



# **Implementing WCC Resolution 28: Current Steps by IUCN**



**1a** Requests IUCN to undertake a study to investigate the benefits of ecosystem services provided by intertidal wetlands



## **Two major activities underway**

With funding support from MoE RoK, the IUCN Asia Regional Office has commissioned an international wetlands expert (Rob McInnes) to:

- 1) Undertake a desk-top review of the multiple values of the intertidal wetlands of the Yellow Sea Eco-Region;
- 2) Deliver a training workshop on the assessment of wetland ecosystem services.

# Desk-Top Review: Initial Findings

- Wetlands have been subjected to increasing threats, all of which have implications for the ecosystem services and the flow of benefits to human society.
- Some studies have come up with monetary values for intertidal wetlands, eg:

**Sanggou Bay, China:** Total value of ecosystem services = US\$5.2 million (2003 prices), for food provision (50%), tourism and entertainment services (30%) and climate regulation services (10%)

**Bohai Sea:** US\$8.3 billion (1998 prices), for fish production, gene resource provision, O<sub>2</sub> production, climate regulation, pollutant purification, biological control, leisure and entertainment, research and education, primary production and biodiversity conservation<sub>4</sub>

# Desk-Top Review: Initial Findings

- Many studies have focussed on the monetary value of just one ecosystem service. For example: the recreation and tourism service values of the Boryeong Mud Festival in RoK were valued at US\$17.85 million per year (2014 prices)
- Numerous studies have addressed food production services:
  - many focus on fisheries
  - area of Jiangsu coast used for harvesting and farming of *Porphyra yezoensis*, a cold water seaweed, increased from 9,460 ha in 2003 to 22,974 ha in 2008.

# Desk-Top Review: Initial Findings

- Studies often tend to be narrowly focussed and do not take an ecosystem service perspective.
- Even studies that call themselves 'ecosystem service assessments' often fall short of recognising the full range of values.
- Studies which provide a monetary value are dependent on highly subjective data and values. These often do not acknowledge that monetary values change over time and ***fail to identify who benefits.***
- For example, an assessment of land use change at Chongming Dongtan concluded that the total value of ecosystem services declined by 62% per year between 1990 and 2000, without identifying the victims of this loss: local fishing communities, residents of coastal villages, the regional economy, etc.

