



Kā Rakahau o Te Ao Tūroa  
Centre for Sustainability

# The Role of Local Knowledge in Yancheng National Nature Reserve (YNNR) Management

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# Research Background

- Research questions
  - What types of local knowledge does the local community possess in YNNR relating to the reed ecosystem, and what are their aspirations for the use of this knowledge in the management of the reserve?
  - What are the perceptions of nature reserve management staff and scientific researchers towards the use of the local knowledge held by local community members in the management of the reserve?
  - What are the challenges of and opportunities for the integration of LK into co-management of YNNR.

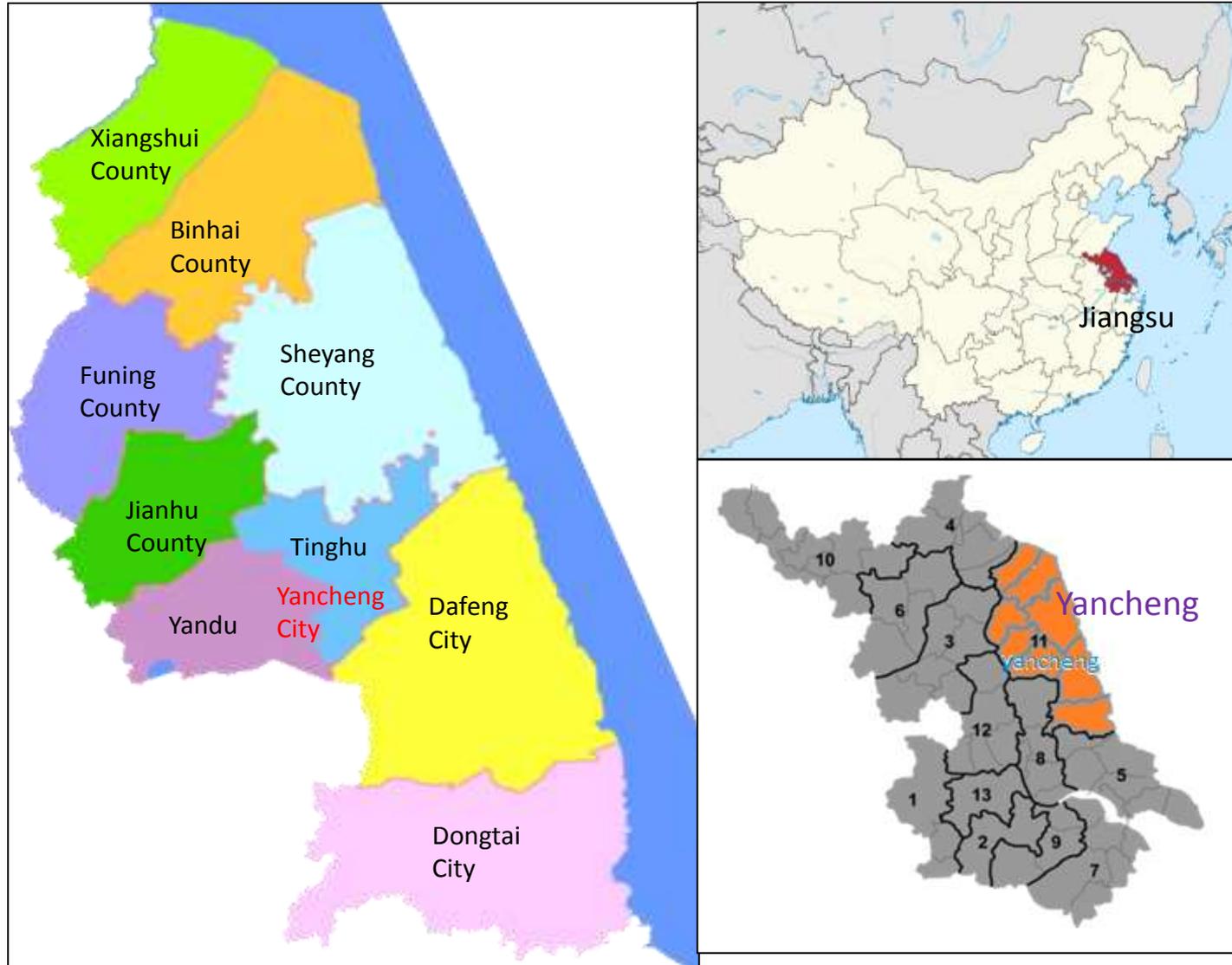
# Introduction of YNNR

- The first and largest tidal flat nature reserve in China
- Established in 1983 to protect the red-crowned crane (*Grus japonensis*) and its habitats.
- One of the most important stopovers for 300 species of migratory birds from northeast Asia to Australia
- Approved as an international biosphere reserve in UNESCO's Man and Biosphere Program (MAB) in 1992
- Included in the Ramsar Convention List of Wetlands of International Importance in 2002.
- YNNR is 247,260 ha in area and has more than 500,000 wintering water birds, of which 43 bird species, including the red-crowned crane, are on the IUCN Red List of Threatened Species

# Introduction of YNNR



# Introduction of YNNR





# Field work

- Time: Dec 19, 2013 to Jan 22, 2014
- Interview: semi structured, one-on-one or group interview
  - local people: 30
  - nature reserve staff: 8
  - scientific researchers: 5
- Attend the Yancheng Man and Biosphere reserve's 10 year review meeting for community representatives
- Assisted southern experimental zone community survey with Nanjing University

# Map of Research Area



-  The core zone
-  The buffer zone
-  The experimental zone

# Results

- Context

- Local interviewees (30: 29 male, 1 female)

- Occupation: fishing (10), farming (8), reed production (3), Salt production (6), business (3).

- Nature reserve interviewees (8, all male)

- Expertise: scientific research (3), environmental protection (3), office administration (1), community affairs (1)

- Scientists(5 scientists, 4 male, 1 female)

- Expertise: Spartina and coastal saline agriculture, bird ecology, coastal wetland ecosystem, coastal resources utilization and impact study, urbanization and environmental studies

