Governance of Nature-Based Approaches to Carbon Dioxide Removal

Situating Carbon Dioxide Removal in the overall conversation on Nature-Based Approaches, Nature-Based Solutions and the wider sustainable agenda

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Observations

- Climate change is already affecting people, ecosystems and livelihoods all around the world
- Climate change is a fundamental threat to development, sustainable development and poverty eradication
- Carbon dioxide emissions continue to grow amidst world wide climate policies
- The world is in a big and urgent need of transformative solutions that can bend the present trajectories towards a more sustainable future with greater wellbeing for all
- Full ranges of response options should be explored and implemented
- Among options are nature-based approaches, planting trees, bioenergy combined with carbon dioxide capture and storage, changed land management and some other approaches at very early stages of development
Nature-based solutions/approaches

- Understood as actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity

- Can help to protect from climate change impacts while slowing further warming, supporting biodiversity and securing ecosystem services

- Umbrella concept encompassing ecosystem-based adaptation and ecosystem-based mitigation, eco-disaster risk reduction and green infrastructure

- They offer huge potential to address both causes and consequences of climate change while supporting biodiversity and thereby securing the flow of ecosystem services on which human well-being depends
Carbon dioxide removal methods

- A set of techniques that remove carbon dioxide directly from the atmosphere by:
  - Increasing natural sinks for carbon
  - Using chemical engineering to remove carbon dioxide

- They include:
  - Afforestation and reforestation
  - Bioenergy with carbon capture and storage
  - Soil carbon management and enhanced weathering

- Involve ocean, land, and technical systems (iron fertilization, large-scale afforestation, direct capture of carbon dioxide from atmosphere)
Need to carefully look at concerns

- Rigorous assessment of intended benefits
- Reliability and cost-effectiveness
- Resilience du climate change
- Potential trade-offs (afforestation type)
- Potential maladaptation
- Barriers to their evidence based implementation
- Inflexible and highly sectoralized forms of governance