

# **Adaptive capacity development planning**

**Workshop on Adaptation for Climate Change and Green  
Development in Mongolia**

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# **Content of the presentation**

- 1. The principles of adaptive capacity development planning**
- 2. Steps to implementing a comprehensive strategy for adaptive capacity development**
- 3. Key questions for core Analyses**

# The principles of adaptive capacity development planning

There are two core principles by the findings of IPCC:

**First**, “... many actions that facilitate adaptation to climate change are undertaken to deal with current extreme events”

**Second**, “... adaptation measures are very rare undertaken in response to climate change alone”. Therefore, decision-makers should integrate climate adaptation with economic development goals and planning.

# The principles of adaptive capacity development planning

## The key question is

*not*

- “How can we minimize the damage from climate hazards?”

*but rather*

- **“How can we reach our green development targets while accounting for current and future socio-economic and environmental risks?”**

# Applying first principle

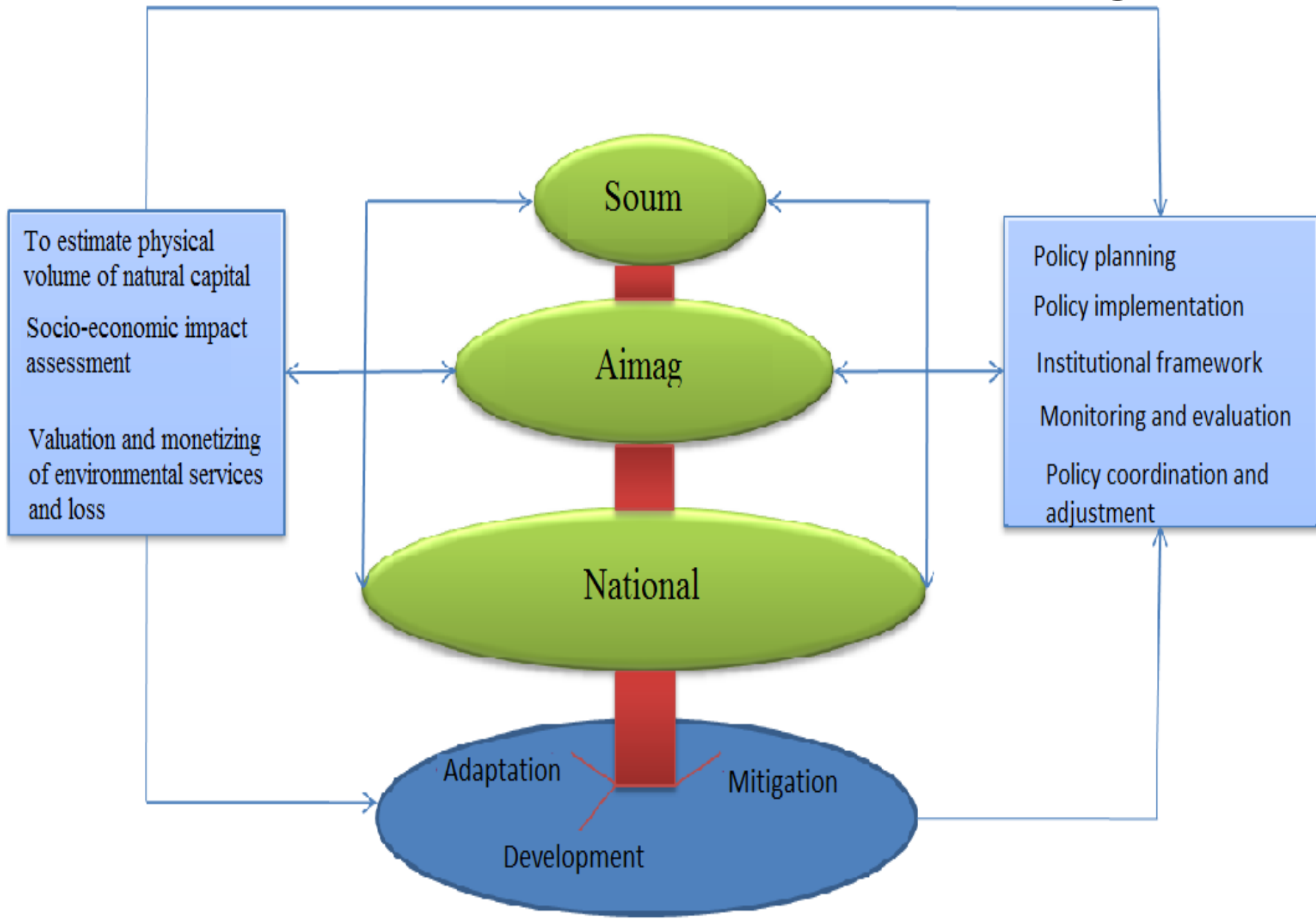
- Adopt a **comprehensive risk management approach** – assessing a location’s risk across all climate hazards and economic sectors, and creating a ranking of risks – including quantifying and assigning “**price tags**” to specific risks
- Use **scenario planning** to help decision makers select and prioritize climate adaptation and resilience measures in a situation of uncertainty about future climate.

