

# Managing Water Resources from Source-to Sea

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**Niloofar Sadeghi**

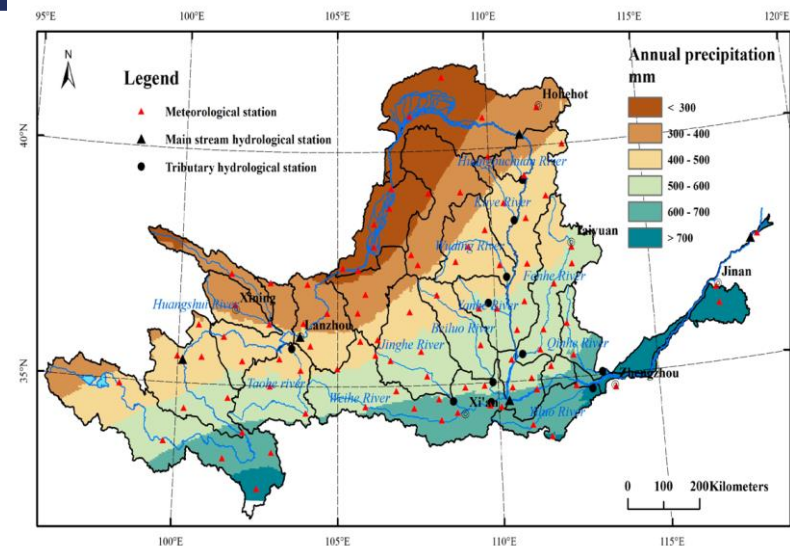
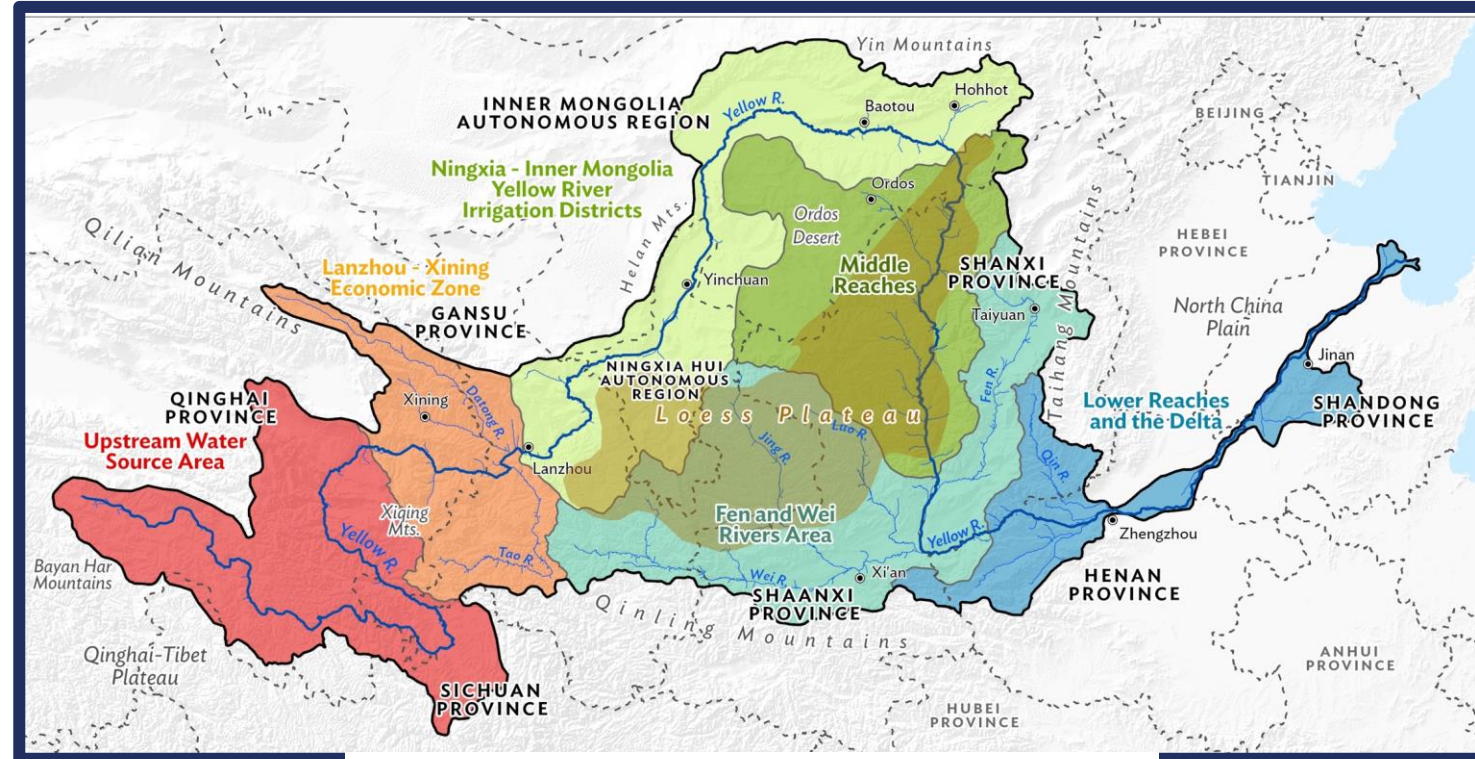
Team Leader (climate change, regenerative and climate smart agriculture, water resources management), Asian Development Bank (ADB)