## Technical Training Workshop, Suncheon, RoK, 26 -28 July 2016

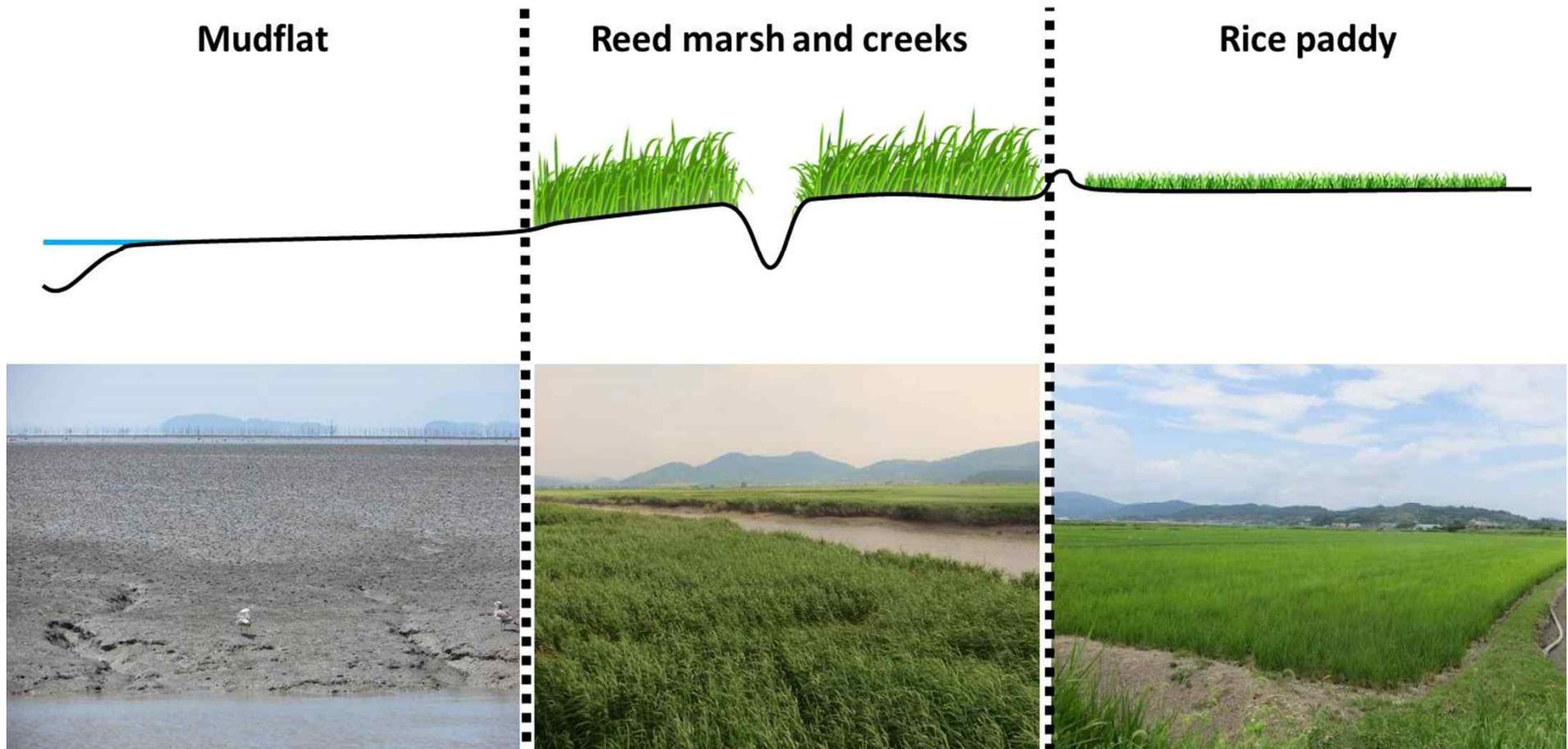
- Facilitator: Rob McInnes, with Ramsar Regional Centre – East Asia
- 13 participants from RoK and China
- Classroom and field-based sessions
- To improve knowledge of wetland ecosystem services and develop understanding of the Rapid Assessment of Wetland Ecosystem Services (Raw-ES).



- Raw-ES seeks to recognise as wide a range of wetland ecosystem services as possible.
- Before conducting field assessments, participants brainstormed a list of expected ecosystem services for the wetlands of Suncheon Bay. This list identified 39 ecosystem services.
- The field assessment is based on field indicators, discussions with local stakeholders, and professional knowledge of wetland functioning. It also seeks to place sites within the context of wider environmental and socio-economic systems.