**Three scenarios:** “base” scenario, “moderate” and “high” climate change scenarios

# Applying second principle

- Develop a **comprehensive inventory of localized adaptation measures**, many of which included **both climate adaptation and economic development**, with the participation of local and international experts and stakeholders from both the climate and development fields.
- **Apply cost-benefit approach** to derive an effective portfolio of measures for each location, identifying the broader economic benefit of each measure along with its cost.

# Conceptual framework of the planning



# Key questions for core Analyses:

A tool to assist decision makers in managing the total climate risk of a country, region and community – poses five questions, each driving a core set of Analyses.



Source :  
A report of the economics of climate and  
Adaptation working group, 2010



## **Q1: Where and from what are we at risk?**

- **Identify most relevant hazard(s)**

Dzud, drought etc.,

- **Identify most risk areas**

Vulnerable population: herders, female, children and older people), remote rural area, workers of agricultural sector etc.,

Economic value: assets (including pastoral land), GDP, investment or initial cost of new adaptation technology, number of livestock, income, living standard etc.,

## **Q2: What is magnitude of the expected loss?**

- **Hazard**

Assess frequency and severity per scenario

- **Value**

Quantify population, assets (pastoral land) and income value in risk

- **Vulnerability**

Determine vulnerable of population, assets (pastoral land degradation) and incomes

Scenario 1

Scenario 2

Scenario 3

Modules

Description

Calculation

Output

**H** Hazard module

Severity and frequency of hazard for different climate change scenarios

**VA** Value module

Value of assets, incomes, and human elements

**V** Vulnerability module

Vulnerability curves for different assets, incomes, and human elements based on hazard severity for different climate change scenarios

