

Five Frontiers for Ecosystem Restoration Science and Practice in East African Forest Landscapes

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Objective and Methodology

To synthesize insights on the current state of ecosystem restoration, emerging challenges, and frontiers for ecosystem restoration research and practice in western Rwanda. We used the world café methodology to explore the state of ecosystem restoration in study area. Participants were seated at six café-style tables and engaged in multiple rounds of discussion. The participants represented diverse disciplinary backgrounds and included scientists, practitioners, and decision-makers working on ecosystem restoration in Rwanda. Notes were recorded on flipchart paper and later synthesized for analysis.



Way forward

Living Labs – a real-world experiments approach that engages local communities in codesign and evaluation of organizational innovations (such as planting more native species, cooperative business models, and extension schemes) with the aim of promoting and supporting ecosystem restoration interventions that explore the role of social cohesion, trust, ownership, inclusiveness, and information sharing – can be promising.

Frontiers	Challenges	Recommendations
Defining ecosystem restoration goals and elements of success	lack of shared visions for ecosystem restoration; limited monitoring capacity; limited capacity to reconcile short-term and long-term ecosystem restoration goals	establish shared visions by integrating local communities' traditional knowledge and perspectives; define measurable ecosystem restoration goals; harmonize short-, mid-, and long-term goals
Enhancing the multifunctionality of landscapes through ecosystem restoration	mismatch between land-use policies and ecosystem restoration goals; limited connection of local values and knowledge to native species; limited knowledge on possible synergies	aim for ecosystem restoration that generates positive outcomes for both nature and people; examine potential trade-offs and synergies resulting from multifunctionality; assess short-term and long-term benefits and risks
Enhancing food security, nutrition, and livelihoods through ecosystem restoration	need for collective coordination and land consolidation; inadequate market access and value chain management for agricultural products	integrate a livelihoods perspective into ecosystem restoration which recognizes links between ecosystems, economic well-being, and food security
Engaging with values and nature's contributions to people in ecosystem restoration	prevalence of non-native species upheld by lack of valuing of native species; land-use conflicts related to protected areas and agricultural production; limited inclusion of local ecological knowledge in ecosystem restoration interventions	examine plural values and ecosystem restoration benefits to support the transition from exotic species towards indigenous species-dominated ecosystem restoration; assess potential synergies and trade-offs resulting from the integration of indigenous tree species with annual crops
Governing ecosystem restoration for equity	non-consensual relocation of people for ecosystem restoration projects; lack of clear governance and management arrangements for equitable sharing of ecosystem restoration benefits	co-design context-appropriate relocation and compensation schemes based on scientific evidence; design effective policy measures to facilitate the equitable distribution of costs and benefits of ecosystem restoration at different scales

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