Adaptation Futures

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Dryland Development Paradigm: Adaptation of Pastoral Social-Ecological Systems in Mongolia

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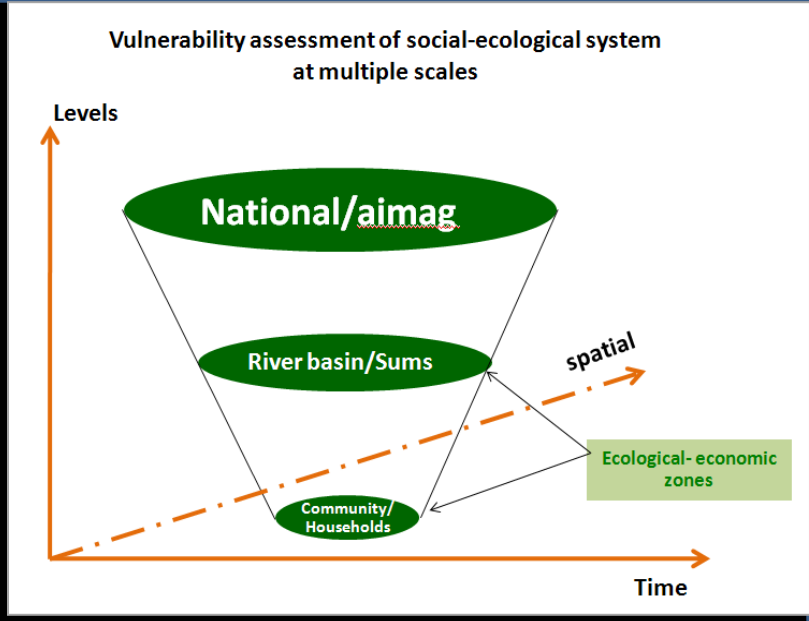
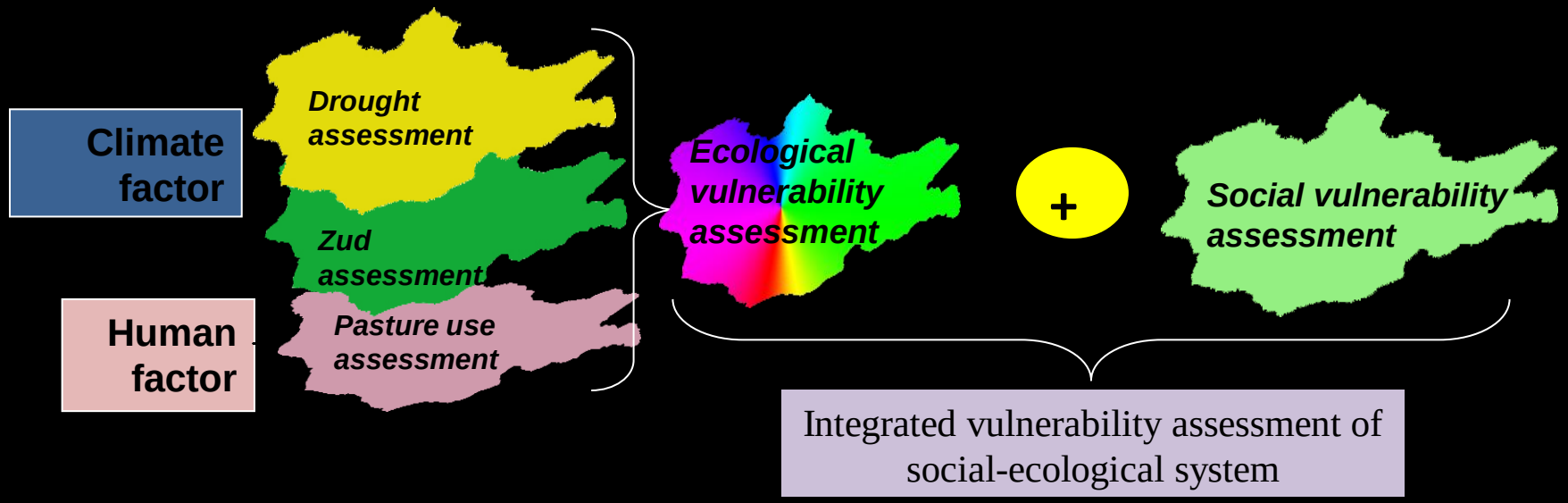
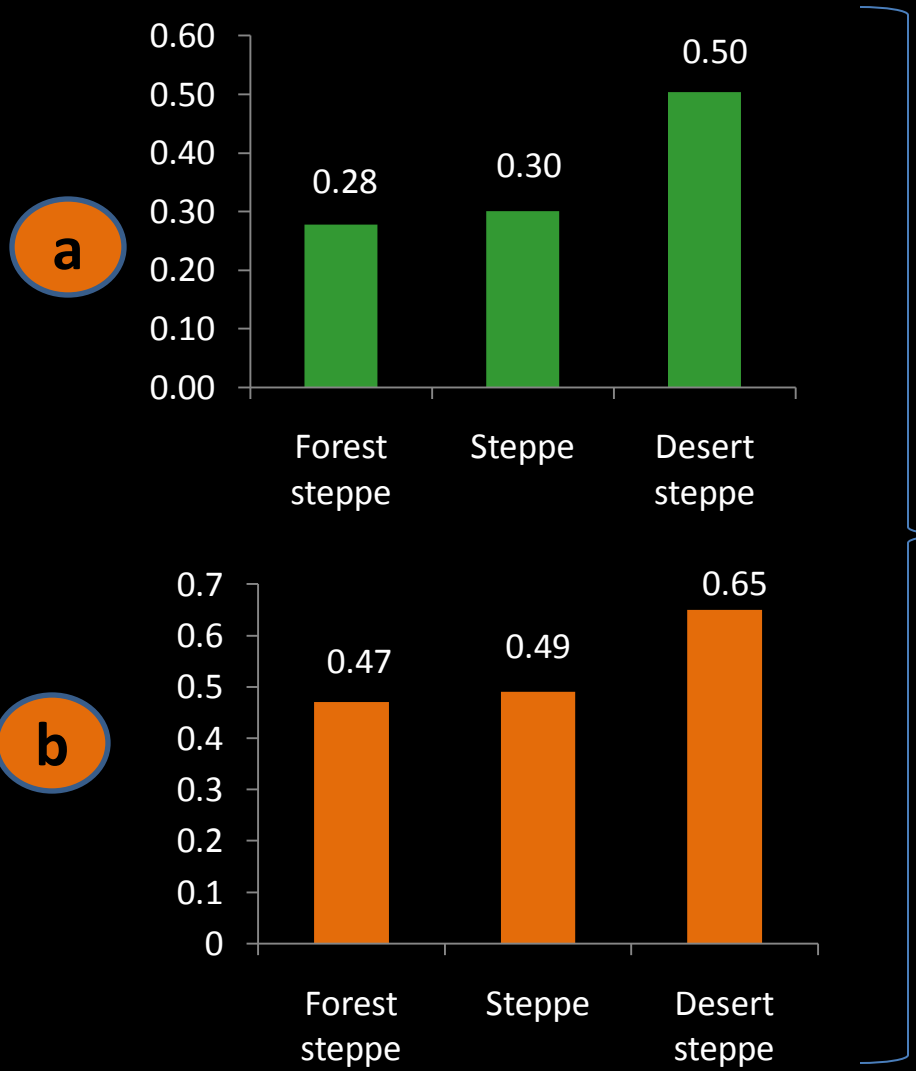
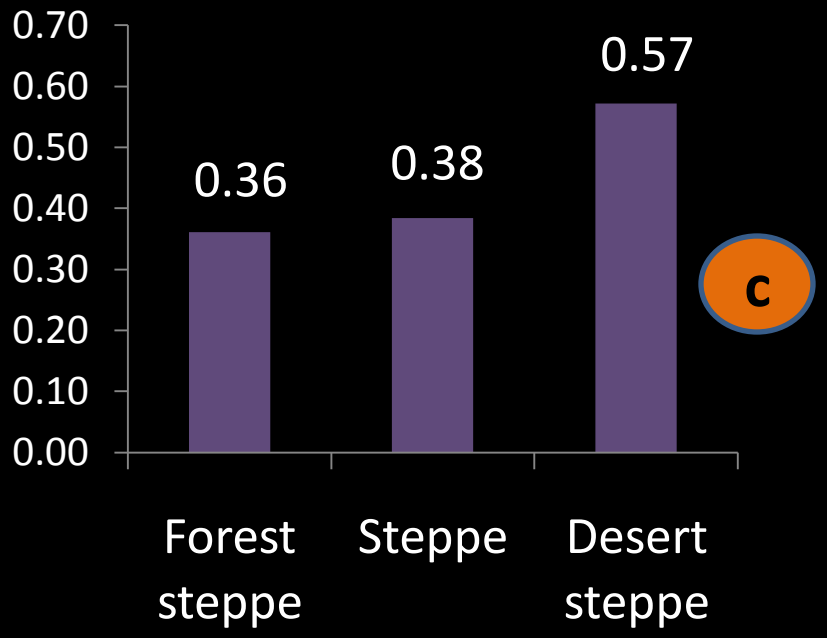
Social-ecological vulnerability assessment