10th World Water Forum, Bali  
Monday 20th, 2:50pm to 4:20pm, Room location: Legian 6



# THE YELLOW RIVER BASIN: AN OVERVIEW: THE YELLOW RIVER BASIN: A VERY SPECIAL SOURCE-TO-SEA SETTING

- **Severe erosion:** the Loess plateau – highest sediment concentration of the world. The “hanging river” increases risks of floods in downstream areas.
- **Pollution:** upstream and midstream areas
- **Unequal water distribution:** upstream v. downstream
- **Regional inequalities:** less developed provinces upstream versus the more developed ones downstream
- Downstream areas experience at times **extremely low flows**. In 1997, the river was reaching the sea only one-third of the year.
- **Remarkable turnaround** over the last decades. The river has become an award-winning model. The the YRCC won the Lee Kwan Yu Water prize in Singapore



# The Yellow River Ecological Corridor as the basis for continued sustainable development and ecological restoration



An Ecological Corridor is a space that is governed and managed over the long-term to maintain or restore ecological connectivity and ecosystem integrity.

- Managing water quantities and quality for agriculture, energy and industry is one thing – making sure quantity and quality align with the needs of the natural environment across time and space is a whole different story.
- River basins if well-managed, are vital natural ecological corridors.
- Healthy ecological corridors generate positive impacts for the **environment, economic growth, social well being, and climate change goals** in the PRC and elsewhere – they:
  - maintain biodiversity
  - ensure watershed, river and wetland health to mitigate water related disasters and improve water quality
  - provide economic and ecosystem services to benefit humans and aquatic and terrestrial environments and biota
  - provide a healthy and safe environment where people can thrive
  - create resilience to and mitigate climate change impacts

# Priorities for ADB's Yellow River Ecological Corridor Program

- **Implementing an integrated approach** to manage natural resources, conserve the environment, and tackle climate change to promote sustainable, high-quality green development through reforms, innovation, and private sector engagement.
- Aiming to **protect and restore the diverse and delicate ecosystems** of the Yellow River basins to support fair and sustainable economic development across rural and urban areas.
- Leveraging **the strategic approach** of the Yangtze River Economic Belt to **create broad and lasting effects** by focusing investments in the Yellow River Ecological Corridor, a key economic and ecological area in the PRC.

## Institutional Strengthening

- Improved governance and institutions
- Policy reforms and incentive mechanisms
- Cooperation frameworks and enabling environments

## Innovative Approaches

- Technology
- Integrated solutions
- Project pilots
- Catalyze change at scale
- **Private sector solutions**
- **Innovative finance**
- Gender mainstreaming

## Knowledge Management

- High-quality knowledge generation and dissemination
- Capacity building
- Regional cooperation
- Multi-stakeholder platforms
- Strategic partnerships

## LENDING: YREC Initial Investment Program (Under Development) – One-ADB Approach

- 1. Silk Road Ecological Protection and Rehabilitation Project**  
\$200 million ADB; \$335 million total (EAER - 2021)
- 2. Gansu Environmentally Sustainable Rural Vitalization and Development Project**  
\$150 million ADB; \$300 million total (EASI - 2022)
- 3. Green Farmland Demonstration and High-Quality Agricultural Development Program in Yellow River Basin**  
\$200 million ADB; \$435 million total (EAER - 2022)
- 4. Shanxi Changzhi Low-Carbon Climate-Resilient Circular Economy Transformation Project**  
\$300 million ADB; \$500 million total (EASS - 2023)
- 5. Shanxi Low-carbon and Inclusive Rural Development Project**  
\$160 million ADB; \$602 million total (EASI - 2023)
- 6. Shandong Qixia Ecological Conservation Demonstration Project**  
\$150 million ADB; \$300 total (EAER – 2024)

**~ 1.8 billion investment (~\$1.1 billion ADB investment)**

ADB

## TA YREC ADB Non-lending Value Addition

**15 subprojects in key thematic areas**

**~ \$4.8 million**

Natural resources  
management and  
ecosystems

Climate resilient  
agriculture and  
value chains

Urban-rural green  
development and  
circular economy

Climate change  
mitigation and  
adaptation

**KEY THEMATIC AREAS**



# EXAMPLE: BIODIVERSITY AND NATURAL CAPITAL

- The Yellow River basin supports globally important biodiversity
- YREC subproject led by the **Henan Provincial Forestry Administration** to identify biodiversity values, conservation priorities, and preparation of a biodiversity strategy and action plan for the Yellow River basin within Henan Province
- To ensure a holistic approach the project includes the assessment of **climate change impacts**, environmental flows, **evaluation of ecosystem services, natural capital values and financing**
- **Biodiversity strategy and action plan** to provide a blueprint to protect, manage and/or expand key sites for biodiversity
- Support **conservation planning** at the provincial and national levels and provide a model for sub-watershed conservation planning for other parts of the basin, the PRC, and Asia-Pacific region.



