POWERED BY GPM

Berlin 2025 | IPMA 34th World Congress

SHAPING THE FUTURE WITH PROJECT MANAGEMENT

60 YEARS | IPMA international project management association

WELCOME

to the 34th IPMA World Congress

worldcongress-ipma.com

COLLABORATIVE OF WORLD WATER VALLEY AND RESEARCH ON WATER-ENERGY-FOOD COOPERATION

Dechun Huang, Dr. and Prof.

DECHUN HUANG

- Professor & Doctoral Supervisor, Hohai University
- **Academic Leadership:** Chief Expert of National Social Science Fund Major Projects; Leader of Jiangsu University Innovation Team (Belt and Road-Lancang-Mekong Cooperation)
- **Core Role:** Executive Dean of World Water Valley Research Institute
- **International Ties:** Laos State Committee for Industry and Commerce Investment Consultant; academic visits (Europe, America, Asia); promotes international cooperation

Contents

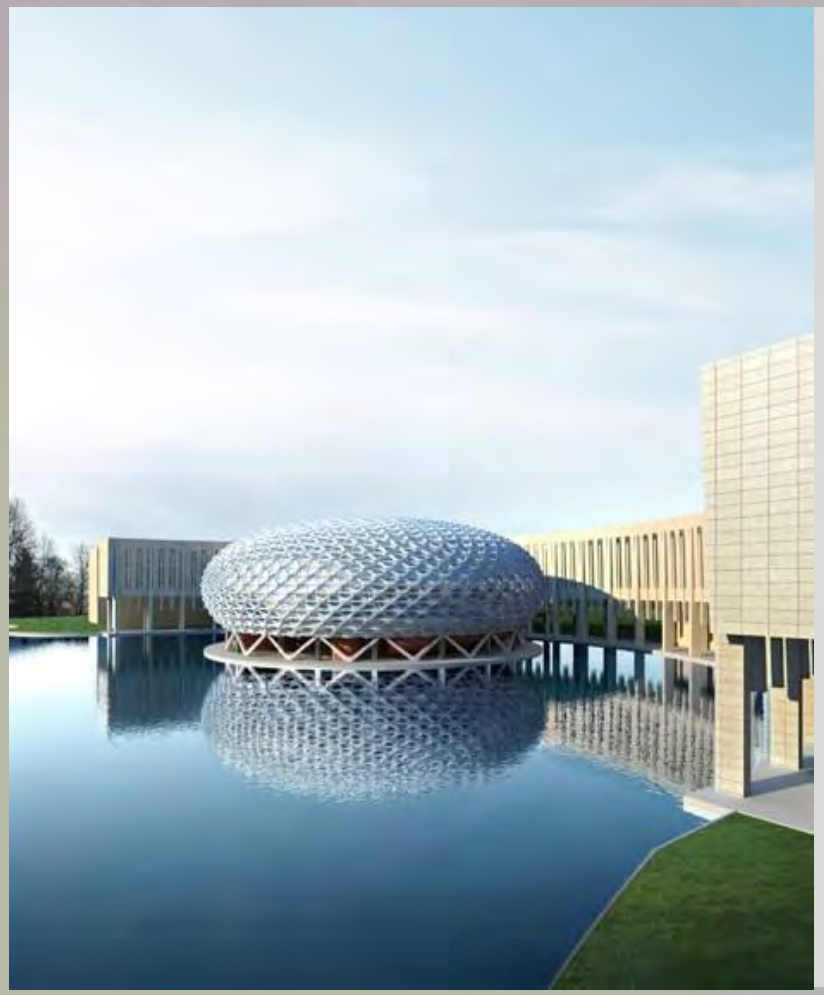
1 Collaborative of World Water Valley

2 Research Foundation

3 Cooperation Prospects

1 Collaborative of World Water Valley

1.1 ORIGINS AND PATTERNS OF “WORLD WATER VALLEY



➢ Development Patterns

- **Think-tank**: Water World Valley Institute
- **Forums**: World Water Valley and Overseas China
- **Book Yard**: Education, cultural training and creative products about water
- **Bases**: Creativity, innovation and entrepreneurship

1.2 THE STRATEGIC COLLABORATIVE INNOVATION OF “WORLD WATER VALLEY”

➢ “World Water Valley” Forum

“Water” As the vein → To

- Eco-civilization construction
- Water-related economic development
- International Water Cooperation
- Water-related innovation and entrepreneurship

Major theoretical and practical issues

Promote → “Water” Cooperation and communication

The 1st "World Water Valley" Forum and the 15th China MBA Development Forum

The 2nd "World Water Valley" Forum and the 1st Wenchuan Forum

The 3rd "World Water Valley" Forum

The 4th "World Water Valley" Forum

The 5th "World Water Valley" Forum and the 5th "Overseas China" Forum

Date: November 15-17, 2019

Place: Nanjing, Jiangsu Province

Theme: Strategic Synergy – Creative Innovation and Entrepreneurship - Community

The 6th "World Water Valley" Forum and the 6th "Overseas China" Forum

The 7th "World Water Valley" Forum and the 7th "Overseas China" Forum

The 1st Huaihe River International Forum and 8th "World Water Valley" Forum

The 11th IPMA Research Conference and 9th World Water Valley Forum

The 10th Overseas China Forum and the 10th World Water Valley Forum (Xinjiang)

Date: August 6-9, 2024

Place: Urumqi, Xinjiang

Topic: “Build a beautiful bridgehead in Xinjiang , build a China -Central Asia community”

1.2 THE STRATEGIC COLLABORATIVE INNOVATION OF “WORLD WATER VALLEY”

➢ “Overseas Cooperation” Forum

- An annual international forum initiated by Hohai University

Centered on → B&R, LMC — Key Topics → To promote → “Going Global”, International development of enterprises

The 1st Collaborative Webinar on "Going Global" in China

The 2nd Collaborative Webinar on "Going Global" in China

The 3rd Collaborative Webinar on "Going Global" in China

The 4th "Overseas China" Forum

Date: August 24-26, 2018

Place: Assumption University in Thailand

Theme: Focus on Talent Cultivation, Cross-Cultural Exchanges and Cooperation and People-to-people Bond in the Lancang-Mekong Cooperation

The 5th "Overseas China" Forum

The 6th WWV Forum and the 6th "Overseas China" Forum

The 7th WWV Forum and the 7th "Overseas China" Forum

Date: April 10-11, 2021

Place: Boao, Hainan Province

Topic: “Water Culture and Creativity Innovation and Entrepreneurship in the Free Trade Port”

1.2 THE STRATEGIC COLLABORATIVE INNOVATION OF “WORLD WATER VALLEY”

➢ Southward Innovation in Lancang-Mekong River

Innovative Cooperation

- Build the Overseas Center of HHU and WWV in Laos
- Signed cooperation agreements with National University of Laos, Savannakhet University and Central Bank Banking Institute, Cambodian University of Agriculture.
- Collaborative venture with ICBC Vientiane Branch, Lao National Electricity Company, Cambodia Westport Special Zone.

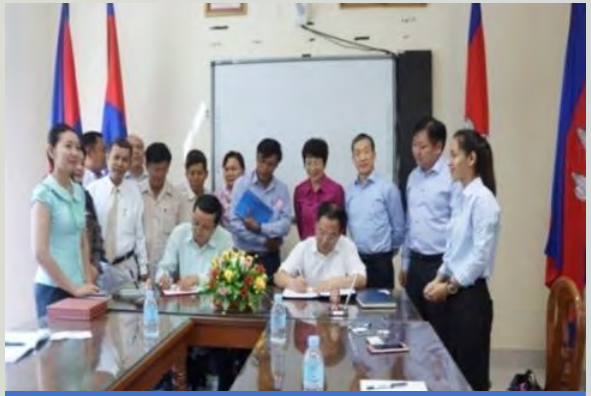
Study and talent cultivation

- Study on Economic Zones, communities of shared interests and business models in the Lancang-Mekong River
- More than 20 PhD students, 56 MBA students, 20 MEM students and 60 undergraduate students for Laos and Cambodia

International talent development for corporates

Teaching in Laos

HHU signed a cooperation agreement with Savannakhet University in Laos



HHU and Cambodia Agricultural University signed a cooperation agreement

Overseas Jiangsu Professional Committee of Jiangsu Financial Industry Federation

Overseas Center in Laos

1.3 THE STRATEGIC COLLABORATIVE INNOVATION OF OVERSEAS—4 DIRECTIONS

Northward communication

North-Eastern Federal University

Institute of Permafrost Research, Academy of Sciences

Lake Baikal

Ergun River-Heilong Jiang

Lena-Arctic Ocean

Institute of Water Resources

The National University of Mongolia

Selenga River-Orkhon River

Kherlen River

- In-depth communication

The 12th Symposium on
“Water Resources and Sustainable Use in Cold Regions”

Lena

Orkhon River

- **Strategic Cooperation**

International Rivers

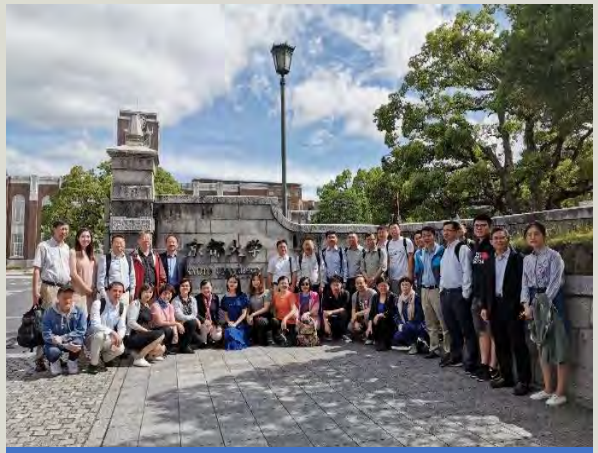
One of the rivers in Russia

One of the three major Siberian rivers flowing into the Arctic Ocean

1.3 THE STRATEGIC COLLABORATIVE INNOVATION OF OVERSEAS—4 DIRECTIONS

➢ Eastward Cooperation

- Visited Kyoto University and small and medium-sized enterprises in Japan, exploring ways for third-party cooperation on the “Belt and Road”.
- Participated in the construction of China Smart City Park and Amata University in response to the spirit of the “First Sino-Japanese Third Party Market Cooperation”.



Visited Kyoto University in Japan

Visited small and medium-sized enterprises

Cooperation Signing Ceremony

Visited in Amata Industrial Park in Thailand

1.3 THE STRATEGIC COLLABORATIVE INNOVATION OF OVERSEAS—4 DIRECTIONS

➢ Westward Development

- Cooperation with Central Asia Regional Economic Cooperation Institute, Jiangsu Provincial Development and Reform Commission and Xinjiang Water Resources Agency to promote the national westward cross-border strategy.

China-Arab Capacity Cooperation Demonstration Park

Communication and cooperation with the CAREC

A Study of the Irtysh, Ili and Tarim River Watersheds in Xinjiang

1.3 THE STRATEGIC COLLABORATIVE INNOVATION OF OVERSEAS—4 DIRECTIONS

➢ Asian Water Tower

- Tibet is the birthplace of many rivers in Asia. Tibetan Plateau, which is known as the roof of the world and the Asian water tower, is an important barrier for national water security, ecological security and border security.
- Research on the theory and practice of “deep groundwater cycle”.