Ecological (a), social (b) and social-ecological vulnerability (c) assessments in Tuin and Baidrag river basins by ecozones

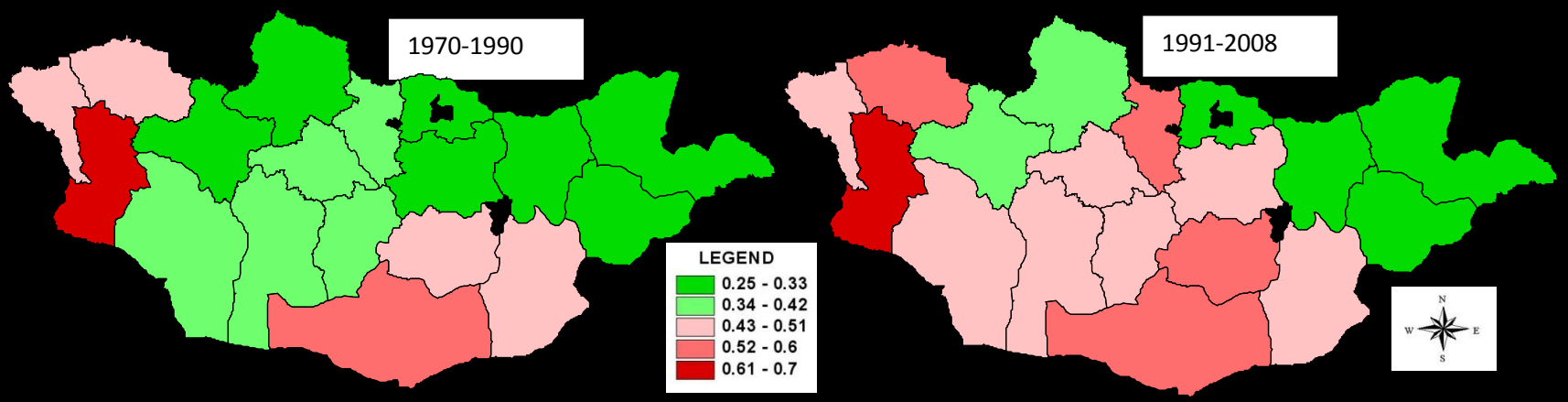




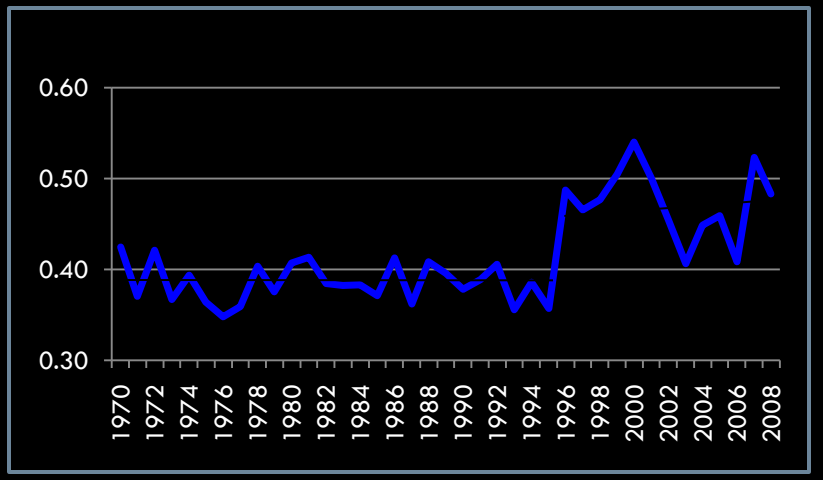
(1986-2010) (Forest steppe: Jargalant, Zag, Galuut, Erdenetsogt; Steppe: Bombogor, Ulziit; Desert steppe: Baatsagaan, Buutsagaan, Jinst, Bogd)

