Making use of synergies from integrated land-climate-biodiversity action pays off

Collaboration between the Rio Conventions and coordinated action both at international and national level could offer considerable benefits. Drawing on their research in Rwanda and Central Asia, our authors demonstrate the economic potential integrated approaches hold especially for land restoration.

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In response to intensifying global crises, effective resource use across climate, biodiversity, and land restoration agendas has become crucial. The Rio Conventions – comprising the UNFCCC, the CBD and the UNCCD – address these interconnected challenges since their inception at the 1992 Rio Earth Summit. However, each Convention largely often operates independently, missing potential benefits of a unified approach. While the Joint Liaison Group (JLG) was formed in the early 2000s to support synergies among the Rio Conventions, there is a growing need for targeted actions and better coordination, particularly regarding land-related issues. Collaboration across the implementation tracks of the Rio Conventions needs to happen both at the international level and, particularly, at the national levels, among relevant national ministries and agencies. Restoring degraded ecosystems is at the centre of achieving national goals of sustainable land management, climate change adaptation and mitigation, and protecting biodiversity. This is where the targets of the three Rio Conventions show the strongest overlap, so that the potential for synergy effects is especially high.

A group discussion during the Stakeholder dialogue workshop in Tashkent, Uzbekistan.

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The need for integrated action arises from the fact that successfully implementing the Conventions in a siloed manner would require far more resources than what would be available in the foreseeable future. Increasingly scarce global and national resources for sustainable development and for climate and nature conservation call for the greatest possible efficiency gains in the utilisation of these resources in order to achieve the agreed global goals of the three Rio Conventions. Recent case studies from Rwanda and Central Asia exemplify the environmental and economic advantages of coordinated action across land, climate and biodiversity sectors. These examples highlight how synergistic approaches maximise restoration efforts and reduce costs, providing a model for further integration efforts.

Synergies in this context refer to harmonising activities that amplify both the effectiveness (e.g. achieving greater ecosystem restoration coverage) and efficiency (e.g. reducing costs per hectare of restoration) of land management initiatives. Integrated efforts help use limited resources in optimal ways, supporting ambitious restoration goals on constrained budgets. Funding (both national and international) going for land restoration is only a fraction of what is needed. Synergies will be important in achieving more land restoration while making best use of the available funding. Most of the land restoration investment measures are financed via domestic budgets, so synergies benefit national budgets most. In Rwanda and the Central Asian countries of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, where the majority of land restoration is currently self-financed, synergies are critical for reaching ambitious targets affordably.

Investment needs for land restoration

Both Rwanda and Central Asia endure significant costs from ecosystem degradation through deforestation, loss of wetlands, grasslands and croplands. Over the period of 2001–2020, these losses were equivalent to 142 million US dollars (USD) in Rwanda and 18 billion USD in Central Asia. Ecosystem degradation not only puts the environment at stress, leading to losses of valuable ecosystem services, biodiversity-rich habitats, and carbon sinks, but risks the countries' economic development potential and food security as well.

While the costs are high, the economic returns on restoring degraded ecosystems are promising. Restoring these ecosystems degraded between 2001 and 2020 in Rwanda requires approximately 1.4 billion USD, with returns projected at 1.53 USD per dollar invested. This is achieved largely through reforestation, restoration of degraded grasslands and agroforestry initiatives. In Central Asia, the return from restoring ecosystems degraded during the same time is estimated to be even higher, with each dollar invested bringing returns of 2.9 USD over a period of 30 years. The biggest share of ecosystem restoration invest-

ment needs in Central Asia is for restoring the region's vast degraded grasslands and steppes – which are unique among such ecosystems in the world.

Despite significant overall benefits from restoring degraded ecosystems, synergistic implementation of the objectives of the Rio Conventions also requires strategic prioritisation for areas with possibly lower economic but with high biodiversity and climate change mitigation and adaptation contributions. Not all land interventions are win-win solutions, but balancing of outcomes is needed between economic returns, climate mitigation benefits, biodiversity conservation, and other ecosystem services.