Roof of the World, Asian Water Tower

Lulang Forest Sea in Linzhi, Tibet

Lhasa Nyang River

Aba Tibetan Area in Sichuan Province

Jokhang Temple in the evening

Potala Palace in the evening

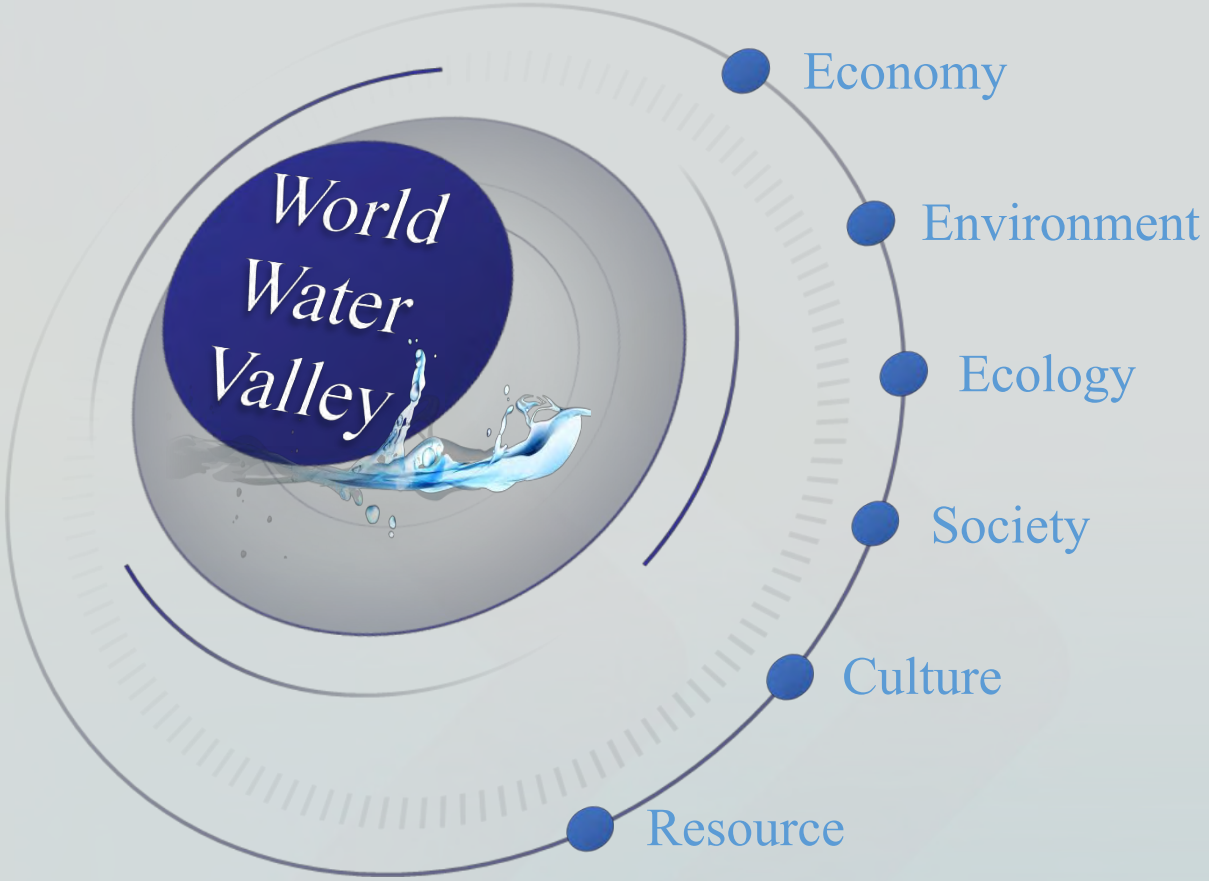
1.4 THE STRATEGIC ASSUMPTION OF “GLOBAL WATER NETWORK”

➢ Strategic Content

- **A global community of real and virtual water networks** based on China's national water network, expanding through cross-border rivers to regions, and combined with virtual water networks.

- It consists of a naturally connected regional and basin-based **physical water** network and a **virtual water** network based on water footprint and trading.

- It is **an important support system** for the protection, development and utilization of global water resources.



1.4 THE STRATEGIC ASSUMPTION OF "GLOBAL WATER NETWORK"

Strategic Planning

- Based on the Tibetan Plateau
- According to the South-to-North Water Diversion
- Linked with the cross-border rivers

Seven cross-border main water networks and seven basin economic zones

- Lancang-Mekong six countries
- China, Myanmar, India and Bangladesh
- China, Pakistan and Afghanistan
- China, Tajikistan, Kyrgyzstan, Kazakhstan
- China, Mongolia and Russia
- China, Kazakhstan and Russia
- China, Russia, North Korea and South Korea

B&R Water Network

- Relying on **B&R and EAEU**, it builds a water network of Asian and European world islands.
- The Ice Silk Road is connected to the Maritime Silk Road, forming a closed-loop waterway.
- Initiated and participated in the construction of continental and intercontinental water networks.

- According to the concept and practice of "virtual water network"
- Based on initiatives and organizations such as B&R, SCO, and BRICS
- Establish water rights cooperation mechanisms, and build a "world water network" combined with virtuality and reality

1.4 THE STRATEGIC ASSUMPTION OF “GLOBAL WATER NETWORK”

➢ Strategic Study

1. Theory and practice of water rights trading, water trading and water footprint in China
2. National principal and virtual water network
3. Regional and basin water network projects and virtual water networks
4. Cross-border virtual water networks in China
5. B&R virtual water network
6. Continental and intercontinental virtual water networks

2 Research Foundation on WEF

2.1 MAJOR PROJECT OF NATIONAL SOCIAL SCIENCE FOUNDATION OF CHINA

Research on the Coordinated Development and Security Strategy of WEF under the Green Development Strategy (19ZDA084)

Chief Expert:

Dechun Huang

Hohai University

Subproject I: Study on the connotation of water-energy-food synergy development era and security strategy needs under green development
Director: Junfei Chen Hohai University

Subproject II: Theoretical study on the characteristics and mechanism of water-energy-grain synergistic development system under green development
Director: Xiufeng Wu Nanjing Hydraulic Research Institute

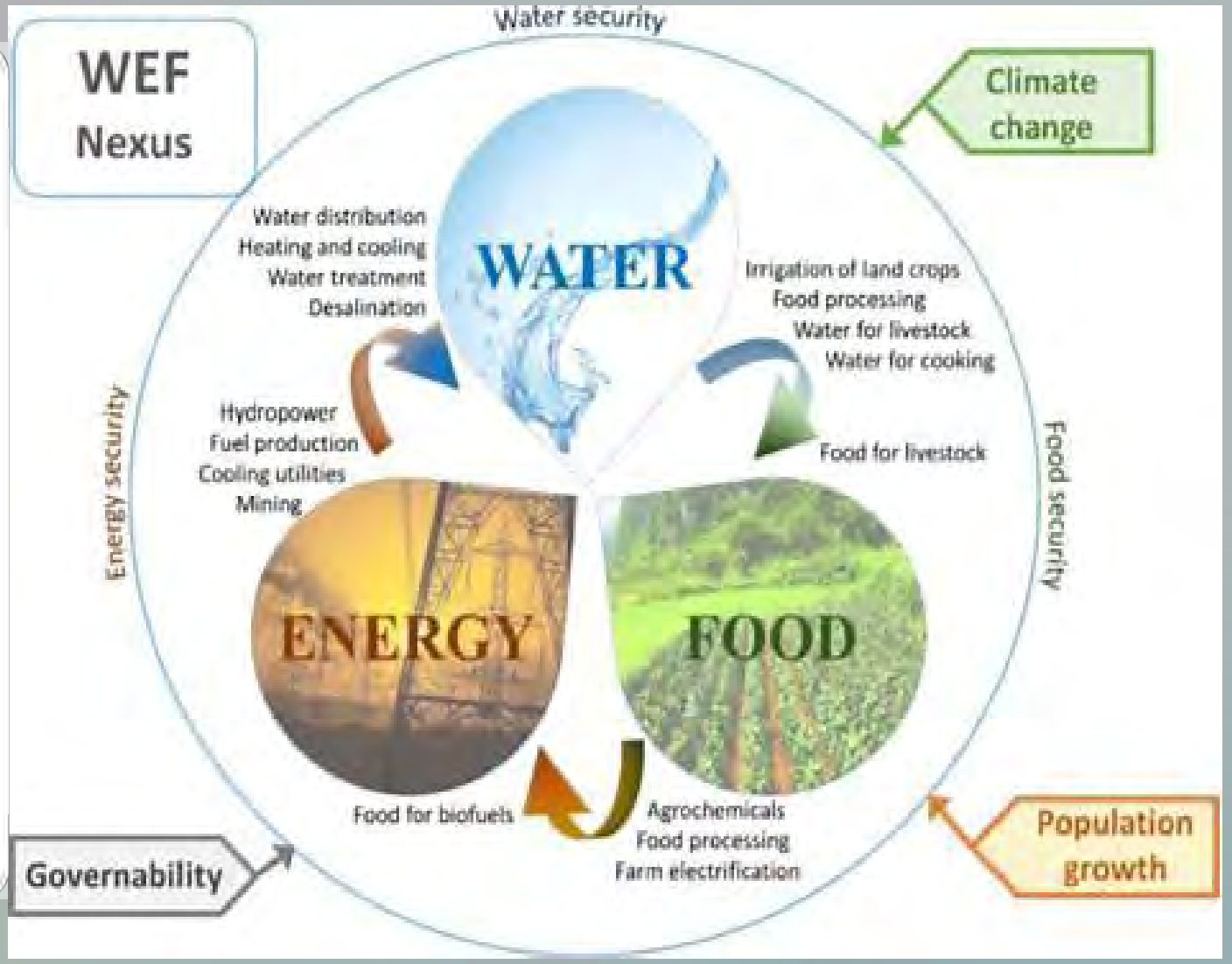
Subproject III: Study on the construction of China's water resources-energy-grain synergistic development model under green development
Director: Haiwei Zhou Hohai University

Subproject IV: Research on China's Water-Energy-Food Security Strategy and Intelligence Monitoring under Green Development
Director: Yousheng Zhang Energy Research Institute National Development and Reform Commission

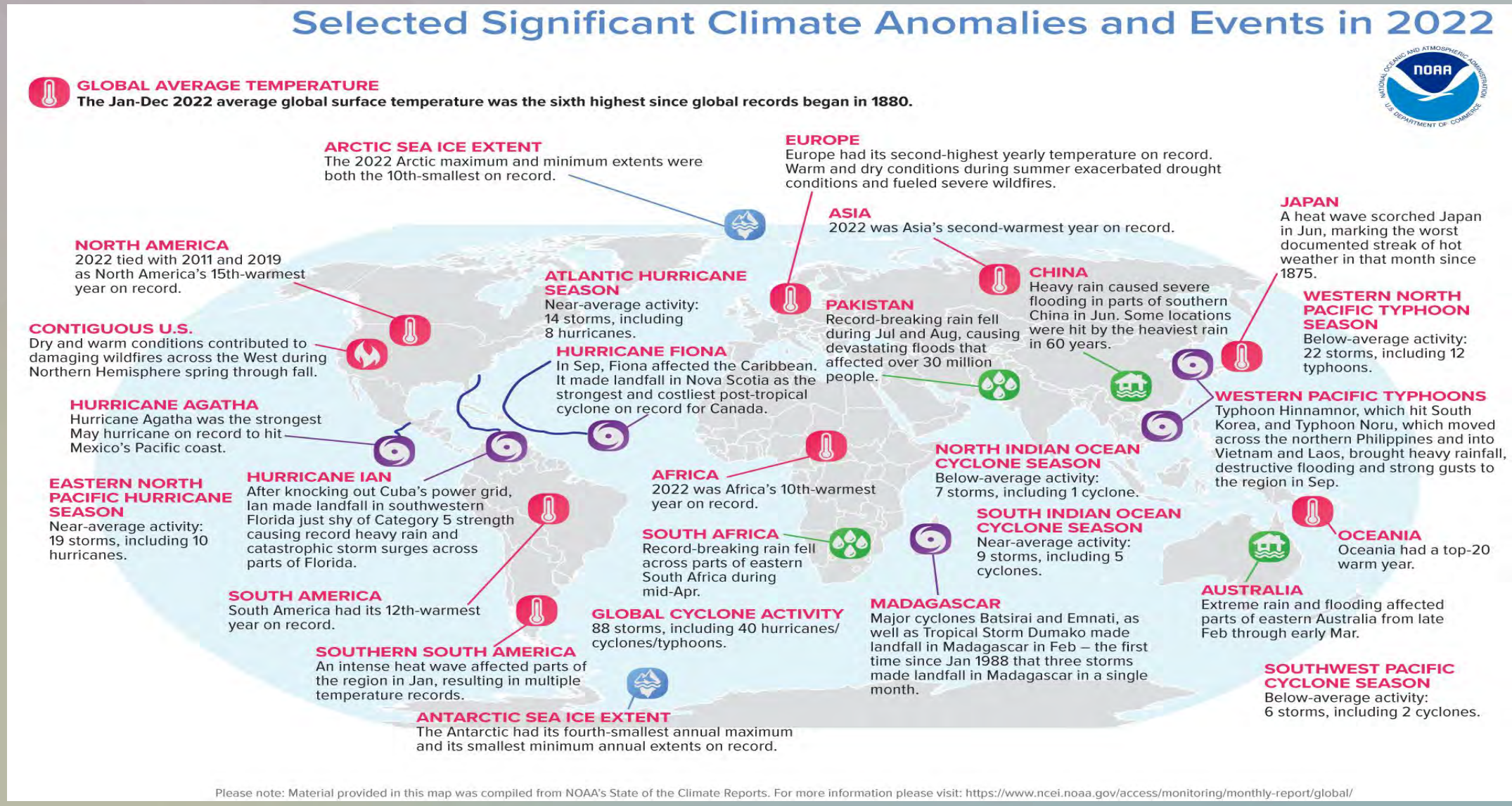
Subproject V: Application and Policy Suggestions of Water-Energy-Food Synergistic Development and Security Strategy under Green Development
Director: Changzheng Zhang Hohai University

2.1 WATER-ENERGY-FOOD NEXUS

In the complex environment of climate change, economic growth and population growth, WEF influence and restrict each other in the process of production, consumption and management. There are complex relationships among the three resources.