# Environment



# Development



# Nature Reserve Management

The background of the slide features a large, multi-story white building with a blue roof and a central tower. The building is surrounded by manicured greenery, including a large, rounded bush in the foreground and a red car parked in front of the building. The overall scene is bright and clear.

- Management effectiveness
- Regulation enforcement
- Compensation
- Conflict

# Local Knowledge

- Reed
  - Reed harvesting
  - Reed former usage
  - Reed ecology



# Local knowledge

- Red crown crane
  - Abundance
  - Diet
  - Habitat loss
  - Emotional attachment



# Local knowledge

An aerial photograph of a fishing harbor, likely in Southeast Asia, showing numerous fishing boats of various sizes docked at a pier. The water is calm, and the sky is clear. In the foreground, the complex structure of fishing gear, including nets and masts, is visible, partially obscuring the view of the harbor. The overall scene depicts a busy maritime community.

- Fish stock
  - Abundance
  - Causes of fishery decline:
    - Pollution
    - Overfishing
    - Advanced Fishing gear
- Water and tides
- Aquaculture and farming

# Co-management

- Communication
- Compensation
- Inequity
- Mutual benefit
- Eco-tourism
- United branding

# Summary

- Coastal development strategy take precedence over conservation, cause conflicts between local communities and the nature reserve.
- Biodiversity is still under threat (as it is internationally), the nature reserve needs to balance the goal of conservation with development and slow down the trend of environmental degradation.

# Summary

- locals have very limited knowledge concerning birds and their habitats, which undermined their ability to cooperate with the nature reserve for conservation.
- Without leadership and participation; recognition of LK value; and social science research, no local knowledge has been integrated into the management of the nature reserve.

# Summary

- The western concept of co-management doesn't seem to be well adapted in China, since China has unique social and cultural characteristics different from western society.
- Green branding of the nature reserve, including organic farming, aquaculture, and ecotourism may bring mutual benefit, but sustainable funding is crucial for transition period and long-term involvement

A wide-angle photograph of a vast, flat field of dry, golden-brown grass. The grass is dense and covers the entire foreground and middle ground. The horizon is a straight line in the distance, and the sky above is a uniform, pale, overcast color. The overall tone is muted and naturalistic.

Thanks & Questions