



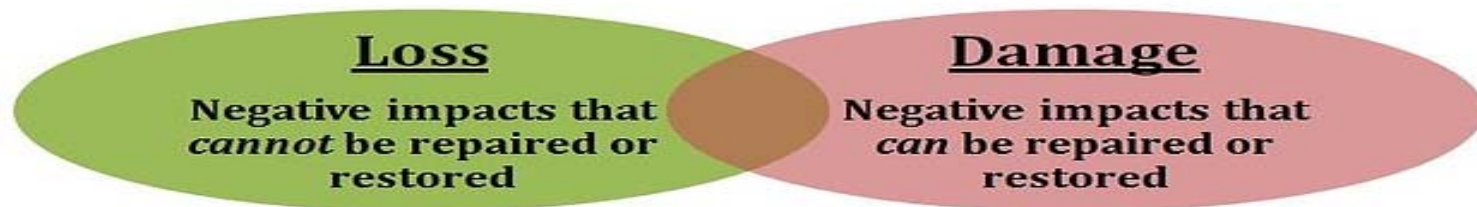
# CLIMATE CHANGE ADAPTATION PLANNING AND IMPLEMENTATION CONSIDERING LOSS AND DAMAGE

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# What is loss and damage?

□ **Loss** is generally thought of the as impacts of climate change that cannot be recovered while **damage** is characterised as those impacts that can be recovered (Kreft et al 2012)



- Working definitions of loss and damage:
  - “negative effects of climate variability and climate change that people have not been able to cope with or adapt to” (Warner et al., 2012)
  - “current or future negative impacts of climate change that will not be addressed by adaptation efforts” (Nishat et al., 2013)

# How does it relate to adaptation?

- **Avoidable loss and damage** avoided through mitigation and adaptation measures
- **Avoidable loss and damage not avoided** because adaptation measures were not implemented
- **Unavoidable loss and damage** that cannot be avoided because of the nature of the impacts, results from:
  - ▣ Slow onset processes like sea level rise
  - ▣ Extreme events to which impacts could not be adapted to (Verheyen, 2012)
- **Acceptable risks:** Level of risk so low that DRR and adaptation not justified
- **Tolerable risks:** Where DRR and adaptation efforts required to keep risk within tolerable level
- **Intolerable risk:** Despite adaptation efforts risk threatens culture, public safety, a legal standard or a social contract (Dow et al., 2013)

# Understanding the limits to adaptation

- **Constraints to adaptation** make it more difficult to plan and implement adaptation measures
- **Limits to adaptation** are reached when “an actor is **unable to secure objectives from intolerable risks through adaptive action**” (Berkhout et al., 2013)
- When limits to adaptation are reached actors can:
  - **Accept loss and damage**
  - **Change objectives** (values and norms)
  - Implement **transformational responses**
- Recent research has revealed:
  - Limits to adaptation **differ across scales and time-frames**
  - **Soft limits** occur when there are no options to avoid intolerable risks (but options may become available)
  - **Hard limits** occur when there are no options available or foreseeable to avoid intolerable risks (Berkhout et al., 2013)

# When the limits are reached

- When the limits of adaptation are reached decision makers' options include:

- ▣ Supporting transformational adaptation
- ▣ Reducing risk through early warning systems and monitoring programs
- ▣ Risk retention initiatives like social safety nets (Berkhout et al., 2013)



# What is transformational adaptation?

- According to Kates (2012) there are three kinds of transformational adaptation:
  - ▣ Large scale and/or intensity
    - Eg. Farmer managed regeneration of greenbelts in the Sahel
  - ▣ New to a particular area
    - Creation of water-efficient maize by the Africa Agricultural Technology Foundation
    - Replicating programs to provide crop insurance
  - ▣ Shift places and transform locations
    - Planned relocation of several Alaskan villages

# What is needed to implement transformational adaptation?

- Two conditions set the stage for transformational adaptation:
  - ▣ High levels of vulnerability
  - ▣ Severe climate impacts with potential to overwhelm system
- Barriers to implementation:
  - ▣ Uncertainty about risks of climate change and benefits of adaptation
  - ▣ Large initial investments
  - ▣ Institutional and behaviour barriers
- What is needed:
  - ▣ Incentives and resources for action
  - ▣ Enabling institutions and public values and attitudes
  - ▣ Supportive social contexts and strong local leadership (Kates, 2012)

# Moving towards transformational adaptation

- Incorporating transformational adaptation into risk management frameworks
  - ▣ Participatory vulnerability assessments
  - ▣ Monitoring and assessing emerging climate risks
  - ▣ Community contingency planning exercises
- Research on innovation options for transformational adaptation
  - ▣ Research on property rights and transboundary water use
  - ▣ Technological and institutional solutions to facilitate migration of communities threatened by climate change (Kates, 2012)



# Addressing loss and damage

- Loss and damage results from a spectrum of climate change impacts – **from extreme events to slow onset processes** (Warner et al., 2012)
- A range of approaches are required to address loss and damage (UNFCCC, 2012) many of which originate in the climate change adaptation community
- However, as the impacts of loss and damage go to some extent beyond the limits of adaptation, CCA planning and adaptation has to include new approaches

# Risk reduction

- Risk reduction measures are taken before the onset of a climatic hazard and include:
  - ▣ **Structural** measures such as the building of embankments, cyclone shelters, etc.
  - ▣ **Non-structural** measures such as the use of indigenous knowledge, early warning systems, etc. (UNFCCC, 2012)



# Risk transfer

- Risk transfer approaches are “usually undertaken when a country or entity assesses that the potential loss and damage that it could experience could be greater than its ability to manage that loss and damage” (UNFCCC, 2012)
- Risk transfer does not eliminate the risk of loss and damage but can reduce human suffering and development setbacks that result from climate change impacts (UNFCCC, 2012)
- Risk transfer approaches include:
  - ▣ Insurance and microinsurance products
  - ▣ Risk pooling
  - ▣ Catastrophe bonds



# Risk retention

- Risk retention has been defined as measures that “allow a country to ‘self-insure’ itself against climatic stressors” (UNFCCC, 2012)
- Risk retention measures include:
  - ▣ Social safety nets/social protection measures
  - ▣ Contingency funds or loans



# Approaches to address slow onset processes

- Slow onset processes will result in slow incremental changes, but will have significant impacts
- Much more research is needed to understand slow onset processes and approaches to address them
- Approaches to address slow onset processes include:
  - ▣ Livelihood diversification
  - ▣ Migration policies
  - ▣ National frameworks and policies
  - ▣ Regional agreements (UNFCCC, 2012)



# Linking CCA and DRR to reduce loss and damage

To address loss and damage comprehensively policies to harmonise or integrate the work already being done in the CCA and DRR communities by:

- Prioritising transformative approaches such as **training** people for jobs in **climate-resilient sectors**
- Developing **comprehensive risk management strategies** that link mitigation, adaptation, and loss and damage
- Strengthening and **enhance the capacity for mainstreaming loss and damage into national planning processes** and develop linkages between sectors and institutions working in areas of development and climate change adaptation to ensure climate resilient development (Shamsuddoha et al., 2013)
- Developing a **comprehensive policy and multi-level institutional framework** for the integration of DRR and CCA to address loss and damage from the impacts of both extreme events and slow onset processes



# Way forward

- Loss and damage should highlight the importance of adaptation:
- Need to scale up and replicate best practices to reduce loss and damage
- Need to undertake steps toward transformative adaptation
- Need to learn from and communicate better with the DRR community
- Need to understand the limits to adaptation as there are opportunity costs associated with choosing adaptation over approaches to address loss and damage when limits are approached

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