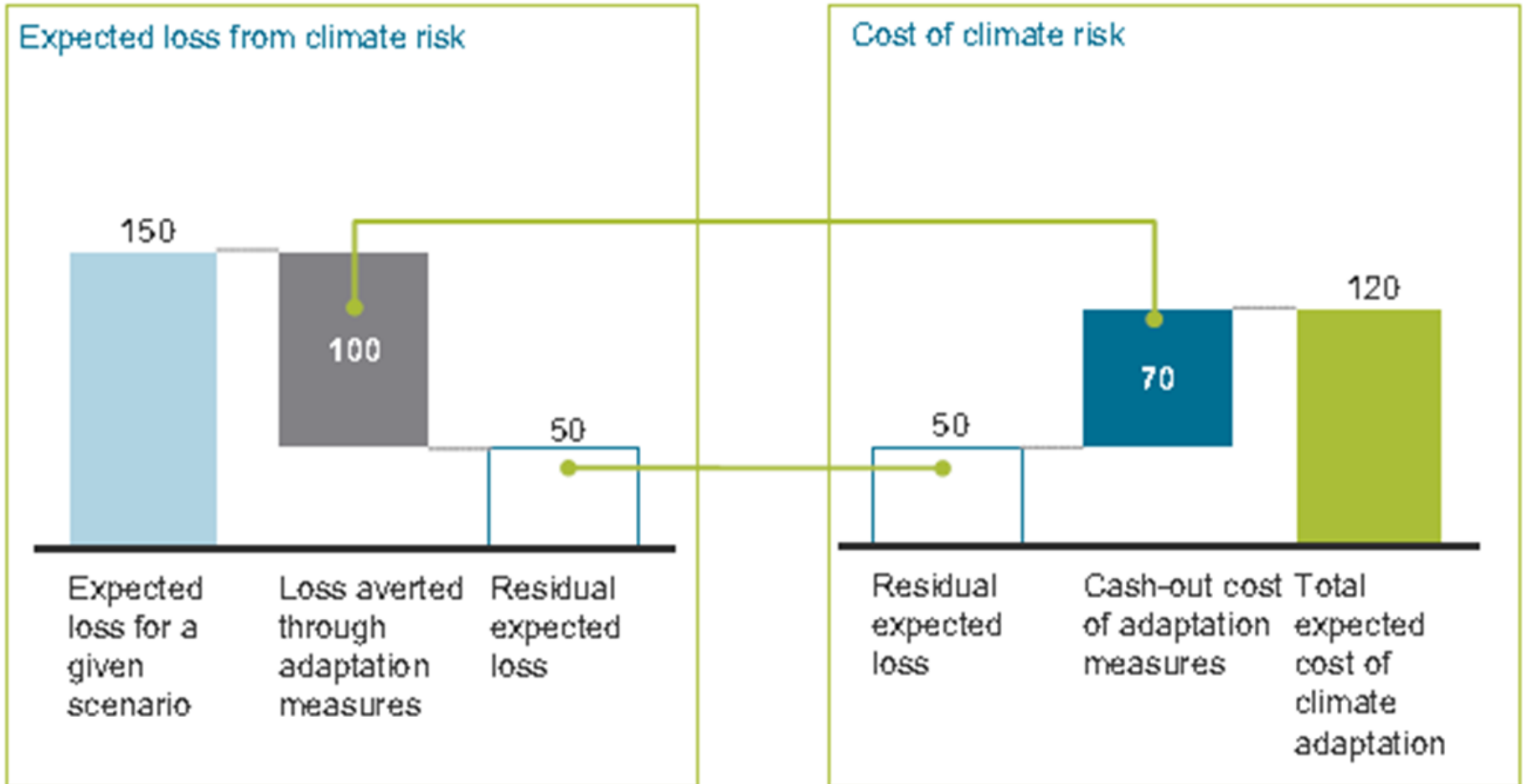
$$H \times VA \times V$$

Expected loss per climate change scenario

Source :  
A report of the economics of climate and Adaptation working group, 2010

# Example: Conceptual relationship between expected loss from climate risk and the costs of adaptation

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Expected loss = the amount of damage likely to occur in a defined time period

The total cost of climate change = sum of the cost of adaptation + any residual expected losses not averted by adaptation measures

### **Q3: How could respond?**

- **Identify potential adaptation measures**

Economic and financial measures: taxation on livestock number, subsidize to improve quality of livestock etc.,

Measures for transferring technologies: Meat freezing system based on renewable energy etc.,

- **Determine basic feasibility of potential measures**

- **Determine societal costs and benefits (loss averted) of measures**

## Q4: How do we execute?

- **Identify key barriers to implementation**

Herders would be unsatisfied on the taxation related policy;  
Initial investment cost is high for transferring technology

- **Determine actions required to implement measures**

Select local area to install freezing system;  
Identify stakeholders and participants to implement measures  
etc.,

## Q5: What are the outcomes and lessons?

### - **Measures success upon key performance metrics**

Improvement of supply chain of meat, employment, HH income, herders living standard, health status of herders family members, decrease migration from rural to urban, reduce gender inequality, keep meat price on constant level in urban area etc.,

Decreasing on livestock number, improvement of livestock composition, improvement of carrying capacity of pastoral land, decreasing land degradation, increase on renewable energy ratio and mitigation of CO<sub>2</sub> etc.,

### - **Incorporate lessons learned in next iteration of the total climate risk decision cycle**

Improvement on meat freezing system technology, expanding the freezing system to the national level etc.,

# Implementing a comprehensive strategy for adaptive capacity development

## **STEP 1: Start with a comprehensive approach and objective**

- To develop a comprehensive approach to adaptive capacity development, **a stakeholder-driven effort is** required at the national, regional and community level, assessing all relevant risks from a local base.
- The objective of this more comprehensive approach could be a **policy framework for adaptive capacity development**, providing a broad policy cover for the full range of measures.



## STEP 2: Prioritize hazards and Locations

- Conducting a more comprehensive effort would still require a prioritization approach in order to focus the analysis, based on the question: “***Where and from what is the country most at risk?***”
- A comprehensive national study could assess the climate risk of an entire country but still **focus the analysis of adaptation measures** on the hazards most relevant and sectors most vulnerable for each specific area.

## **STEP 3: Recognize the uncertainty about future climate**

- Building scenarios based on existing science and being explicit about the range of uncertainty is critical: such **scenarios allow potential future climate-related loss to be quantified.**

