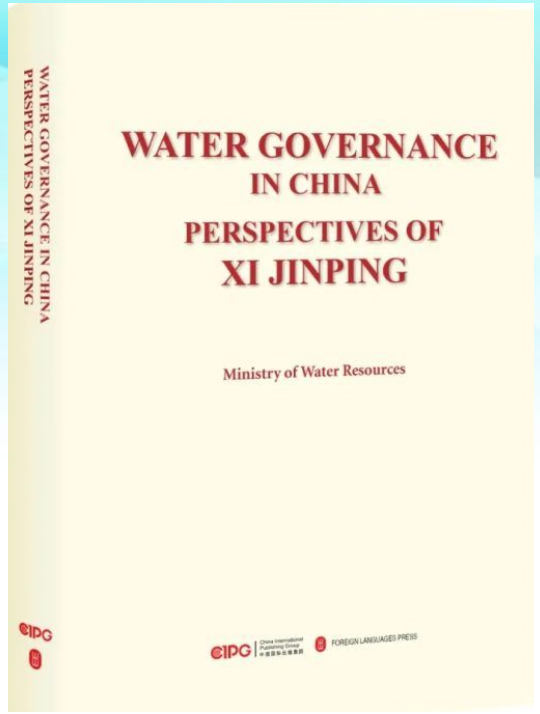
May 21, 2025 Parma, Italy

China's River Systems

China supports nearly 20% of the world's population and produces over 18% of global economic output with only 6% of the world's freshwater resources.



WATER GOVERNANCE IN CHINA– PERSPECTIVES OF XI JINPING published in 2024

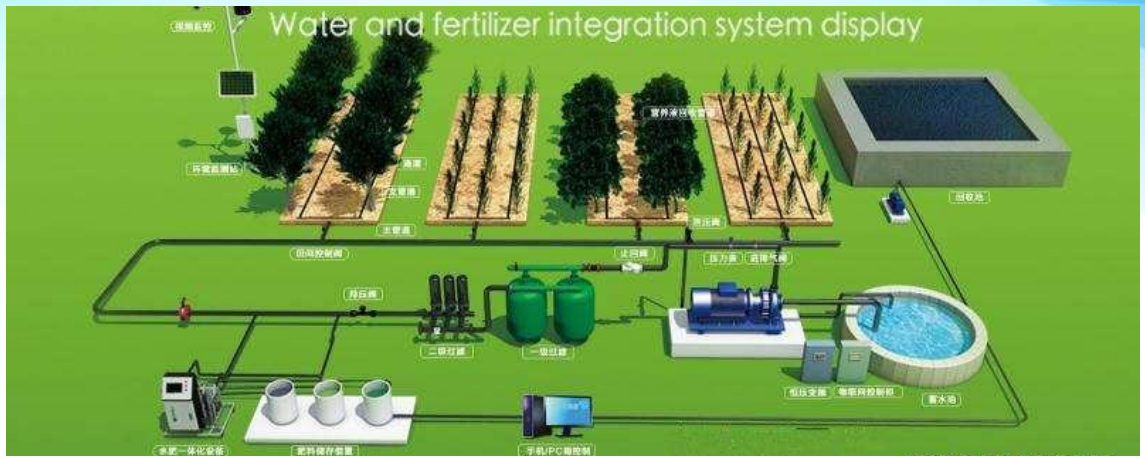
- Prioritizing water conservation
- Balancing spatial distribution
- Taking systematic approaches

Part Ⅰ Prioritizing water conservation

Water Conservation Innovations

Fundamentals of Water-Saving Agriculture

- Transforming Irrigation Methods
- Optimizing Water Usage Patterns



Yumen (Western China)

- **High-standard farmland** : Pipe irrigation replacing flood irrigation
- **30-40%** water savings; **25%** fertilizer reduction; higher-value crops

Use UAV to monitor farmland water status

By 2024, high-efficiency irrigation systems have been applied across more than **37 million hectares**

Part Ⅰ Prioritizing water conservation

Water Conservation Innovations

“More Yield With Less Water “

China improved irrigation efficiency from 0.516 to 0.572, reduced water use from 6000m³ to 5200m³ per hectare, and increased productivity from 1.58kg/m³ to 1.8kg /m³ of grain.


Large walking sprinkler irrigation facilities


Irrigation area in Xinjiang

Part II Balancing Spatial Distribution

A Basin-wide Approach to Optimizing Water Allocation

- Building the National Water Network : comprehensive, safe, efficient, green, intelligent, well-regulated
- Total water supply capacity exceeds 900 billion m^3

South-to-North Water Diversion Project

Part II Balancing Spatial Distribution

A Basin-wide Approach to Optimizing Water Allocation

- This basin-centered, spatially balanced water governance model effectively coordinates agricultural development with ecological sustainability.
- China has added or upgraded irrigation infrastructure across approximately 24 million hectares, bringing the total irrigated area to over 70 million hectares, ensuring stable and increasing grain yields year after year.