2.2 FREQUENT OCCURRENCE OF MAJOR GLOBAL CATASTROPHIC WEATHER AND CLIMATE EVENTS



2.2 CLIMATE CHANGE THREATENS WATER-ENERGY-FOOD SECURITY

Water

It leads to uneven spatial and temporal distribution of water resources. Increasingly frequent and severe droughts, floods and typhoons exacerbate uncertainty in water resource allocation, bringing about corresponding changes in the energy and food sectors.

Energy

It leads to mismatch between energy supply and demand. The original energy supply system is difficult to adapt to the new demand changes, and many parts of the world are in different degrees of energy difficulties under seasonal and regional persistent high and low temperatures and other meteorological conditions.

Food

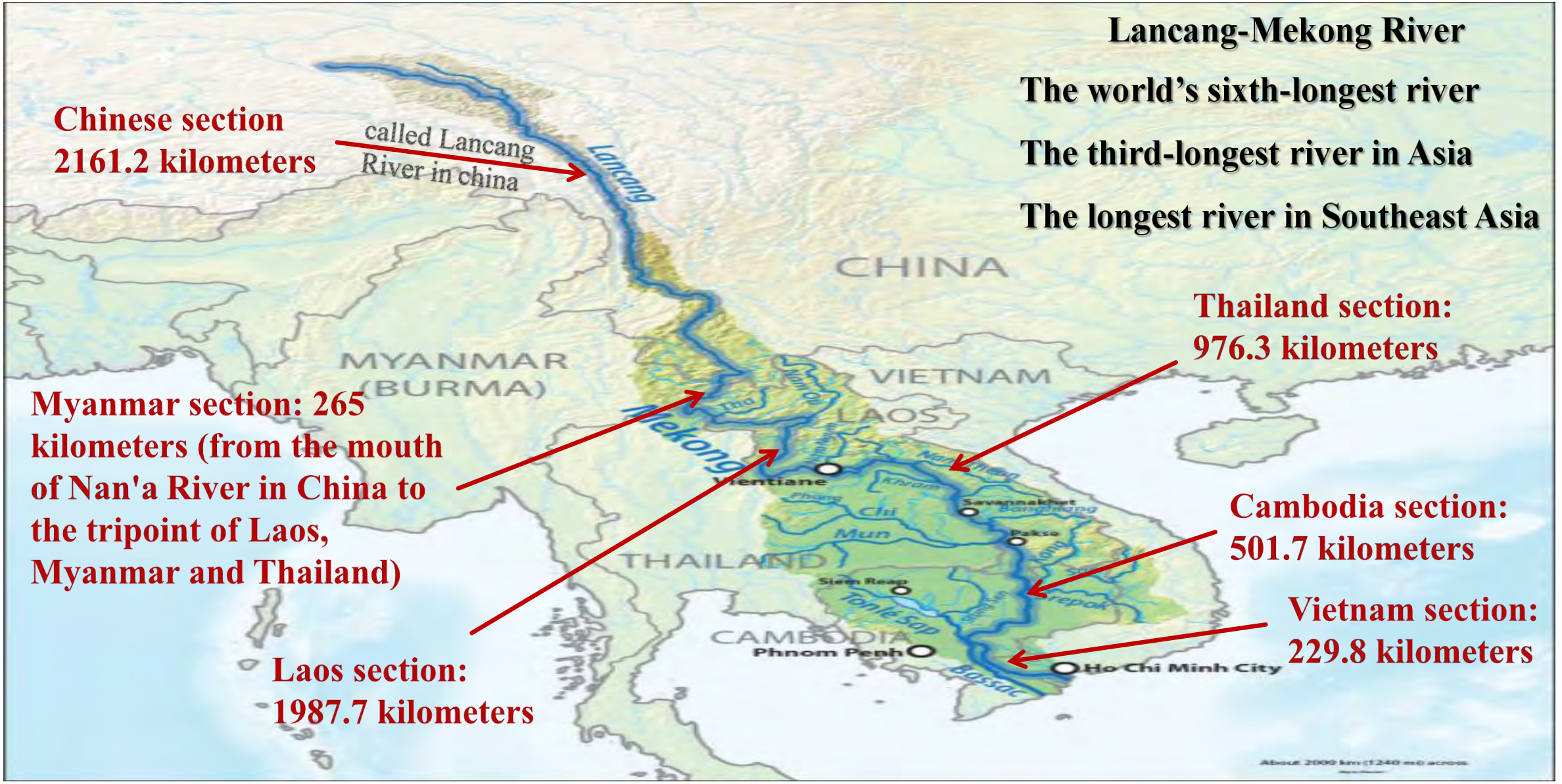
It leads to reduced food production. Climate change has a particularly serious impact on agricultural development, with floods and droughts leading to a global reduction in food production, triggering a food crisis and contributing to higher food prices.

Currently, the systemic linkage risks of the water-energy-food security caused by climate change need urgent attention.

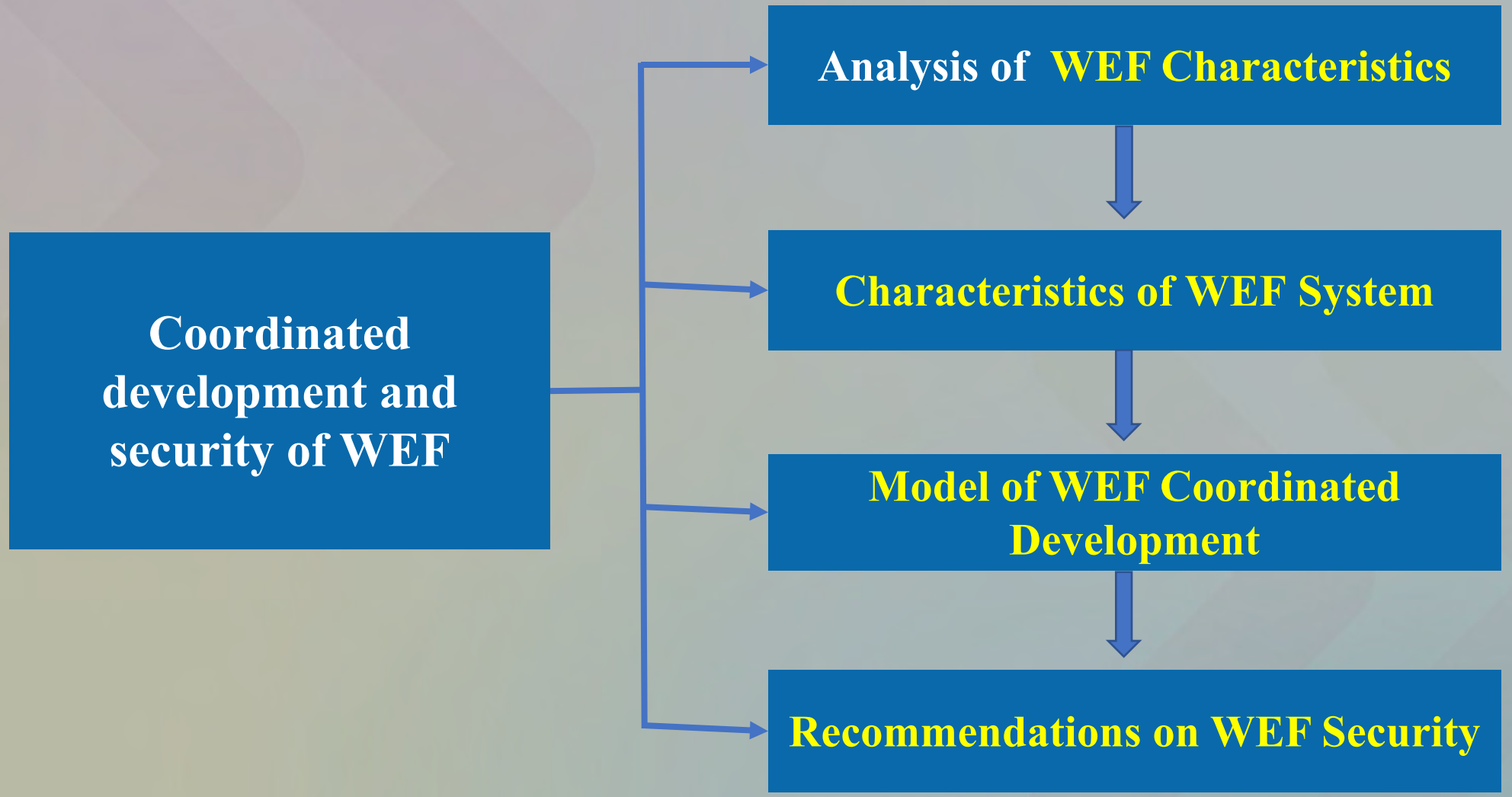
2.3 APPLICATION STUDY OF WATER-ENERGY-FOOD