Ecological vulnerability assessment: National scale

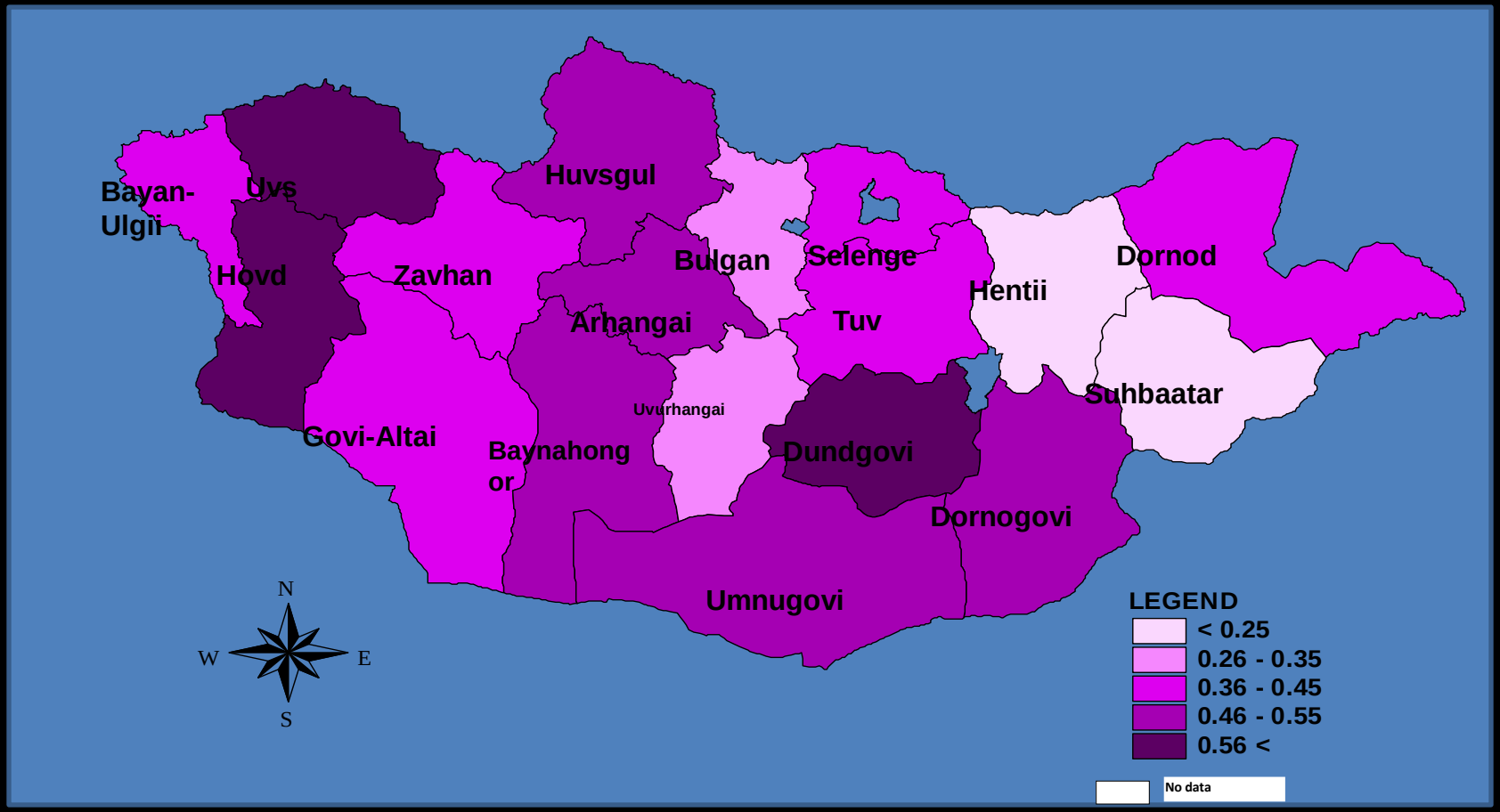
1970-1990 VS 1991-2008



Long-term ecological vulnerability dynamics in Mongolia



Vulnerability assessment of social-ecological systems at country level



Social-ecological vulnerability = ecological vulnerability + poverty indexes (UNDP)

Chuluun, T. 2011. Land degradation and desertification in Mongolia. Background paper for the Mongolia Human Development Report 2011.

Summary

- Desert-steppe region is likely the most vulnerable to climate change in Mongolia;
- Ecoregion based-adaptation policy needs in different ecological-economic zones:
  - Resilient development of the Mongolian Gobi as an example

The Mongolian Gobi – Globally Important Agricultural (Natural-Cultural) Heritage System

