Solving Sustainability Challenges at the Food-Climate-Biodiversity Nexus

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Abstract

Ensuring a sustainable and secure future for both humanity and the natural environment requires that decisions about natural resource use and societal well-being align with Earth's environmental limits. A key global challenge is to develop just, equitable, and culturally responsive approaches to feeding and nourishing a growing population while simultaneously addressing biodiversity conservation and climate goals.

This presentation will showcase insights from the *Solving Sustainability Challenges at the Food-Climate-Biodiversity Nexus* (Solving-FCB) partnership, which explores this challenge through five case studies in Canada, China, Costa Rica, Ghana/Nigeria, and the Netherlands. These case studies collectively examine how different social, economic, political, cultural, and ecological contexts shape the trade-offs and synergies in achieving sustainability at the food-climate-biodiversity nexus. The presentation will focus on three key themes: (1) Developing diverse visions of desirable futures for food, climate, and biodiversity. (2) Identifying priorities and assessing trade-offs to build pathways for food security, climate mitigation, and biodiversity conservation. (3) Operationalizing the nexus approach to support sustainability transitions in various sectors, including Indigenous reconciliation, aquaculture, land-sea interactions, eliminating IUU fishing, and circular economies.

A central component of this work is the integration of participatory scenario development, modeling, and multi-knowledge system engagement, ensuring that stakeholders, knowledge holders, and rights holders are actively involved. This presentation will highlight how insights from these case studies are synthesized to inform policy-making and governance, supporting transformative change toward sustainable food systems. These findings aim to contribute to discussions on the next phase of IMBeR, advancing the integration of food-climate-biodiversity solutions in global sustainability efforts.