WEF Application Research

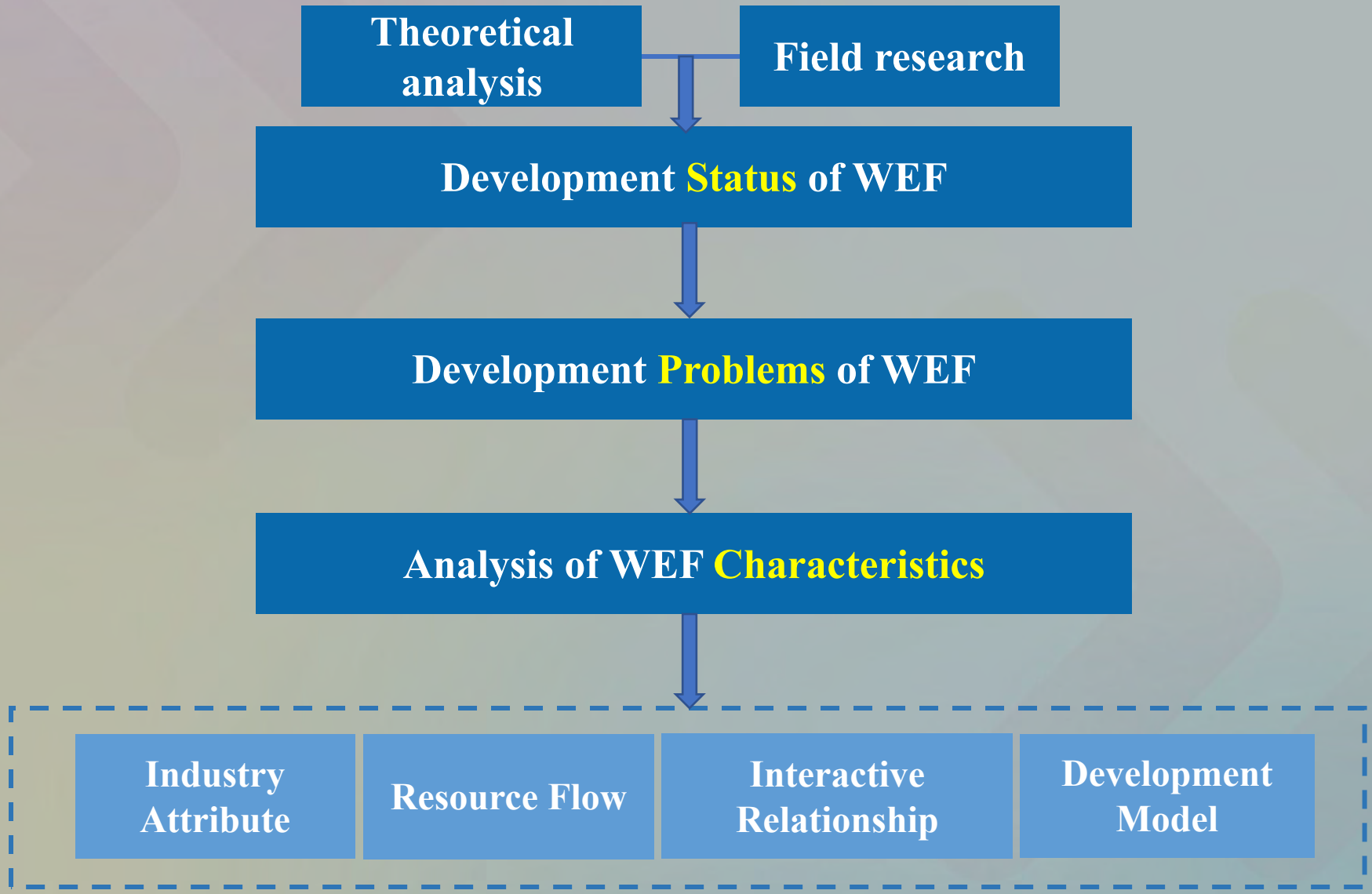
- **Downstream application of Yangtze River Basin: High intensity of regional "water-energy-food" flows** and contradictory problems in the relationship between the three, which seriously restrict high-quality development
- **Upper and middle reaches of the Yellow River Basin:** Highly consumptive and rough development region in the northwest, **water-energy-food disharmony, unsustainable and inefficient problems**, and fragile ecological
- **Lancang-Mekong River Basin Application:** "Water" is the natural link between the basin countries, and **the risk of water-energy-food security is prominent**.


Lancang-Mekong River
The world's sixth-longest river
The third-longest river in Asia
The longest river in Southeast Asia
Chinese section
2161.2 kilometers
called Lancang River in china
Lancang
CHINA
MYANMAR (BURMA)
VIETNAM
LAOS
Mekong
Vientiane
Thailand section:
976.3 kilometers
Myanmar section: 265 kilometers (from the mouth of Nan'a River in China to the tripoint of Laos, Myanmar and Thailand)
Savannakhet
Pakse
Chi
Mun
THAILAND
Cambodia section:
501.7 kilometers
Siem Reap
Tonle Sap
CAMBODIA
Phnom Penh
Ho Chi Minh City
Vietnam section:
229.8 kilometers
Laos section:
1987.7 kilometers
Bassac

2.3 APPLICATION STUDY OF WATER-ENERGY-FOOD



2.3 ANALYSIS OF WATER-ENERGY-FOOD CHARACTERISTICS IN LM REGION



2.3 CHARACTERISTICS OF WATER-ENERGY-FOOD SYSTEMS IN LM REGION

Analysis of interactive behavior characteristics and collaborative attributes of WEF