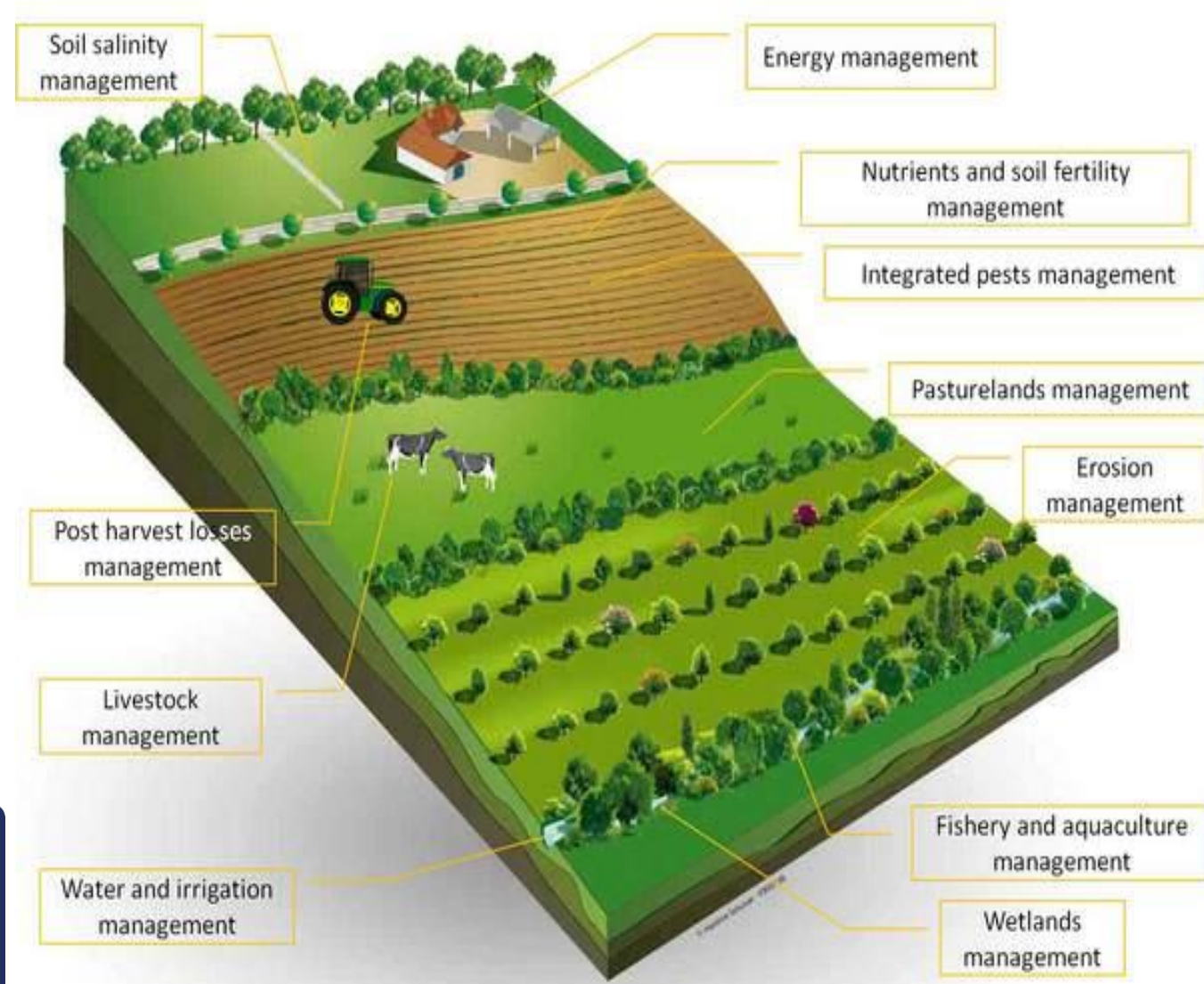
POLICY BRIEF: Strengthening Biodiversity Conservation in the Yellow River Basin of Henan Province, PRC



