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T12b Ecosystem services and climate change: What policies and what management for addressing the multiple challenges of climate change mitigation and adaptation in Latin America?

Nature-based solutions for climate change adaptation and mitigation: How have they been incorporated into climate policies in Latin America?

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Ecosystem management can contribute to climate change mitigation by storing carbon and reducing carbon emissions from deforestation and forest degradation. Ecosystem management can also help people adapt to climate variations: e.g., forests regulate microclimate and water, and mangroves buffer climatic impacts in coastal areas.

Nature-based solutions have been integrated into climate change policies in many countries in Latin America. For example, new approaches, such as climate-smart landscapes, have been proposed and tested for addressing the multiple challenges of adaptation and mitigation and the tradeoffs between them through ecosystem management. Although there is some evidence that nature-based solutions are increasingly being incorporated in national policies, knowledge is missing on how they have been conceptualized and how paradigms have evolved.

Scholars in the Transformative Adaptation Research Alliance have proposed a framework for analyzing nature-based adaptation based on three pillars: adaptation services (contribution of current and future ecosystems to adaptation); value, rules and knowledge (adaptation decision contexts that enable transformational change), and adaptation pathways (metaphor of the journeys of social-ecological systems into uncertain futures). We extend this framework (originally focusing on adaptation) to nature-based solutions and apply it for studying the evolution of climate policies in several Latin America countries, through the review of national policy documents (e.g. Intended Nationally Determined Contributions and National Adaptation Plans), which inform about national priorities, concepts and perspectives regarding adaptation and mitigation.

With content analysis methods, we identify key attributes of the conceptualization and operationalization of nature-based solutions, including knowledge on the role of ecosystem services, values and decision-making contexts that enable or constrain transformation, and mechanisms for implementing transformative pathways. The analysis leads to a typology of

framings of nature-based solutions and highlights how framings have evolved over time in policy.

Keywords: climate change, adaptation, mitigation, nature-based, landscape