↓

Construction of coupling system model of WEF Nexus

↓

Response mechanism analysis of collaborative development of WEF

↓

Steady-state analysis of coordinated development of WEF

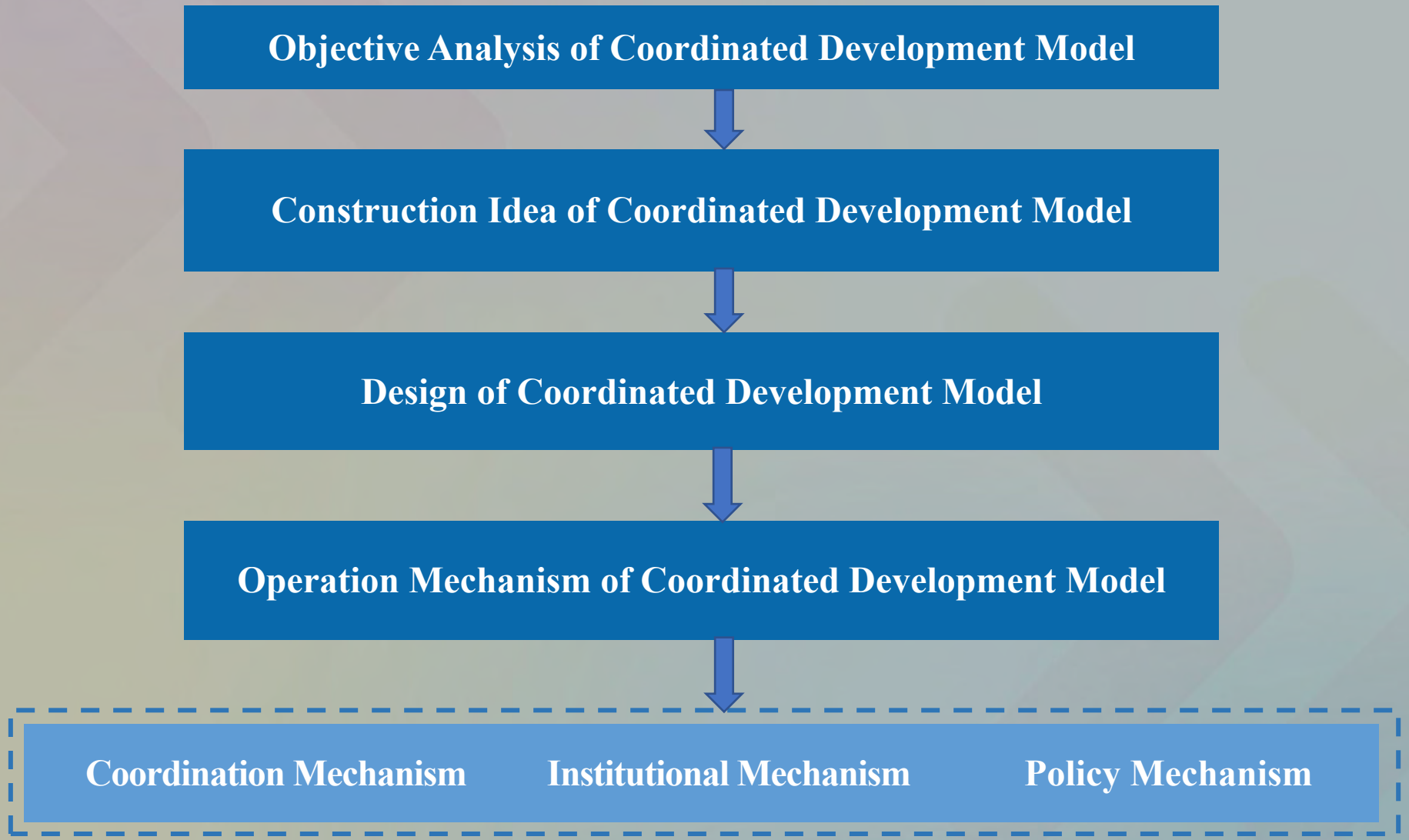
↓

Evolution process of synergistic development

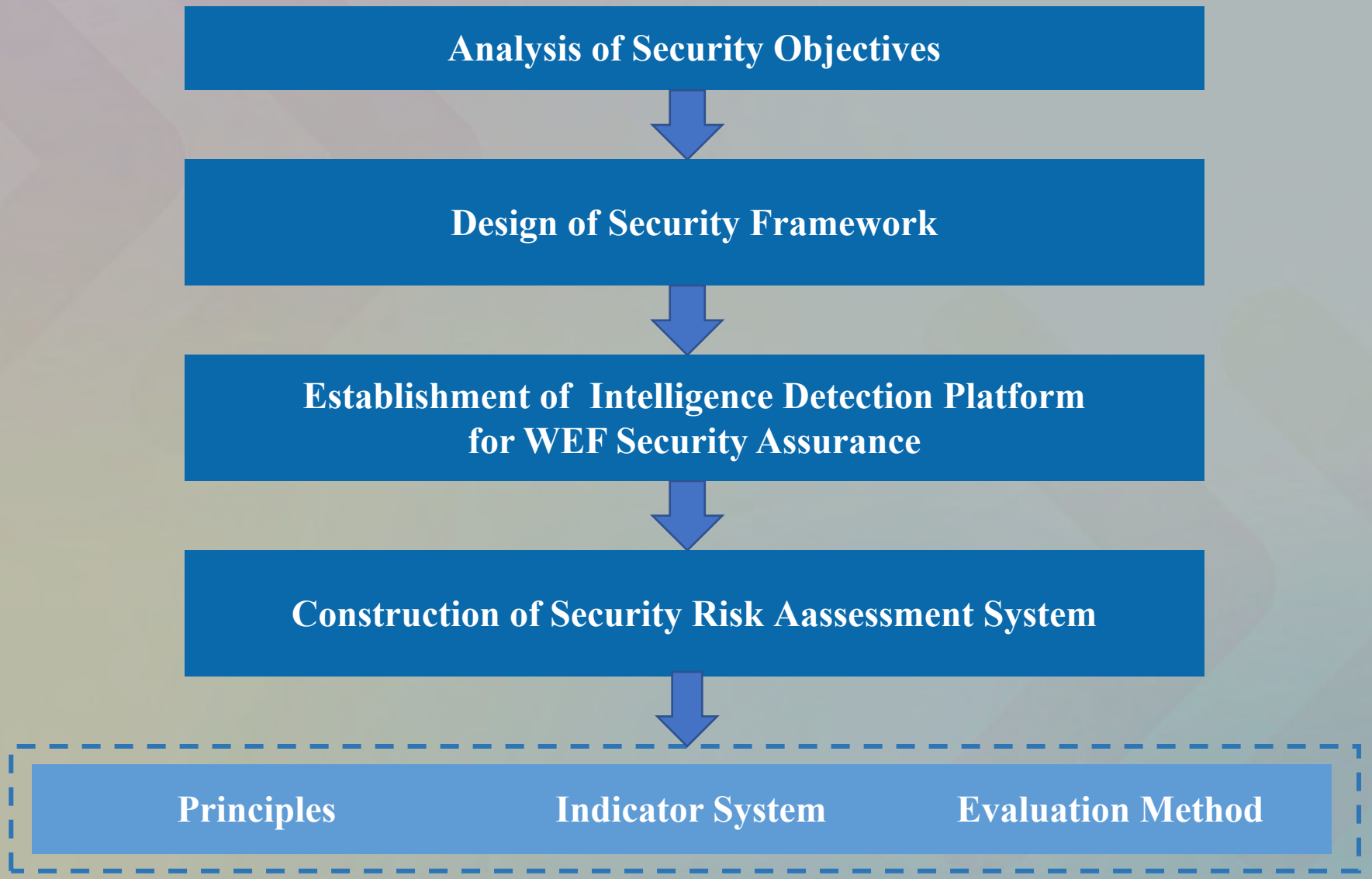
Risk trends of synergetic development

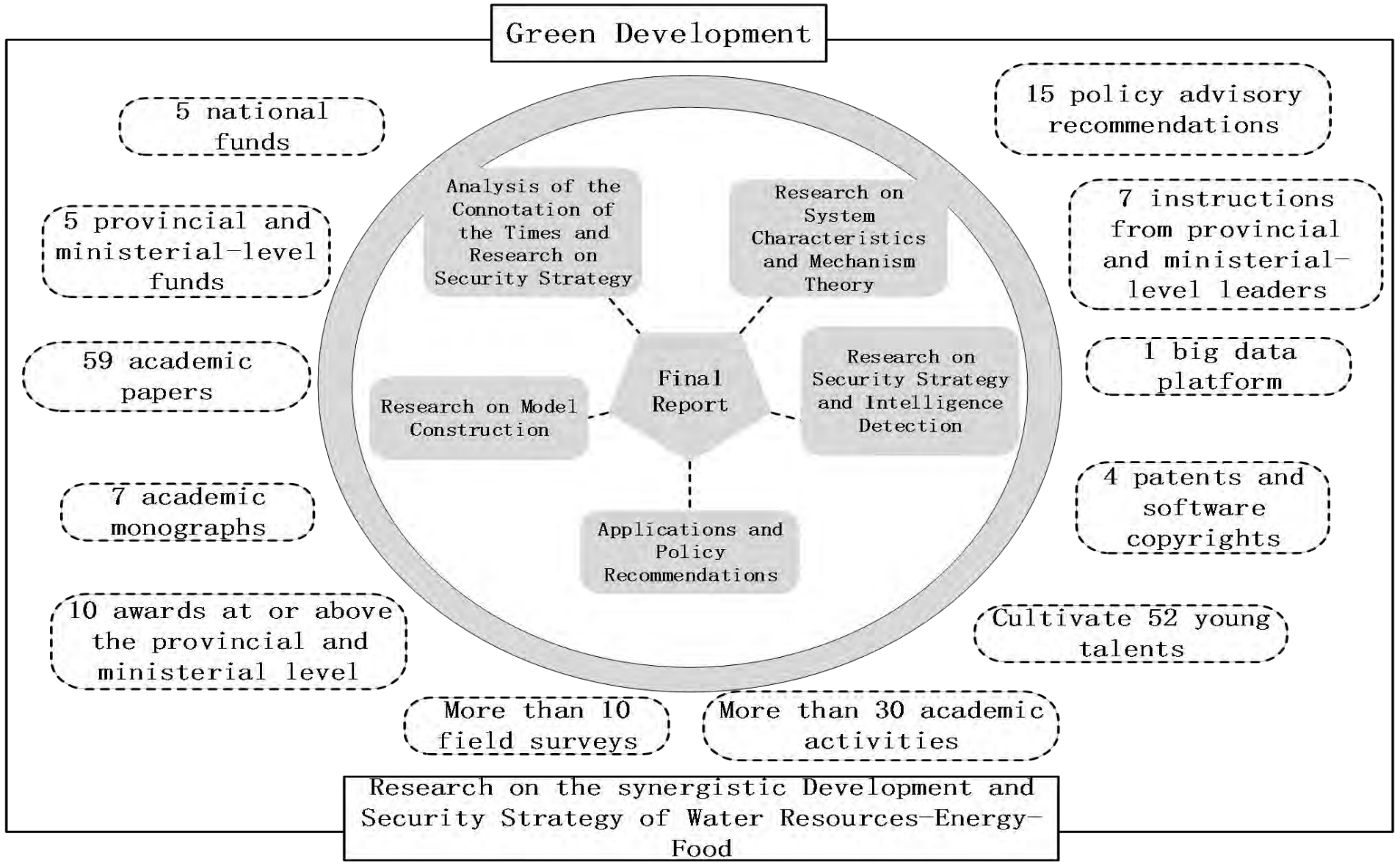
Influence factors of synergetic development

2.3 WATER-ENERGY-FOOD SYNERGISTIC DEVELOPMENT MODEL IN LM REGION



2.3 SUGGESTIONS FOR WATER-ENERGY-FOOD SECURITY IN LM REGION




Green Development
5 national funds
5 provincial and ministerial-level funds
59 academic papers
7 academic monographs
10 awards at or above the provincial and ministerial level
15 policy advisory recommendations
7 instructions from provincial and ministerial-level leaders
1 big data platform
4 patents and software copyrights
Cultivate 52 young talents
More than 30 academic activities
More than 10 field surveys
Analysis of the Connotation of the Times and Research on Security Strategy
Research on System Characteristics and Mechanism Theory
Research on Model Construction
Final Report
Research on Security Strategy and Intelligence Detection
Applications and Policy Recommendations
Research on the synergistic Development and Security Strategy of Water Resources-Energy-Food

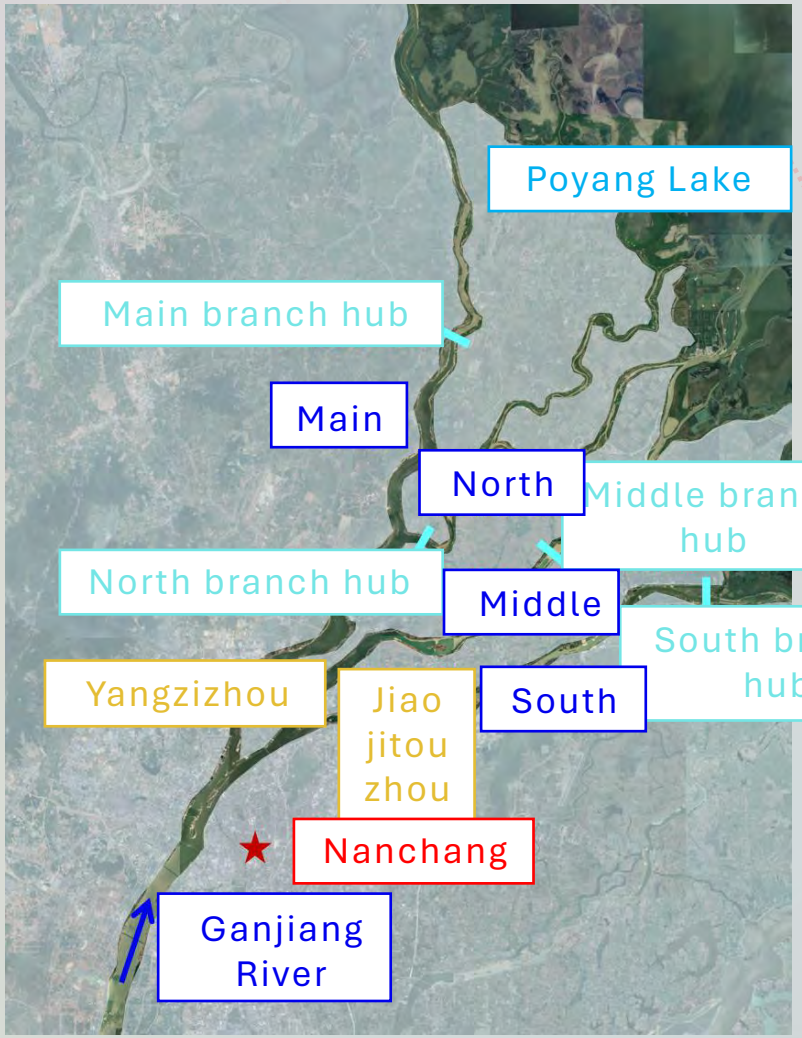
3 Cooperation Prospects

IPMA WATER IN VIETNAM AND LAOS

Jiangxi Ganfu Project Overview

Purpose

- Regulates the water level and increases the water volume of the river during the dry season
- Enhances the water resource carrying capacity during the dry season
- Protectes and restores the regional water ecological environment
- Ensures the water supplies for production and daily life of urban and rural residents
- Improves the regional navigation conditions



Significance

- One of the most important constructions of the Jiangxi water network
- Improves the overall water environment of Nanchang
- Helps to build the "Greater Nanchang Metropolitan Circle"

Composition

- 4 branch hubs: Main, North, Middle, South
- 2 protection engineerings: Yangzizhou Head and Jiaojitouzhou Head

Scale

- Largest water management project in terms of investment, scale, and functionality in Jiangxi Province
- Total investment: around 11 billion yuan

Jiangxi Ganfu Project Overview

The project started in December 2020, is scheduled to **meet water storage conditions in December 2024**, and is to be **completed by the end of December 2026**.

	Schedule Arrangement	Construction Period	Current Progress
Main Branch	2022.01-2026.12	60	The gate is officially open for navigation on August, 2024
South Branch	2022.01-2024.04	28	Completed
Middle Branch	2022.05-2024.08	28	Completed
North Branch	2022.03-2023.08	18	Completed
Heads	2022.01-2023.12	24	Completed

Main Branch Hub(2024.8)

South Branch Hub(2024.4)

Middle Branch Hub(2024.4)

North Branch Hub(2024.4)

Jiangxi Ganfu Project Overview

1 Research Topics

- **Topic 1:** Research on Key Technologies for the **Safety of Large-span Gate Structures** and their Applications
- **Topic 2:** Research on Key Technologies for **Foundation Treatment of Gate Construction on Thick Overburden**
- **Topic 3:** Research on **Multi-objective Coordinated Scheduling** of Gates and Hubs
- **Topic 4:** Research on Key Technologies of **Digital Twin Engineering in Hubs**
- **Topic 5:** Research on **Water Ecological Benefits and Regulations** of Hub Engineering
- **Topic 6:** Research on **Project Benefit Analysis** and **Management Mechanism and System**

2 Target Awards

Management Awards
Project Management Excellence Award from the **Project Management Institution(China)**
International Project Excellence Award(IPEA) from the **International Project Management Association(IPMA)**
Science and Technology Awards
Tien-yow Jeme Civil Engineering Prize
China Construction Engineering Luban Prize (National Quality Project)
Industry Association Technology Award
Provincial Quality Structure Highest Award
Jiangxi Province Science and Technology Progress Award
Jiangxi Province Rhododendron Award

Welcome to Hohai University, Nanjing, China!

黄河水生态复兴的数字交互型叙事

Digital Interactive Narratives for Ecological Restoration of the Yellow River

一项水文化项目管理的案例分享

A Case Study on Water Culture Project Management

河海大学商学院 田舒斌

Tian Shubin, Business School of Hohai University

黄河的全球地位与独特挑战

Global Significance and Unique Challenges of the Yellow River

文明的摇篮：世界上最古老的文明之一

Cradle of Civilization: One of the Oldest Civilizations in the World

地理奇观：“世界上含沙量最高的河流” “地上悬河”

Geographical Wonders: “The River with the Highest Sediment Load in the World” and “The River in the Sky”

治理模式：整个流域完全在中国境内

Governance Model: The Entire Basin Lies Within China

曾经的困境与系统的治理行动

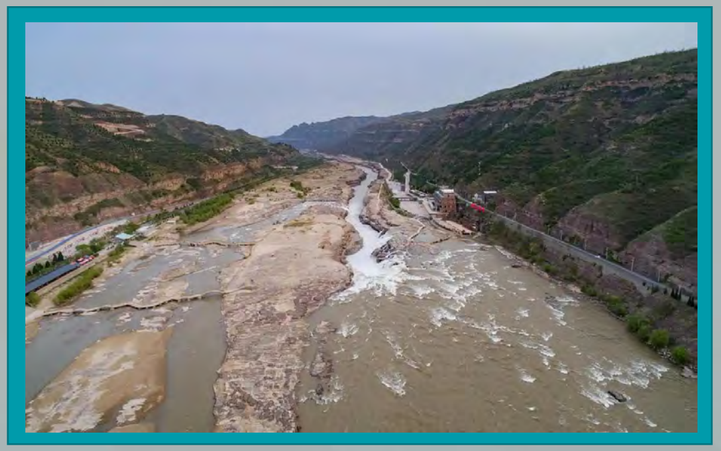
Historical Challenges and Comprehensive Governance Approaches

水资源短缺与污染

Water Shortage and Pollution

严重的水土流失

Severe Water and Soil Degradation



生态系统退化

Ecosystem Degradation

综合性的治理措施： “山水林田湖草沙是生命共同体” 的系统理念！

Comprehensive Governance Approaches：Mountains, Rivers, Forests, Farmlands, Lakes, and Grasslands are a Life Community

水资源统一调度与刚性约束

Unified Water Resource Regulation and Strict Constraints

精准与严格的污染防治

Targeted and Stringent Pollution Control

系统性的水土保持与生态修复

Systematic Soil and Water Conservation and Ecological Rehabilitation

恢复湿地与生物多样性

Wetland Restoration and Biodiversity Enhancement

当前生态状况的评价

Evaluation of the Current Ecological Condition

“动脉”通畅了

The “Arteries” Are Clear

水资源配置更加合理，断流成为历史

Water Resource Allocation is More Efficient, and the Flow Interruption Has Become History.