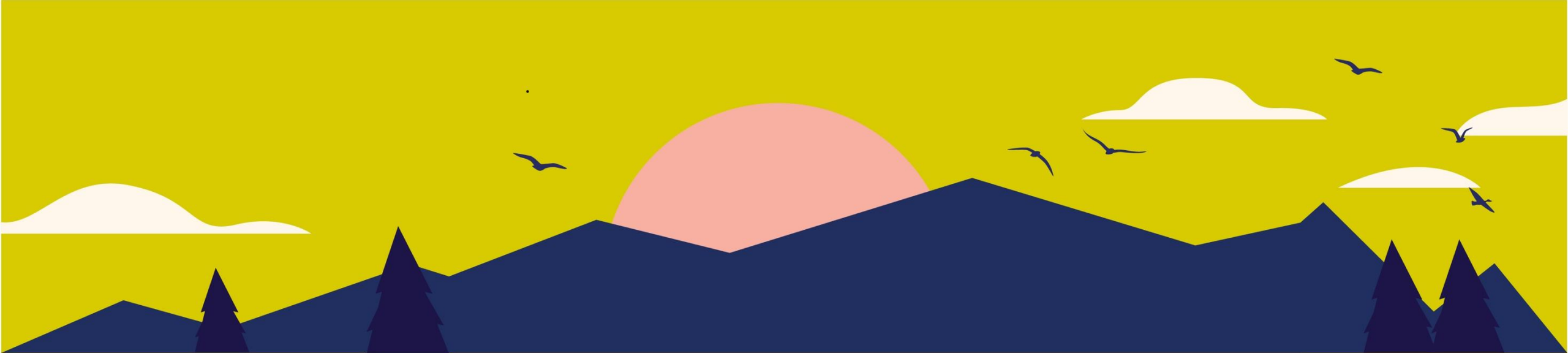
Learn more

## EXAMPLE: Green Farmland Demonstration and High-Quality Agricultural Development Program

- **Modality:** Sector-based project approach for flexible implementation
- **Sites:** 24 counties in seven provinces 7 provinces within the Yellow River basin
- **Impact:** Resilient ecological protection and security in the Yellow River basin achieved
- **Outcome:** Sustainability of green agricultural production systems improved
- The project shifts focus of ADB financing from agriculture infrastructure to a production system, and value chain approach balancing the importance of agriculture, value addition and the environment complemented by institutional strengthening.



Learn more



# Thank you

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# A FEW HIGHLIGHTS OF ADBs TECHNICAL ASSISTANCE WORK

- 1. INSTITUTIONS AND GOVERNANCE: INST. STRENGTHENING THROUGH KNOWLEDGE SHARING AND PARTNERSHIPS**
- 2. BIODIVERSITY AND NATURAL CAPITAL, MAINSTREAMING ECOSYSTEM**
- 3. CLIMATE CHANGE ADAPTATION**

# 1. INSTITUTIONS AND GOVERNANCE

- The **Yangtze River Protection Law** represents a landmark legislation which will serve as a model for designing legislation to protect other river basins, including informing the development of the Yellow River Law
- Establishes a **legal framework** for implementing actions towards achieving national carbon neutrality targets and demonstrating commitment to the Paris Climate Agreement
- Challenges lies ahead in effective implementation and enforcement, with further revision and amendments expected



## KEY POINTS

- The Yangtze River Protection Law (YRPL) was adopted on 26 December 2020 by the Standing Committee of the National People's Congress and came into force on 1 March 2021.
- The YRPL represents a landmark legislation to strengthen environmental protection and ecological restoration of a specific river basin in the People's Republic of China (PRC).
- Lessons and experiences from the legislative reforms reflected in the YRPL will serve as an important model to share knowledge and inform legislative frameworks planned for other river basins in the PRC, including the Yellow River basin, and for river basins in other developing member countries.

## Yangtze River Protection Law of the People's Republic of China: Overview of Key Provisions and Policy Recommendations

Au Shion Yee  
Senior Water Resources Specialist  
East Asia Department  
Asian Development Bank

Dongmei Guo  
Environment Specialist  
East Asia Department  
Asian Development Bank

## INTRODUCTION

This brief presents an overview of the policy recommendations prepared under a technical assistance (TA) project of the Asian Development Bank (ADB), which provided technical support and policy advice in the formulation and design of the Yangtze River Protection Law (YRPL), 2020 of the People's Republic of China (PRC).<sup>1</sup> The YRPL represents a legislative landmark for strengthening policy and regulatory frameworks to achieve environmental protection and Sustainable Development Goals in the PRC's largest and most significant river basin.<sup>2</sup>



# Yellow River Ecological Corridor (YREC) Seminar Series

Inaugural Session

**Institutions and governance  
for a water-secure and resilient**



# Yellow River Basin



**ASIAN  
DEVELOPMENT  
BANK**



**MINISTRY OF  
ECOLOGY AND  
ENVIRONMENT**



**YELLOW RIVER  
CONSERVANCY  
COMMISSION**

**24-26 May 2023**

**Henan province (Zhengzhou city)**



## COLLABORATIVE GOVERNANCE THROUGH KNOWLEDGE SHARING AND PARTNERSHIPS





# 1. INSTITUTIONS AND GOVERNANCE

## Key drivers for legislative reform

### Ecological and environmental degradation are significant challenges

- Weak ecological protection measures and increasing ecological and environmental degradation
- Water pollution is significant, with annual sewage discharge in the basin two-thirds of the total sewage discharge in PRC, and discharge intensity per unit area is twice the national average
- Slow transformation of industrial areas along the river and inadequate drivers and incentives for green development