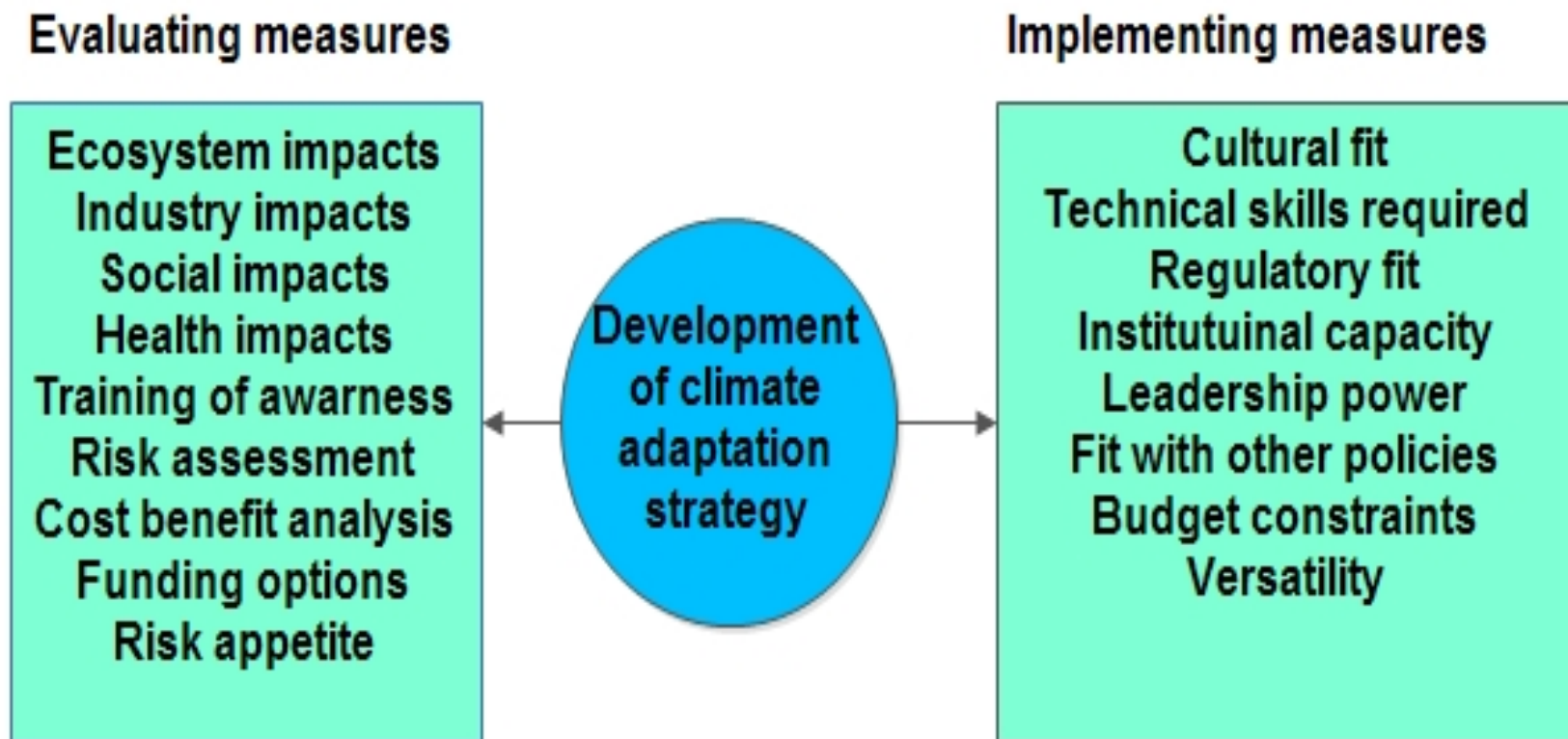
## **STEP 4: For cost-effective priority measures, define current and target penetration**

- An assessment of the current penetration, expected growth, and targeted level of penetration of these measures will help crystallize the focus of a climate-resilient development strategy – will **indicate where funding can be invested for greatest impact.**

## **STEP 5: Focusing and addressing traditional development implementation bottlenecks**

- Achieving climate-resilient development will include setting an appropriate **policy framework** , **institutional capability**, **basic infrastructure**, and **access to finance**.
- Addressing **organizational issues at the local level** will be a further key requirement for successful implementation of adaptive capacity development strategies.

# Cost-benefit approach focuses on loss averted



Cost-benefit analysis and other economic assessments form only a small portion of necessary decision-making information

## **STEP 6: Encourage sufficient funding from the international community**

- Incorporating an assessment of future climate risk into countries' **current development decisions** is the ultimate goal in addressing the adaptation challenge
- **International funding** could encourage this outcome through investment in technical skills, policy and planning, and knowledge dissemination at the country level.

## **STEP 7: Recognize, facilitate and mobilize different roles for each stakeholder**

- It is also clear that the implementation of adaptation solutions will be led, financed, and scaled up by different actors depending on the **nature of the measures**.
- **Specific roles for particular stakeholders** might include: National government, Sectorial government agencies, Local government, International organizations/companies, Private sector and Households/Individuals

**Thank you for your attention!**