“血液”清洁了

The “Blood” Has Been Purified

干流水质根本性好转，重现碧波

The Water Quality of the Mainstream Has Significantly Improved, Restoring Its Crystal-Clear Waters

“体征”稳定了

The “Vital Signs” Are Stable

水土流失有效遏制，洪水风险降低

Soil Erosion Has Been Successfully Mitigated, Leading to Reduced Flood Risks

“生机”恢复了

“Vibrancy” Has Been Restored

湿地重现，鸟群翔集，生物多样性稳步恢复

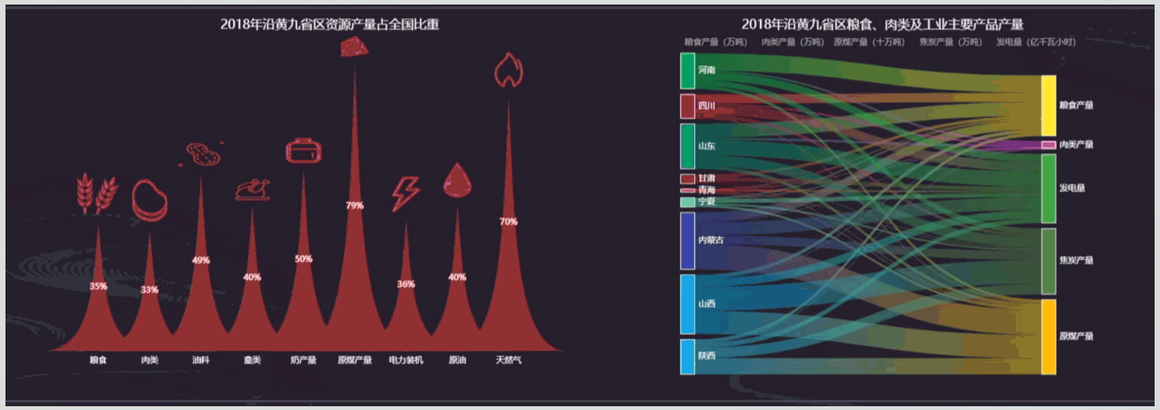
Wetlands Have Recovered, Birds are Back to Thrive, and Biodiversity is Steadily Restoring

大型数字交互型水文化项目的实施

Implementation of Large-Scale Digital Interactive Water Culture Initiatives

竖屏互动视频、VR全景、3D模拟、媒体大脑MAGIC视频、手绘长图、卫星数据、专家访谈、数据分析、H5

Vertical Interactive Videos, VR, 3D Simulations, Media Brain MAGIC Videos, Hand-Drawn Infographics, Satellite Imagery, Expert Interviews, Data Analytics, H5



《大河奔流——黄河流域生态保护和高质量发展》融媒体智库产品

"The Roaring River: Ecological Protection and High-Quality Development of the Yellow River Basin" – A Multimedia Think Tank Output

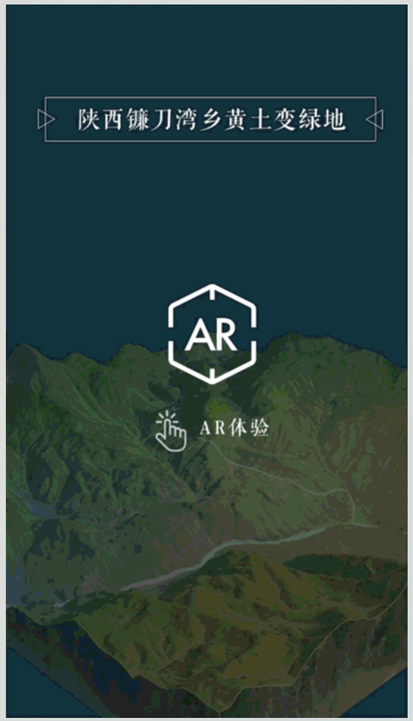
技术创新应用
Application of Technological Innovations

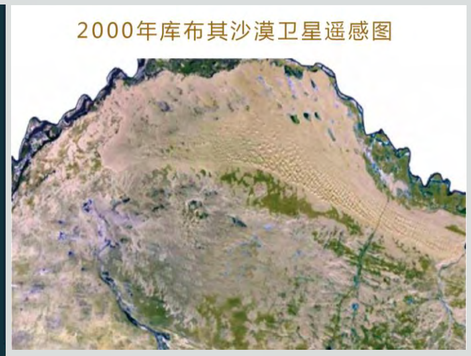
Echart框架
Echart Framework

嵌入式地图框架
Embedded Map Framework

3D模拟技术
3D Simulation Technology

卫星数据对比
Satellite Data Comparison





产品结构特色：“总-分”架构设计

Product Structure Feature: “Top-Down” Framework Design

主创团队：资深媒体人、数据工程师、交互设计师、新闻编辑

Core Team: Senior Media Professionals, Data Engineers, Interaction Designers, and News Editors

2021年第三十一届中国新闻奖一等奖

First Prize of the 31st China Journalism Awards, 2021

对未来水文化项目管理促进水生态修复的建议

Suggestion for Promoting Water Ecological Restoration through the Management of Water Culture Projects

拥抱更智慧更智能的数字传播技术，
让水文化乃至水生态项目更直观、更立体、更有感！

Embrace Smarter Digital Communication Technologies,

Make Water Culture and Water Ecology Projects More Engaging, Immersive, and Interactive!

IPMA WATER BEST PRACTICE INITIATIVE

TIAN MING

SECRETARY OF IPMA WATER SIG

ASSOCIATE PROFESSOR OF BUSINESS SCHOOL OF HOHAI UNIVERSITY

BCAKGROUND

- Water stands as a core strategic resource of the 21st century, and water project management serves as a critical driver for achieving global sustainable development. To advance the professionalization of water project management, facilitate worldwide knowledge exchange on water-related initiatives, broaden the dissemination of expertise, and maximize synergy within the global network of water project management to support IPMA members, **the IPMA Water SIG hereby launches an open call for Best Practices worldwide**.

- The IPMA Water Best Practice Initiative is a professional knowled ge-sharing campaign organized by the IPMA Water SIG. This initia tive focuses on water-related elements, aims to distill valuable in sights from world-class water projects, and contributes to buildi ng a globally influential knowledge repository for water project m anagement.

EVENT FOCUS

Resilience, Sustainability
Digital Innovation in Water Projects

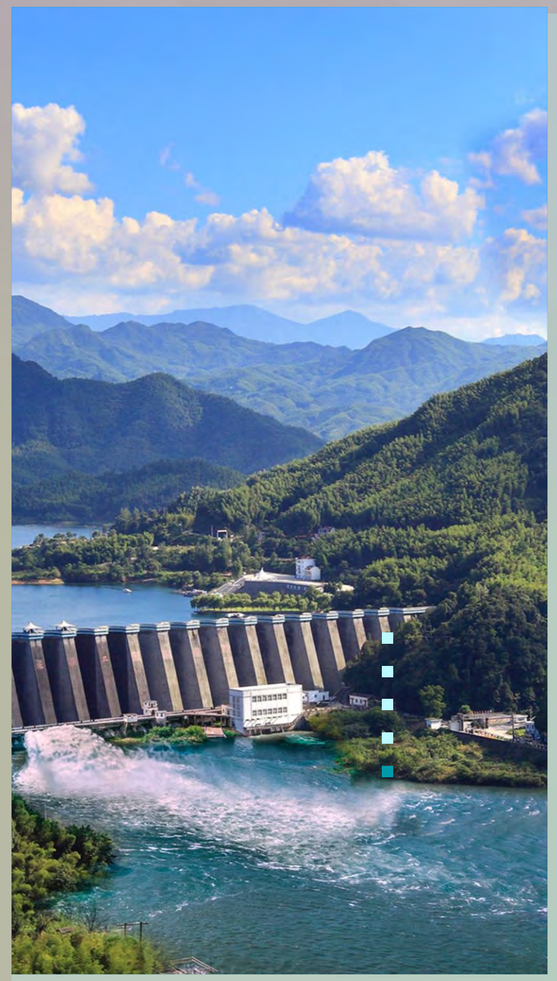
EVENT OBJECTIVES

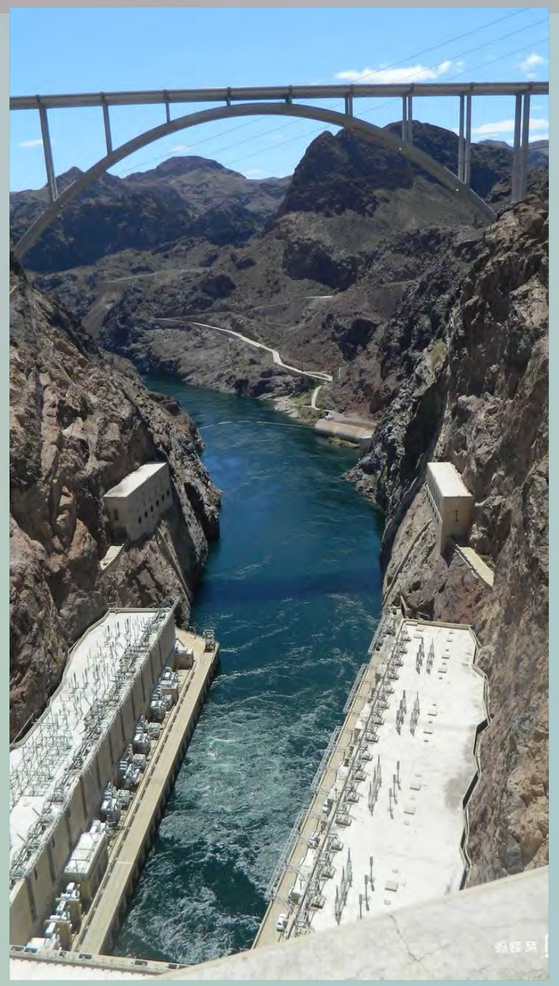
- To collect representative global practices in water project management and promote them worldwide through the IPMA network.
- To consolidate insightful knowledge on water project management and integrate it into structured learning systems such as IPMP and MEM curricula.
- To facilitate the development of a global case repository for water project management and provide professional knowledge services to member organizations.

SCHEDULE

September 17, 2025	Release the notice and launch the event
September - December 2025	Case submission
January 2026	Review
February 2026	Announce results
March to June 2026	Organize development teams to go to enterprises to develop teaching cases and research case study
April or June 2026	Awards ceremony

ORGANIZING INSTITUTIONS





- IPMA Water SIG
- Business School of Hohai University
- World Water Valley Institute of Hohai University
- China Europe International Business School (CEIBS) Case Center
- School of Management, Shandong University
- China International Engineering Consulting Corporation (CIECC)

EVALUATION SYSTEM

- The selection process employs a three-tier evaluation mechanism comprising nomination, preliminary selection, and final voting. Nominations are made either through self-registration by enterprises based on case study topics or through recommendations from partner institutions such as IPMA or Hohai University.
- The preliminary selection list is evaluated and scored by IPMA Water SIG, Hohai University, and CEIBS case center, resulting in 20 shortlisted cases for the database. The final awards, including individual category awards and the annual grand prize, are determined through deliberation and voting by the judging committee.