### Lack of overarching legal framework for effective basin-wide protection

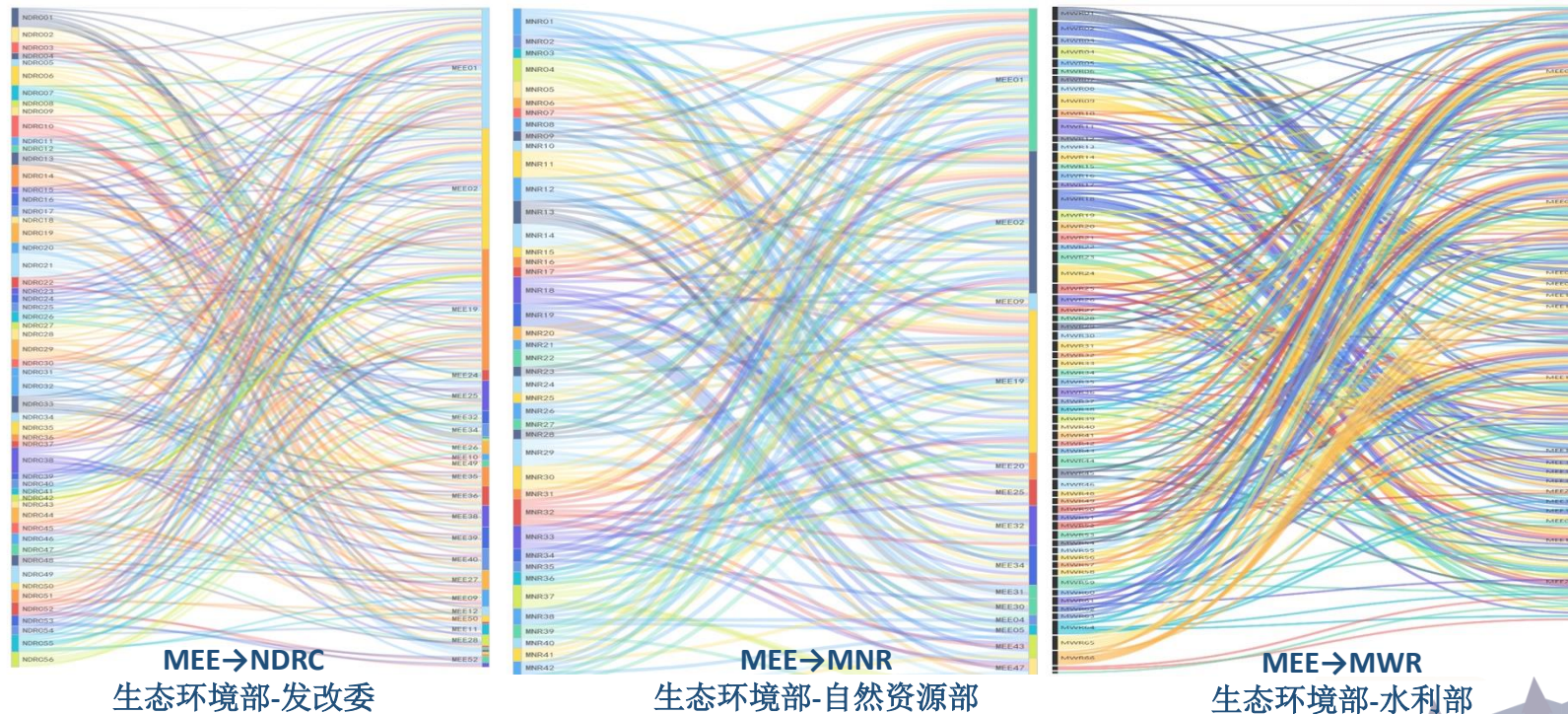
- Legal and regulatory mechanisms are inconsistent and scattered, lacking role clarity and clear enforcement authority, e.g.
- Conflicts between the Water Law and the Water Pollution Prevention Law in the definition of water resources protection and management functions, and lack of effective mechanisms for negotiation and settlement of inter-provincial water pollution control disputes
- The Flood Control Law and the Water Pollution Prevention Law are not unified in the implementation of flood control planning

# 1. INSTITUTIONS AND GOVERNANCE

## Institutional coordination towards harmonized basin strategies

- A complex web of ministries and provinces
- Sometimes competing interests and priorities
- Information flow and engagement is crucial for harmonized basin approach

Consistency Analysis – MEE and MWR correlate & cooperate more?  
政策一致性分析 – 生态环保部与水利部关联与合作更多?



# 1. INSTITUTIONS AND GOVERNANCE

## Yellow River Protection Law

- The law is a great achievement and significant milestone towards improved basin governance
- Preparing for law enforcement
  - Revision and repeal of inconsistent administrative regulations and rules by central and local governments
  - Formulation of supporting regulations and rules as mandated by the law
- Collect information and experiences to prepare for future amendment



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# 3. CLIMATE CHANGE ADAPTATION

## Planning for climate adaptation and resilience in the Yellow River basin (MEE – Climate Change Department)

### Climate risk assessment and recommendations on adaptation measures



- Quantify climate risks in the upper, middle and lower reaches
- Rank threatened ecosystems and sensitive socio-economic sectors
- Prioritize the most vulnerable sectors
- Identify adaptation measures with mitigation co-benefits
- Gender and social inclusion

### Yellow River basin adaptation plan (YRBAP) aligned with the PRC's NSCA 2035



- Review of sector-relevant policies and regulations
- Conduct a stakeholder assessment
- Prepare a draft YRBAP including an implementation workplan, proposed institutional roles of key government agencies, a monitoring framework, an analysis of costs

### Knowledge and capacity on adaptation planning and resilience



- Conduct a capacity building program to train sector agencies on the YRBAP
- Conduct a regional stakeholder workshop to present the plan
- Raise public awareness on climate change risks and adaptation measures proposed for the Yellow River basin



