Lessons learned from top-down and bottom-up development of the adaptation planning in Mongolia

Gerelt-Od Tsogtbaatar, Officer, Climate Change and International Cooperation Division, Ministry of Environment and Tourism of Mongolia

Chuluun Togtokh, Ph.D., Director of the Institute for Sustainable Development, National University of Mongolia

Masataka Watanabe, Professor, Research and Development Initiative, Chuo University, Japan
Vulnerable sectors in Mongolia

• Climate Change impact: Water resources decrease
  • Increased vulnerability of people and ecosystems

• Climate variability: Agriculture and livestock sectors
  • Traditional resilience: mobility/cultural landscapes

• Climate extremes: Livestock sector
  • Combination of zud and previous summer drought
  • Increased vulnerability of pastoral system to zud

(Images of vulnerability in Mongolia)

Forest and steppe fire with drought, Threat of desertification, “Zud by drought and snowfall
National Action Programme on Climate Change (NAPCC)

**Strategic Objectives**

- "Set up legal, structural and management systems that support measures against climate change"
- "Ensure ecological balances and reduce socio-economic vulnerabilities and risks step by step through strengthening of national adaptation capacity to climate change"
- "Mitigate GHG emission step by step and set up low carbon economy through introduction of environment friendly technologies and improvement of effectiveness and efficiency"
- "Enhance national climate observation network, research and assessment"
- "Conduct public awareness and support citizen and community participation in actions against climate change"

**First phase (2011-2016)**

- National mitigation and adaptation capacities will be strengthened,
- Legal, structural and management systems will be set up
- Community and public participation will be improved.

**Second phase (2017-2021)**

- Implementation of climate change adaptation and mitigation measures
Key messages

• To produce a national adaptation plan (NAP) for the second phase of NAPCC, during 2017-2021, being consistent with the Green Development policy of Mongolia, 2014 and other relevant policy documents.

• To **promote adaptation measures** along with various cooperative activities, implementing **action/project-oriented impact and vulnerability assessment**.

• To incorporate M&E system with effectively measurable indicators and **integrated adaptation indices** into the NAP process.
Lessons learned: Community based management with green technology is sustainable adaptation strategy

**“Western” models**
- Farms/ranches
- Rich herders (5%)
- “Hot ails”

**Win-Win**
- Herder’s association
- Community based natural resource management
- Traditional pastoral networks
- Zud prediction & Meat storage system

**Tragedy of Commons**
- Weak cooperation
- Landscape fragmentation
- Land degradation
- Poverty trap (45%)

**Traditional System**
- Strong cooperation
- Cultural landscape use
- Ecosystem state is good
- Subsistence

**Well-being**
- Rich
- Poor

**Cooperation (CBNRM)**
- Use of cultural landscape/State of ecosystem services

**Loss of adaptive capacity to climate variability**

- Weak/ Low
- Strong/ High

- Zud prediction, Early harvesting, Meat storage with renewable energy
Payment to herders for ecosystem service conservation (water storage)

Prohibition of grazing for conservation of riparian ecosystems & permafrost

Permafrost was melted already

Permafrost is melting now

Flow rate at UB station

Lesson learned: Payment to ecosystem services as sustainable adaptation strategy for water resources
Lesson learned: Scaling-up for vertical integration from local (people, river basin) to national

- Social-ecological vulnerability assessment for M&E
- Zud prediction system (for early harvesting)
- Renewable energy driven meat storage system for large-scale deployment
- Ecosystem based adaptation for all river basins, including Tuul river basin