CASE THEME

operational management

Strategic management

project culture

process management

social responsibility related to water project management.

stakeholder managemen

scope management

innovation management

.....

AWARD CATEGORIES

- **Annual Grand Prize: 2**
- **Case Database Entries: 20**
- **Individual Awards:**
  - ✓ **Innovation Practice Award: 1**
  - ✓ **ESG Practice Award: 1**
  - ✓ **IPMA Standardization Award: 1**
  - ✓ **International Cooperation Award: 1**

CASE COLLECTION CRITERIA

- Participants shall be explorers, innovators, or practitioners in the field of water project management.
- Applicants must be enterprises registering voluntarily by completing the registration form and submitting cases. No fees will be charged during the selection process.
- Cases must contain no less than 3,000 words.
- Cases must cover the project background, management practices, implementation process, and outcomes.
- Submissions must be made within the designated timeframe.

REGISTRATION PROCESS

1. Carefully review the case collection criteria.
2. Complete the registration materials.
3. Develop the case study based on the evaluation standards, writing guidelines, and demonstration cases.
4. Submit the full case study (no less than 3,000 words)
5. **Registration deadline: December 31, 2025.**
6. Award notifications will be sent via email in February 2026.

Contact Information: **Assoc. Prof. TIAN Tel: +86 13805182774, Email: hhutm@hhu.edu.cn**

APPLICATION FORM

- Name, Mobile, Email:
- Company Name:
- Project Name:
- Case Title:
- Submitter's Declaration
- Case Theme
- Case Summary (Within 300 words)
- Company Profile (Within 300 words)
- Submitter Profile (Within 300 words)
- Willingness for Jury Research
- Whether the submitter and company agree to participate in jury research:

Add logo

IPMA Water Best Practice Case Application Form

1. Name

2. Phone Number

3. E-mail

5. Project Title

6. Application Case Title

7. Applicant's Name for Case Submission

8. Applicant's Job Title for Case Submission

9. Pledge Statement of the Submitter

10. Submitted Case Subject

- ◯ Water Project Strategic Management
- ◯ Water Project Process Management
- ◯ Water Project Stakeholder Management
- ◯ Water Project Scope Management
- ◯ Water Project Operations Management
- ◯ Water Project Innovation Management
- ◯ Water Project Culture
- ◯ Water Project Social Responsibility
- ◯ Miscellaneous

11. Case Summary (within 300 words)

12. Company Overview (within 300 words)

13. Applicant Biography (within 300 words)

CASE FRAMEWORK

1.Case Background

An introduction to the enterprise associated with the project and a project overview

2.Detailed Practice Description

2.1 Key challenges encountered during implementation

2.2 Solutions adopted to address these challenges

2.3 Outcomes and impact of the practices

3.Summary and Insights

Evaluation of project results, future prospects for the project, and the scalability/replicability of the project management methods employed

THANK YOU

Berlin 2025 | IPMA 34th World Congress

IPMA SIG WATER

世界水谷 World Water Valley

中国工商管理国际案例库
The Global Platform of China Cases
www.ChinaCases.Org

Water Resources Management Practice – Canada and China

- HUA ZHANG, PH.D., P.ENG.

SENIOR PRINCIPAL, SENIOR WATER RESOURCES ENGINEER

September 17, 2025

AGENDA

1. Water Resources Project Management
2. Case Studies

AGENDA

1. Project Management

Best Project Management Practice

- Development of Project Management Protocol - GAMIS
- A Complete Project Life Includes:

  Contract → Project Initiation → Execution → Scheduling/Budgeting → Senior Review (QA/QC) → Deliverables → Filing & Documentation
- Communication is essential during project life

Golden Rules for Project Management Success

- On Time,
- On Budget, and
- Meeting Client Expectations (Delivering Quality Products)

Project Management - Practice and Challenges

- Golden Rules – Easy to say then done
- Communications are the key to successful PM
- Take time to build up a trust relationship, but only takes one project to damage it
- Recognize own strengthens and weaknesses
- Willing to learn and to be challenged
- Stay positive and be proactive

AGENDA

2. Case Study

- Drought Management Study
- Flood Management Study
- Integrated Watershed Management

Case #1 – Drought Management Study

- **Recent Yellow River Aquatic and Ecological Disaster in Memory due to extended drought crisis: 1999年初潼关下游河段的水质污染是有史以来范围最大，程度最严重、持续时间最长的， 严重影响了下游几座城市的供水。河流水质下降加剧了水资源的严重短缺，因为严重污染的河水无法作为城市供水**
  - **Severe Water Shortage due to overly water demands in Yellow River watershed has been considerably increased since 1970s.**
  - **Total consumptive use amounts reached 70% of total basin water yield, which is greater than international average river basin water allocation of 40%.**
  - **Water shortage will continue to be a constraint for future social and economic development in Yellow River Basin.**

Case #1 – Drought Management Study

- Degrading Aquatic Environment along the lower river reach was characterized by reduced river flows, increased sedimentation, large spatial disparity in unit water yield, limited water dilution and assimilative capacity.
- Degrading River Water Quality has compounded the issue of water shortage, because highly polluted water cannot be used for municipal water supply.
- Degrading Ecological System - Frequent cutoff of river flows along the lower river reach has had a devastating effect on wetlands in estuary areas and river ecological system.

Case #1 – Drought Management Study

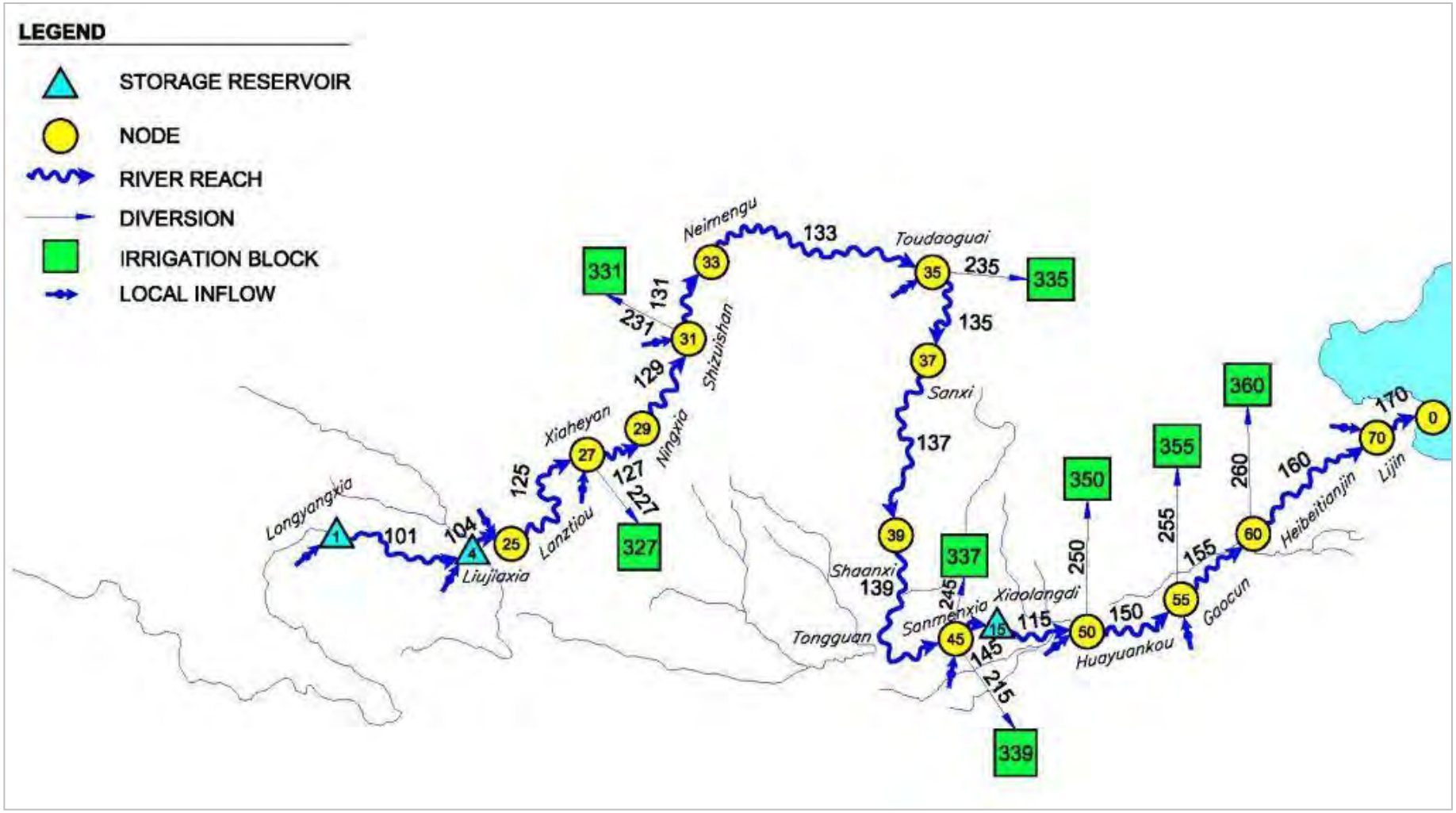
A requirement was implemented immediately after 1999 Yellow River cut off disaster to provide river maintenance flows of minimum 50 m^3/s year- round along Yellow River with a 200 m^3/s minimum flow between Toudaoguai and Sanxi

Case #1 – Drought Management Study

YYCC and Golder jointly conducted a "Water Allocation Planning and Operation Study" by using WRMM model – a Canadian water resources drought management model, and concluded:

- It was feasible to meet the minimum river maintenance flow targets (e.g., instream flow needs, IFN) based on available historic river operating data information.
- It was technically feasible to support the flushing flow requirements in each year during the 10-year simulated period by properly operating the Xiaolangdi Reservoir and the other facilities on the Yellow River.

Case #1 – Drought Management Study



Case #2 – Flood Management Study

- Flood Hazard Management Study has become a trend in Canada during recent years
- In 1980's, Canada launched a national-wide flood damage reduction program (FDRP) between the Federal Government and each Provincial Government
- Design floods in Canada range from 100-year to 500-year flood events
- Most studies were completed for flood-prone cities, towns and large communities by mid-1990
- Flood risk maps were prepared for use in the development of EPPs and ERPs

Case #2 – Flood Management Study

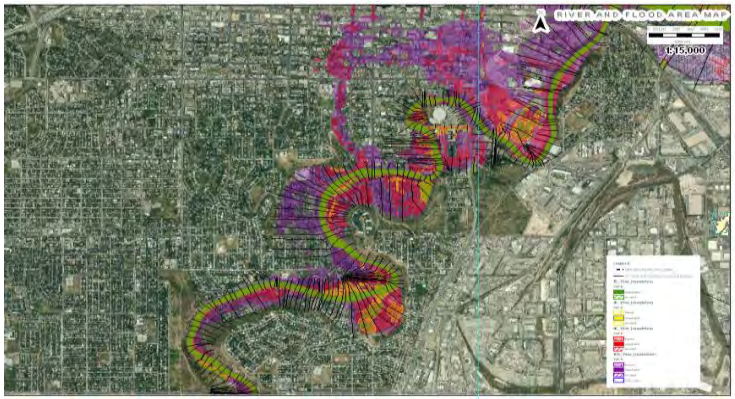
Severe floods occurred more frequently in Canada, damages and flood insurance claims have gone up dramatically:

- **Town of High River June 2013 Flood. It experienced floods in 1995, 2005, 2008**
- **City of Calgary June 2013 Flood**
- **Total damage for 2013 Alberta floods close to $6B and in terms of insurable damages, was the costliest disaster in Canadian history.**