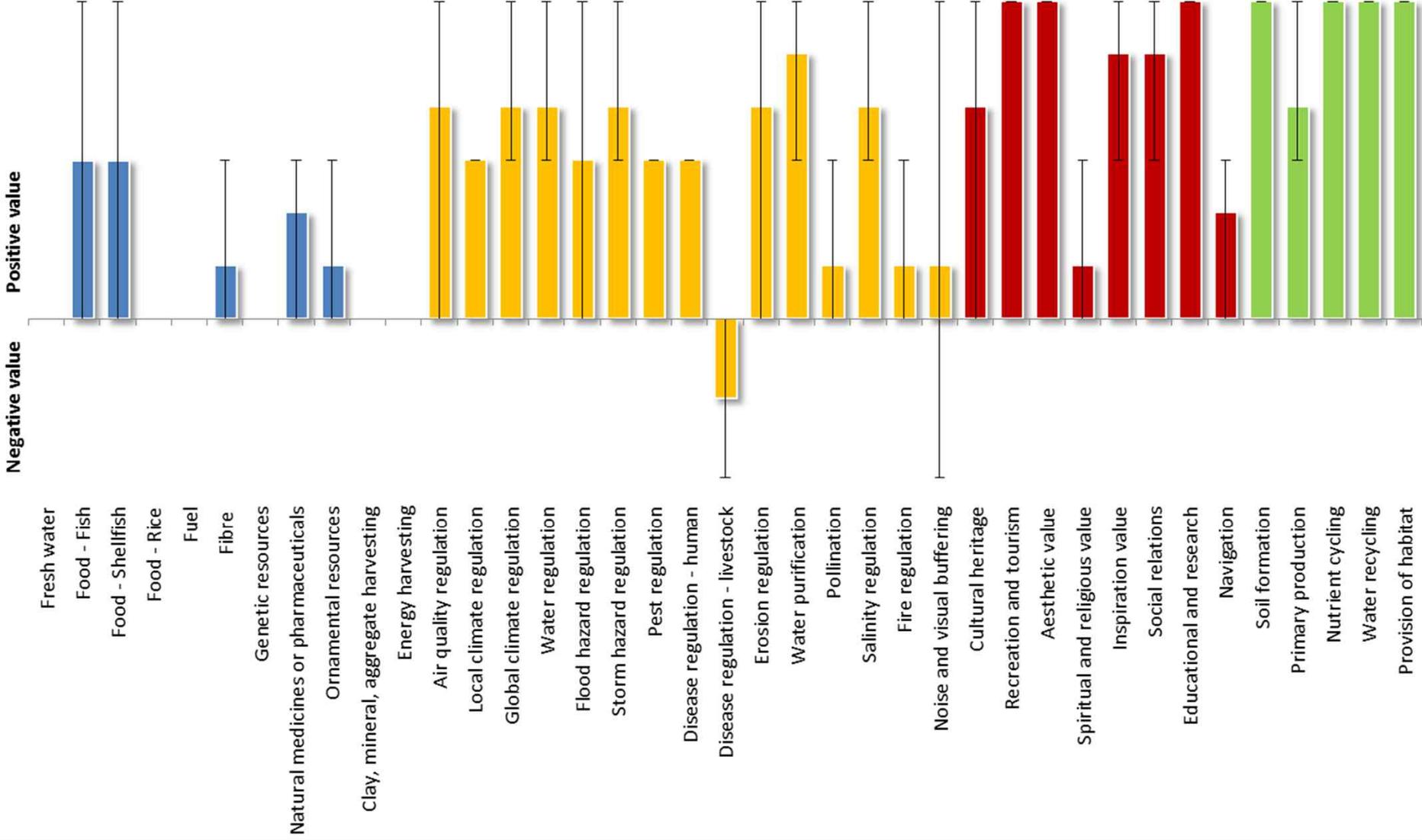
- Assessments were made of three intertidal wetland systems as well as rice paddies and artificial freshwater wetlands around the Wetland Visitor Centre.