# EXAMPLE: Silk Road Ecological Protection and Rehabilitation Project (2022)

- **Rationale:** Demonstrate integrated ecosystem management and multifunctional benefits of climate resilient, community-based forestry and wetland restoration and protection.
- **Sites:** Qinghai, Gansu and Shaanxi Provinces
- **Climate change mitigation activities (\$ 129 million, Estimated GHG Emission Reduction of 325k tCO<sub>2</sub>e/year)**
  - Afforestation and reforestation of 37,000 ha of forestland
  - Restoring vegetation in 340 ha of wetlands and related catchments
- **Innovative features:**
  - Adopting the close-to-nature forestry management to protect and rehabilitate forests and wetlands to support community-based ecotourism development
  - Use of high-level technology including drones and real-time web-based tools for forest mapping, site surveys, and remote sensing

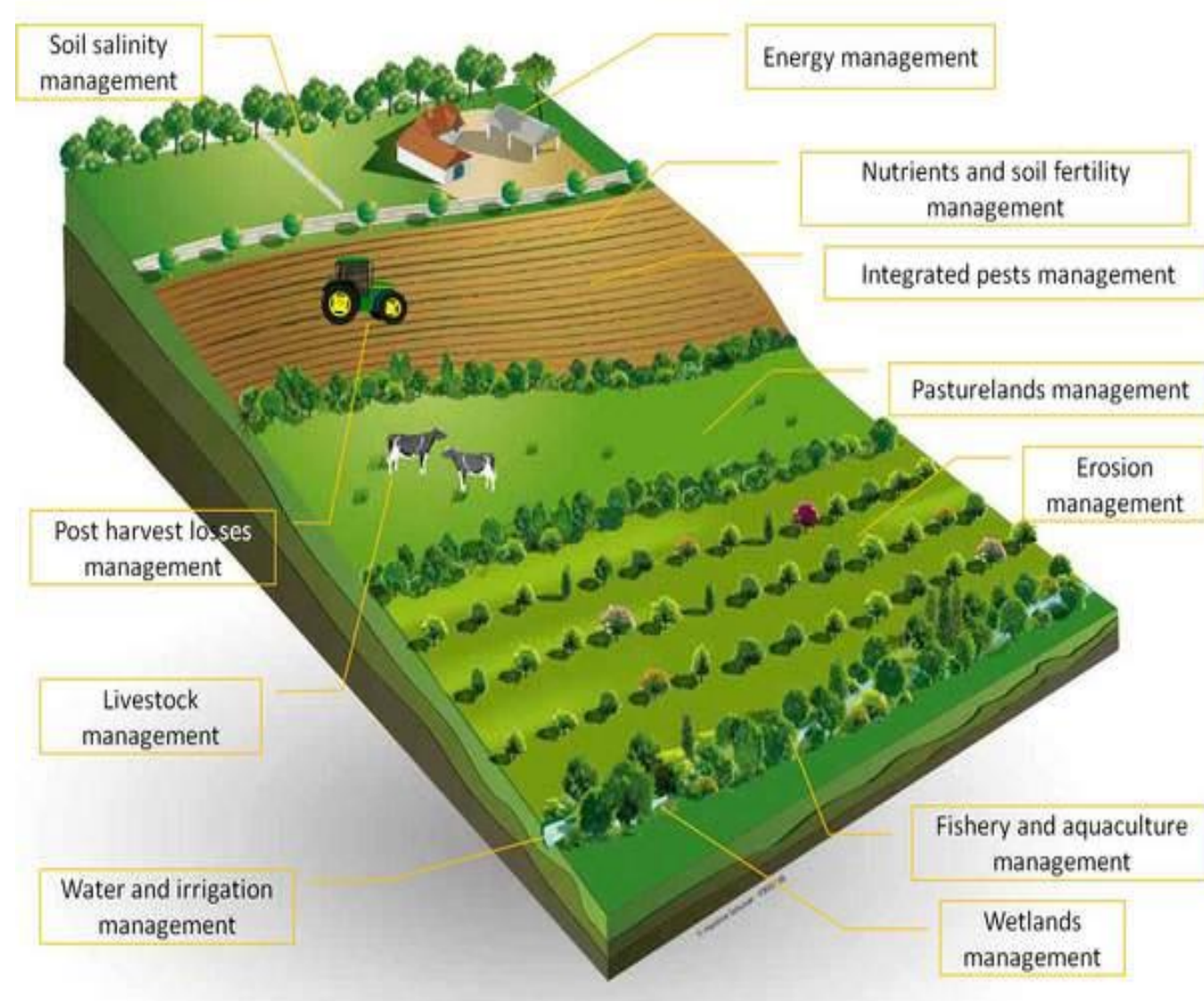


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# Looking forward: YREC actions (2023- 2025)

1. To provide a **platform** in which the PRC partners (ministries, administrations, provinces, etc.) socialize and discuss the issues in the Yellow River they jointly will have to solve
2. To disseminate **YREC results**, for technical assistance and loan projects
3. For ADB, to learn from the PRC partners about the challenges in the basin
4. **South-south cooperation** among PRC and other ADB regional developing member countries
5. To **explore opportunities of cooperation, knowledge sharing and ADB financial support** in the context of the current ADB-PRC Country Partnership Program (2021-2025)