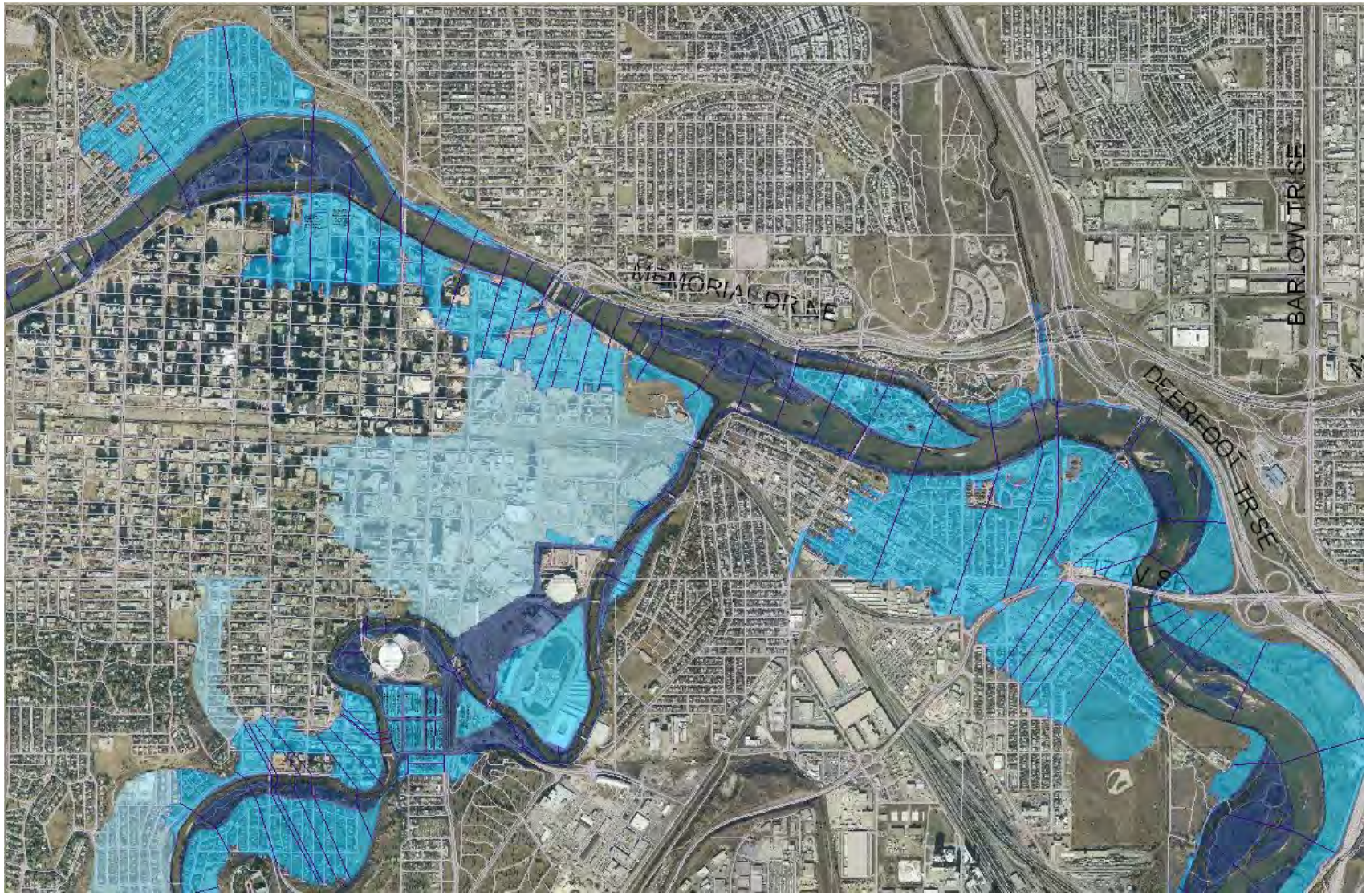
Case #2 – Flood Management Study

Needs for completing/updating existing flood hazard studies:

- **Existing studies were based on coarse topographic data, old hydrology and hydraulic analyses**
- **Significant urban developments have occurred along designated floodplains over last 20~30 years**
- **More accurate topographic data and modern mapping tools become available and easy to use**
- **Could greatly reduce flood insurance claims which are based on dated flood hazard maps**

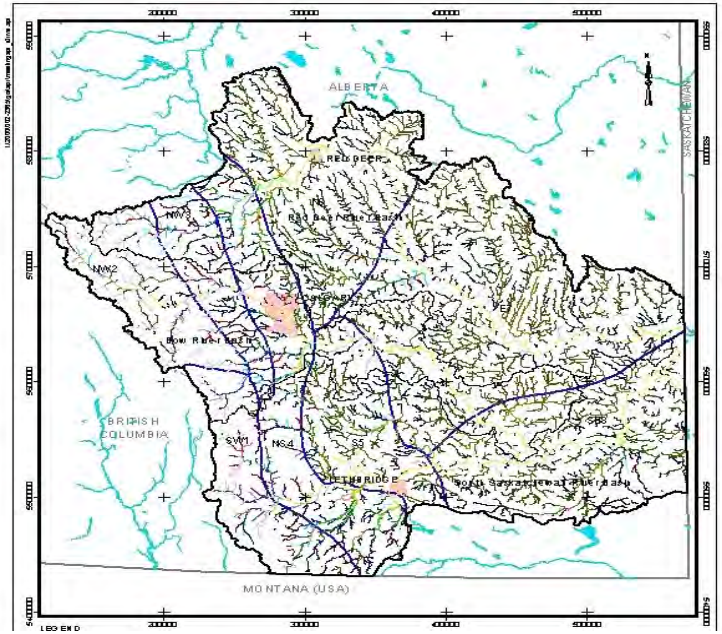


Case #2 – Flood Management Study

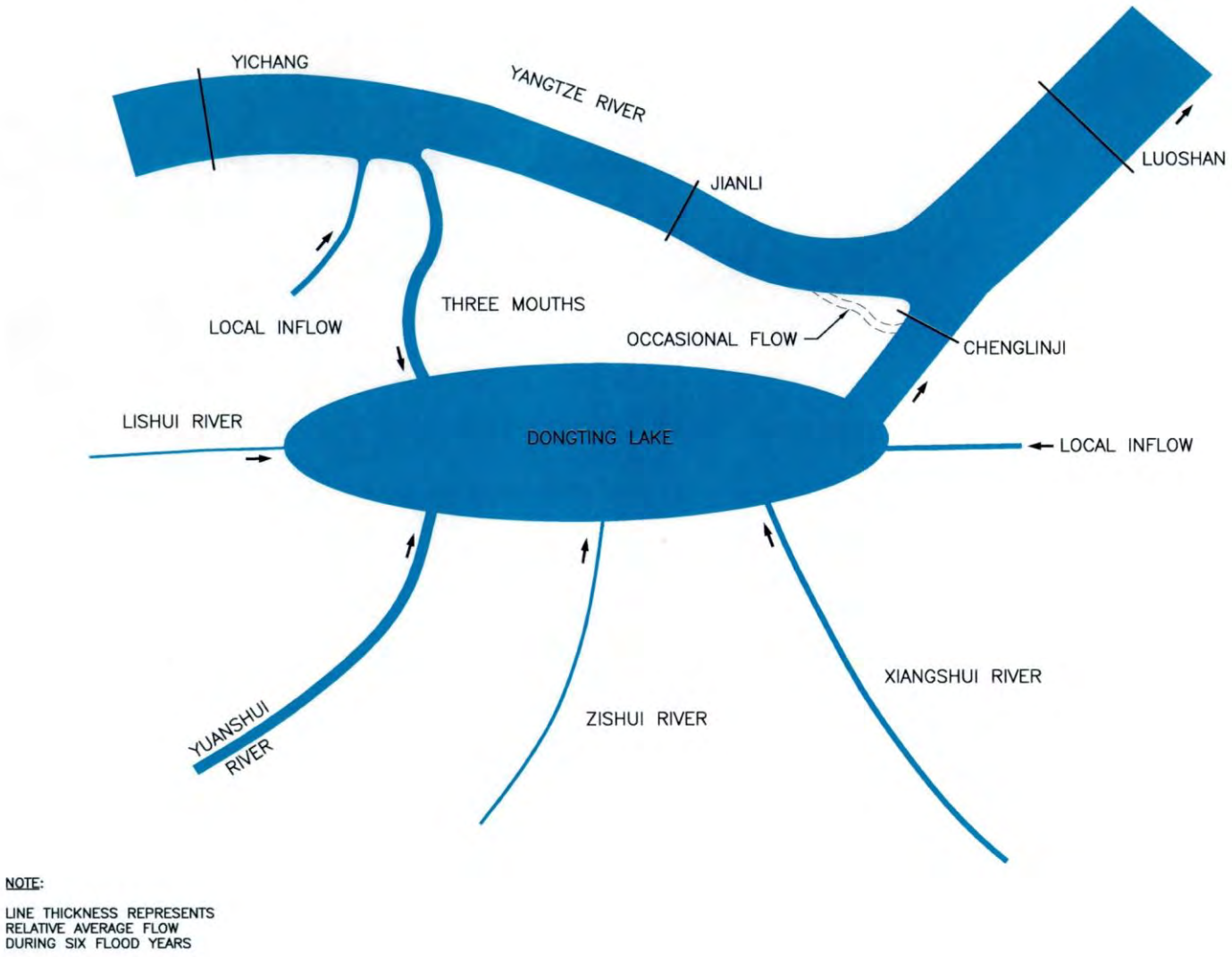


Case #3 - Integrated Watershed Management

- Develop in-depth understanding of real-world watersheds through integrated watershed management practice
- Build multi-disciplinary database that supports:
  - Hydrology study
  - Hydraulic analysis
  - Water quality assessment
  - IFN assessment
  - Water supply and allocation
  - Other objectives as required
  - Use GIS as a platform
  - Develop a IWM system



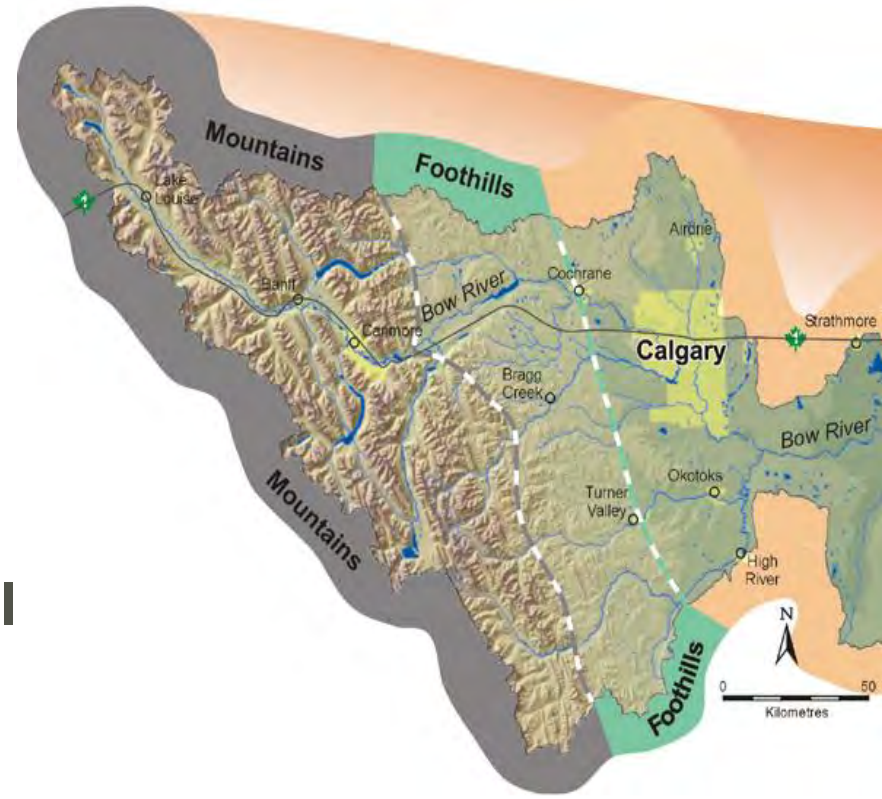
Case #3 - Integrated Watershed Management



Case #3 - Integrated Watershed Management

Key requirements for an IWM system:

- Practical
- Sustainable
- Reliable
- Easy to use



Integration of various model tool is the key to successful IWM practice

Complex system with large project investment

Thank you!