# Findings

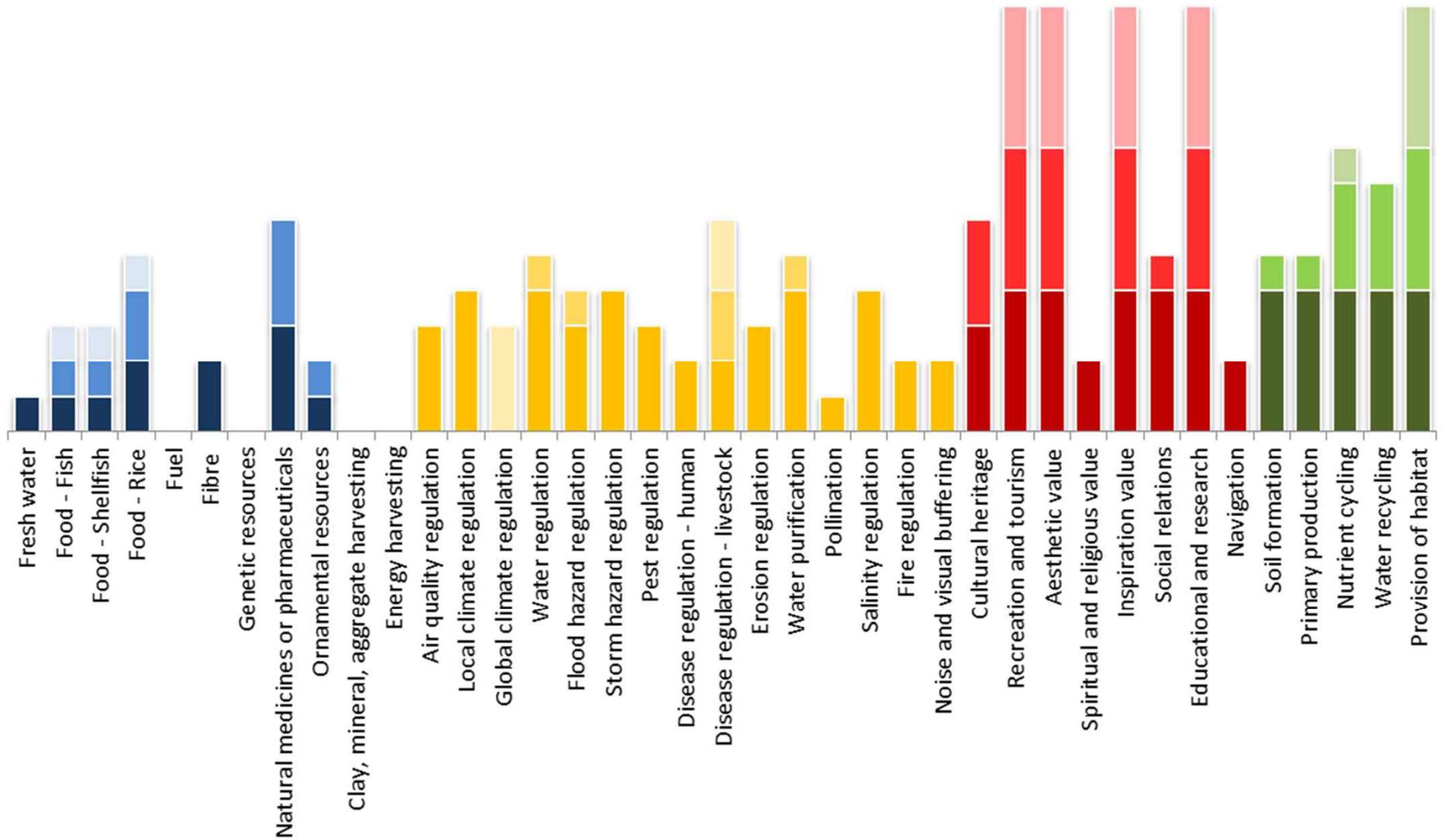
- The main intertidal wetland types around Suncheon Bay provide a multitude of values associated with provisioning, regulating, cultural and supporting services.
- The wetlands of Suncheon Bay provide multiple benefits to:
  - immediate communities living in and around the Bay
  - the wider region, both inland within the hydrological catchment and out into the marine environment
  - global carbon storage and climate regulation.

## Relative value of the ecosystem services for the tidal wetlands of Suncheon Bay



# Scale of the value of the tidal wetlands of Sunchon Bay

Global Regional Local



- The Raw-ES recognised the value of 39 wetland ecosystem services:
  - cultural and supporting services are providing large benefits, from local to global. These benefits are often overlooked in the literature
  - regulating services are providing value at local scale eg storm protection
  - provisioning services low, except for shellfish and fish.
- This rapid assessment approach can provide information in a consistent and robust manner at a low level of resource investment. It can be used to assist site managers in decision-making . It can also be used to assist in completing the Site Information Sheet for Ramsar Sites.

# Workshop Follow-up

- Following the workshop, Rob McInnes carried out assessments of intertidal wetlands on the SW coast of RoK, including Muan Ramsar Site. These results, and the information provided by the participants, are currently being synthesised .
- Workshop participants will return to their wetland sites and conduct assessments of a further 10 intertidal wetland sites in RoK and China, using the Raw-ES Tool.
- Results will be available by end of September 2016.