# Questions and comments from participants



**ADB loan project: Yellow River Basin Green Farmland and High-Quality Agriculture Development Project**



**ADB loan project: Silk Road Ecological Rehabilitation and Protection Project**



**ADB knowledge technical assistance (13 sub-projects across four areas of intervention)**

## Learn more

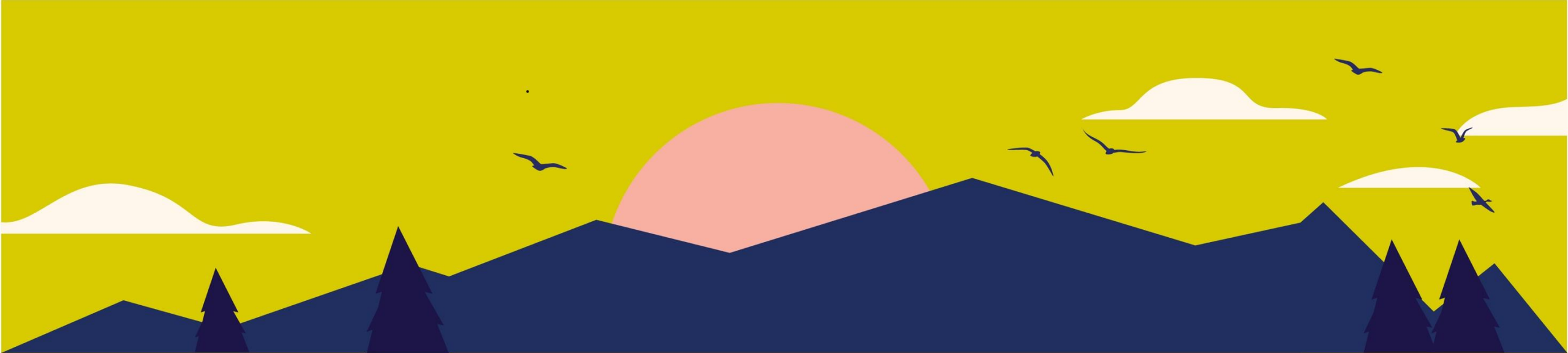


**ADB commitment: UN Water Agenda**



**Policy brief Scaling Natural Capital Investments in the Yellow River Ecological Corridor**





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# Alignment with the new ADB-PRC Country Partnership Strategy (CPS), 2021-2025

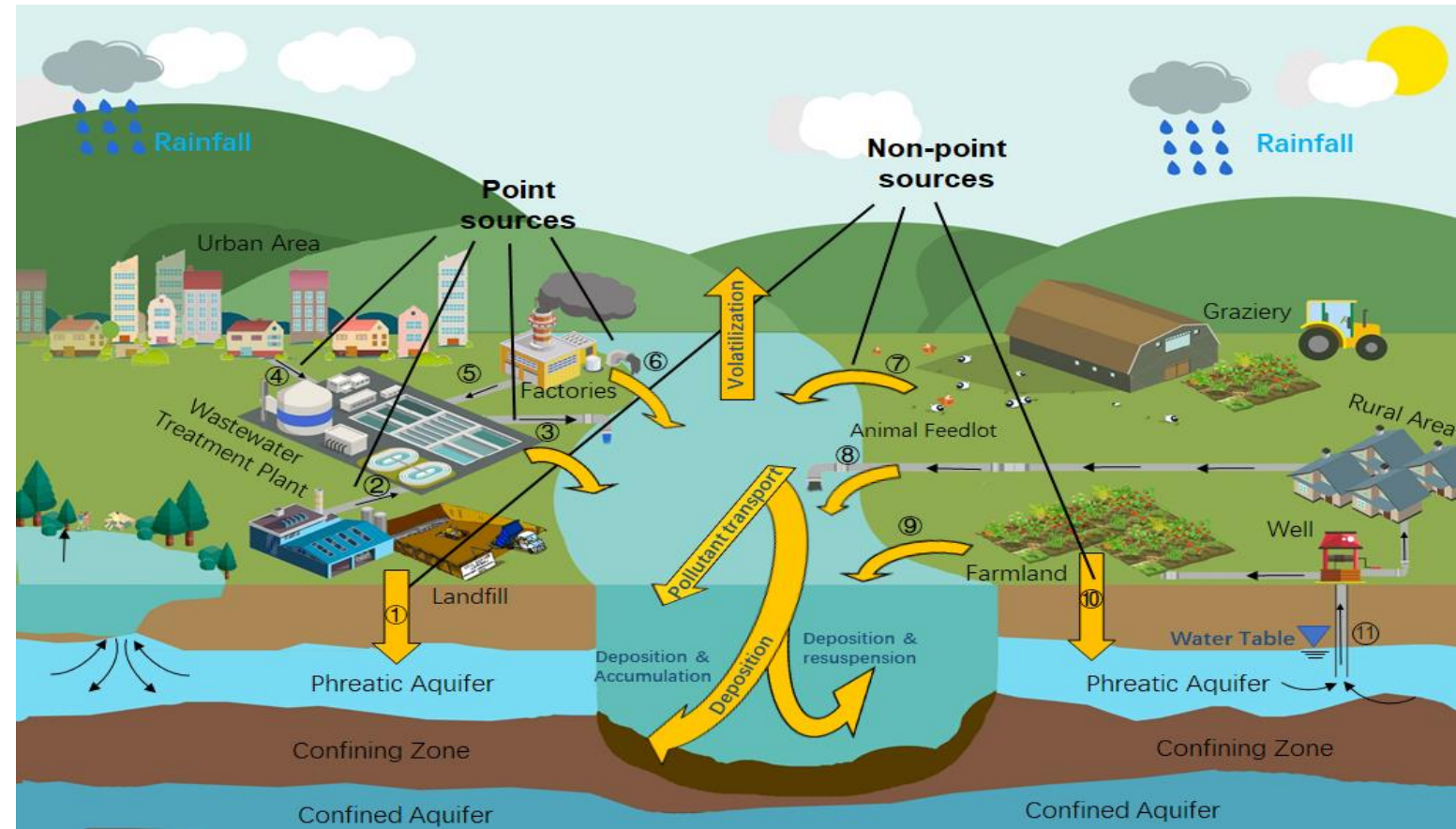
EARD's program will focus on Environmentally Sustainable Development (Pillar1), Climate Change Adaptation and Mitigation (Pillar2), with an emphasis on private sector solutions and innovative finance with PSOD.