Mechanisms to harness synergy benefits at institutional and policy level

Our research activities in Rwanda and Central Asia have identified five strategic mechanisms at institutional and policy level that enable realising the full benefits of land restoration and save costs under both approaches:

1. **Joint coordination:** Establishing cross-agency institutional frameworks ensures that initiatives across the conventions are harmonised, creating a cohesive approach to restoration.

2. **Information sharing platforms:** Centralised data sharing reduces redundancy, aligns efforts with best practices and fosters shared learning.

3. **Joint monitoring, reporting and verification (MRV):** Integrated MRV systems streamline assessment and reporting across the Rio Conventions, enhancing transparency and adaptability.

4. **Coordinated budgeting and funding:** Resource pooling and aligned budgeting attract investors and enable efficient mobilisation of funds.

5. **Collaborative research and capacity building:** Joint research and capacity-building efforts equip local stakeholders with essential skills and knowledge for integrated land management.

These strategies bring significant efficiency gains. Through these collaborative efforts, costs of land restoration can be reduced by approximately 15 per cent and 24 per cent, saving 45 million USD in Rwanda and 7.9 billion USD in Central Asia, respectively. By optimising resource use, these synergistic approaches free up resources that can be reinvested in land initiatives and achieve more sustainable and impactful outcomes for environmental and socio-economic objectives. The key source of efficiency gains is that these collaborations reduce so-called transaction costs of land restoration activities such as research and information, design and implementation, funding mobilisation, support and administration, contracting, monitoring and evaluation, awareness raising and education.

> Not all land interventions are win-win solutions.

The case studies showed that the biggest source of efficiency gains is in establishing unified national monitoring, reporting and verification systems for land restoration projects. Although there are well-defined institutions for Land Degradation Neutrality (LDN), Nationally Determined Contribution (NDC) and National Biodiversity Strategies and Action Plan (NBSAP) coordination, data collection currently remains fragmented in most countries around the world. Establishing a unified MRV system for ecosystem restoration and promoting data sharing across organisations can improve data consistency, reduce resource duplication and enhance monitoring effectiveness. Additional gains could be achieved by methodological collaborations for setting up such national MRV systems. Further gains from cooperation on land restoration activities can be achieved through capacity building and training activities and information sharing on land restoration techniques and practices. Current capacity-building efforts across the Rio Conventions' implementation tracks in the countries are isolated and lack systematic impact. Joint training, shared materials, and regional centres of excellence can help streamline efforts, optimise resources and strengthen educational programmes on land restoration.

The way forward for Rio synergies

With the super year of Rio synergies in 2024 looking at three COPs taking place within weeks, and as the global community moves towards ecosystem restoration, Rwanda and Central Asia illustrate the impact of integrated approaches. By pooling resources, optimising efforts and reducing costs, collaboration across climate-biodiversity-land agendas fosters landscapes that are resilient, productive and economically viable. The case studies in Rwanda and Central Asia offer a blueprint for other regions to address land degradation, biodiversity loss and climate challenges in a unified and cost-effective manner.

Moving forward, while case studies provide convincing economic data supporting the benefits of synergies among the Rio Conventions, creating frameworks that incentivise collaboration, along with capacity-building initiatives, will be crucial in motivating stakeholders to work together towards integrated solutions. Highly promising synergistic action areas may include:

- Promoting national spatially explicit target setting for land restoration which helps harmonise national action plans and establish common goals for land restoration across the Rio Conventions.
- Developing a centralised national monitoring, reporting and verification system to track progress on land restoration for measuring progress in restoration efforts.
- Supporting and organising regional capacity sharing initiatives, workshops and training events on sustainable land management, restoration techniques and biodiversity conservation.
- Developing national investment roadmaps based on spatially explicit land restoration objectives.

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