Technological Transformation
Institutional innovation

Баярлалаа! Thank you!

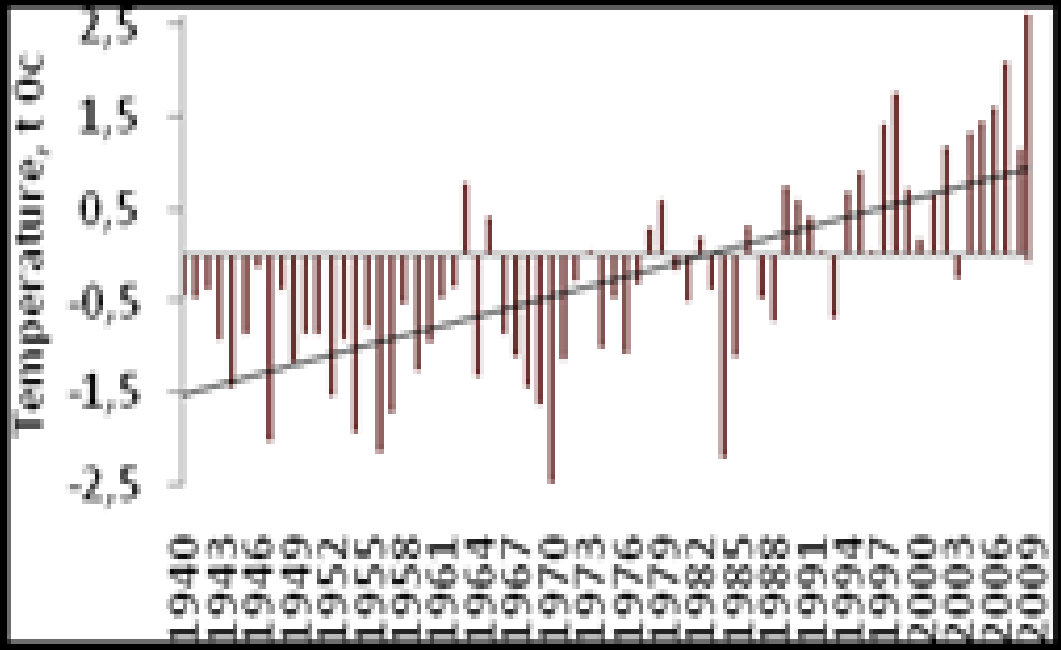
Objectives

- Application of the DDP as a framework:
  - Understanding;
  - Social learning;
  - Awareness;
  - Integrated vulnerability assessment;
- Capacity building for adaptation
- Policy recommendations
  - Resilient development of the Mongolian Gobi

DDP P2. Critical slow variables

Temperature increased by more than 2^0C since 1940

Climate change, particularly, global warming is critical slow variable!



DDP P3. Thresholds

- **Water resource decrease** due to global warming in the region already exceeded the threshold level in both river basins.
- Only 3 rivers out of 25 rivers (based on the map of 1969) are inflowing into the **Tuin river**, which flows into the **Orog lake**.