Alignment with ADB Strategy 2030 - OP1, OP3, OP4, OP5 and OP6



# 1. INSTITUTIONS AND GOVERNANCE

- The **Yangtze** and **Yellow River basins** are the two largest river basins in PRC
- Facing significant environmental challenges
  - Lacking integrated and systemic protection; degraded ecosystems and ecology
  - Large amount of water pollutants, latent environmental risks; unbalanced industrial structure that pays little heed to green development.
- Existing governance system and legal provisions are inadequate to support the needs for environmental protection and overall coordinated management



State level  
Provincial level  
Sub-provincial level

# CPC Central Committee

National Development and Reform Commission (NDRC)

Ministry of Finance (MoF)

Provinces

Ministry of Emergency Management (MER)

Ministry of Natural Resources (MNR)

Ministry of Ecology and Environment (MEE)

Ministry of Water Resources (MWR)

Ministry of Agriculture and Rural Affairs (MARA)

Ministry of Housing and Urban-Rural Development (MHURD)

Provincial Development and Reform Commissions

National Forestry & Grassland Administration

MEE Regional Office

Yellow River Conservancy Commission (YRCC)  
Provincial YRCC Offices

MWR Regional Office

National Rural Revitalization Administration

River Chief System  
Provincial level  
City level  
County level  
Township level

Provincial ER Offices

Provincial NR Offices

Provincial EE Offices

Provincial WR Offices

Provincial ARA Offices

Provincial HURD Offices

Offices at prefecture, county and township level

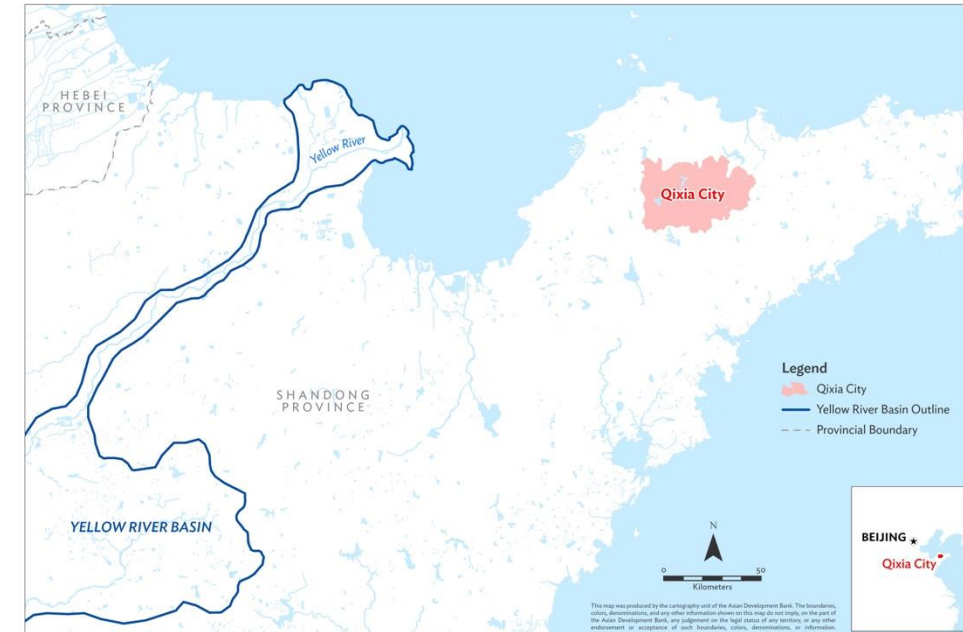


# EXAMPLE: Shandong Qixia Ecological Conservation and Demonstration Project

**Impact:** Ecological restoration and ecological quality improvement in key regions crucial to national ecological security promoted

**Outcome:** Ecological resilience and rural livelihoods in Yantai City enhanced

- **Output 1:** Institutional capacity and knowledge on integrated ecological management strengthened
- **Output 2:** Green circular agriculture model established
- **Output 3:** Natural capital protected and rehabilitated



## Shandong Qixia Ecological Conservation Demonstration Project