Taocha canal head junction project

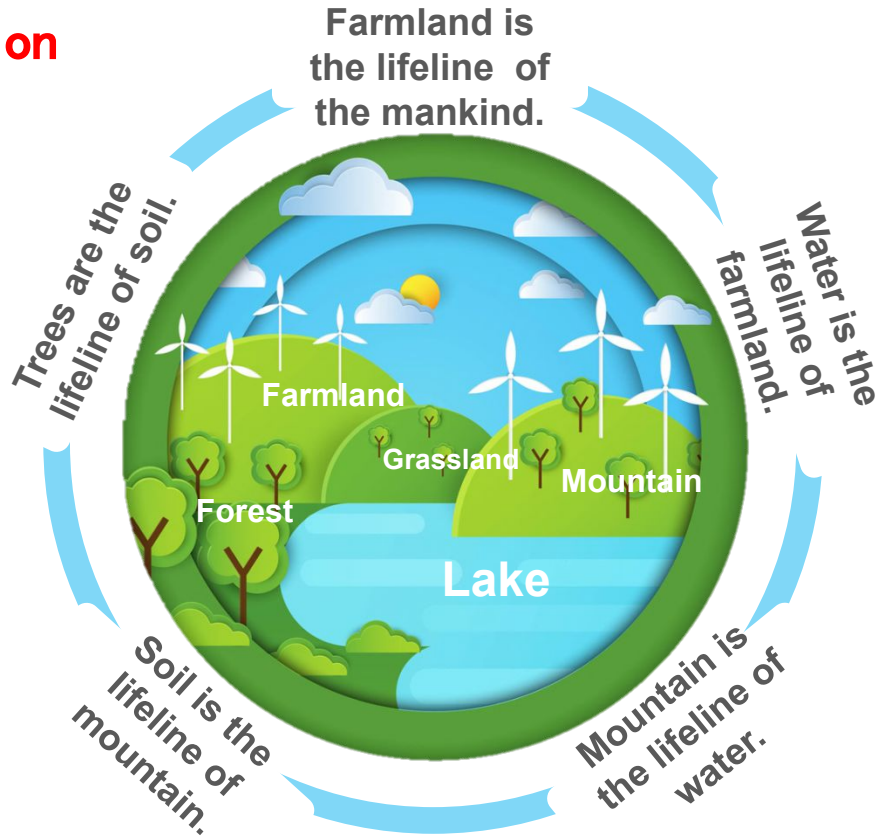
Yellow River Basin

Part III Taking Systematic Approaches

Achieving Synergy Among Resources, Food Security, and Ecology

- China promotes coordinated governance across upstream and downstream areas, main streams and tributaries, and both riverbanks .
- One flagship initiative is the “ Mother River Restoration Campaign”, through which major rivers have gradually regained ecological function.

Tao'er River Basin (Mother River in the Northeast China)



Part III Taking Systematic Approaches

Achieving Synergy Among Resources, Food Security, and Ecology

Chaersen Reservoir (Tao'er River Basin) demonstrated exceptional flood control in 2024

- Effectively managed three numbered flood events
- Successfully staggered downstream flood peaks
- Strategic implementation: 61-hour zero-discharge operation

Protected:

- 2.1+ million mu of farmland, 4.9+ million mu of grasslands

  Lives and property of 2+ million residents
- 4 critical railway lines

Chaersen Reservoir

Part Ⅳ Promoting Government-Market Synergy

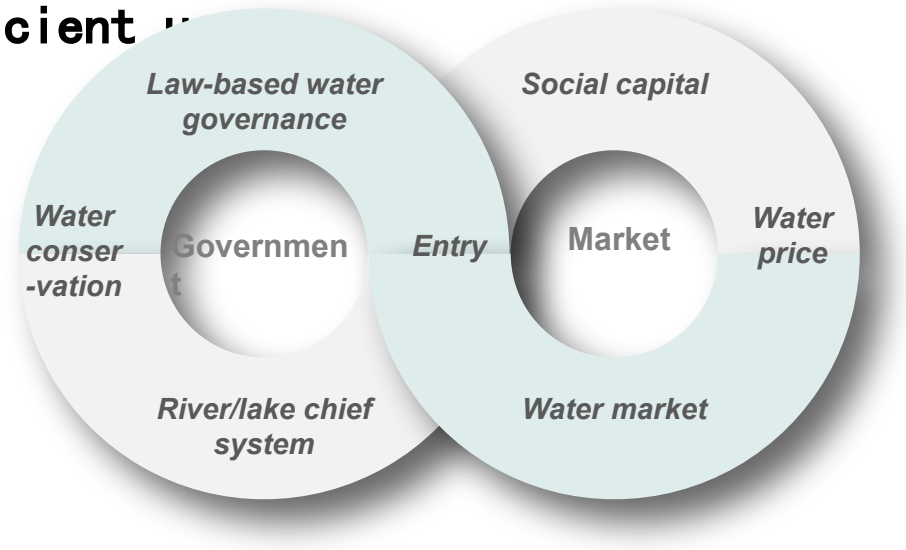
Integrating Policy Guidance with Market Mechanisms

On the policy side, the government has played a central role by:

- Providing fiscal subsidies, special funds, and tax incentives to support water-saving agricultural infrastructure;
- Allocating approximately ¥200 billion (≈24.3 billion €) over the past decade.

On the market side, reforms have accelerated through:

- Tiered agricultural water pricing, designed based on irrigation district type, water intake method, and crop characteristics, to incentivize efficient



Thank you for your attention!

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