Costa Rica

Restoration Opportunities Assessment Methodology

Forest landscape restoration (FLR) in Costa Rica seeks to develop functional and healthy landscapes, while strengthening environmental resilience and providing ecosystem services for human well-being.

Why FLR

In 2007, the Costa Rica Government announced its goal of becoming a carbon-neutral country by 2021 as part of its National Climate Change Strategy. The agricultural sector has been identified as a key player to help Costa Rica reach its carbon neutrality goal due to its significant greenhouse gas (GHG) emissions, particularly methane from livestock and nitrous oxide from fertilizer use. Yet, as of 2015, several threats to Costa Rica's forest ecosystems have been identified, including climate change, water deficits, fires, illegal extraction of flora, small-scale deforestation and use of pesticides in monocultures around forest fragments.

Although a range of restoration programmes and actions contribute to Costa Rica's carbon neutrality goal, additional environmental benefits are expected through the implementation of FLR programmes, especially those related to the provision of ecosystem goods and services.

Moreover, FLR in Costa Rica will also support successful implementation of the country's environmental policies, such as the National Wetlands Policy and the National Biodiversity Strategy and Policy, all of which are aligned with Aichi targets, the Bonn Challenge and the RAMSAR Convention.

QUICK FACTS

- **Costa Rica has pledged 1 million ha to the Bonn Challenge.**
- **Existing programmes such as PPSA, NAMAs and GAPs can be coordinated to promote synergy with FLR.**

How to restore the landscape

To better understand restoration opportunities in Costa Rica, IUCN carried out a landscape restoration opportunities assessment (ROAM) from 2014 to 2018. A group of stakeholders formed a Technical Committee on Restoration. The committee built a proposal to halt further deforestation and forest degradation, and unify existing programmes with a restoration component, including: Costa Rica's national payments for ecosystem services programme (PPSA); nationally appropriate mitigation actions (NAMAs); and good agricultural practices (GAPs).

Several intervention options were identified:

- For pasture land associated with livestock NAMA (depending on altitude and land use suitability): silvopastoral system with rotation; improved pasture with intensification and rotation; live hedgerows; additional trees inside

pasture; and pasture abandonment with passive regeneration.
- For pasture land associated with PPSA (outside NAMA areas): timber plantations.
- For coffee NAMAs: fertiliser management and implementation of agroforestry systems where they do not yet exist.
- For pineapple, oil palm and banana in the context of GAPs: contour planting and crop residue management; fertilizer management; and restoration of riparian forest.

Existing financing mechanisms and gaps were also analysed. The main instruments to finance productive landscape restoration in Costa Rica are donations, credit and payments for ecosystem services. In addition to international cooperation and government funds, the private sector was identified as an interested actor and new source of funding. Public institutions, rural producers' chambers and organisations, companies, NGOs, banks and other financial institutions are the main paths to access restoration resources.

BENEFITS & OPPORTUNITIES

Although the different programmes and restoration activities presented are part of Costa Rica's carbon neutrality goal, additional environmental co-benefits are expected, including:
- Mitigation of GHGs (in fact this is considered as part of the main objectives of restoration);
- protection of water and biodiversity;
- provision of scenic beauty and enriched landscapes for tourism;
- decreased erosion and soil degradation;
- reduced water pollution through more efficient fertiliser application; and
- improved connectivity of landscapes.

The ROAM assessment also considered spatial analyses using tools such as Restoration Opportunities Optimization Tool and InVEST.

The potential benefits for hydropower production, drinking water quality and reduced wetlands degradation were considered, while improvement in landscape connectivity was also included as a co-benefit.

Next steps

The following recommendations are proposed:
- Formulate comprehensive national FLR priorities, encouraging a shared vision and coordination among ministries and related sectors.
- Improve access to high quality seeds and seedlings by promoting the establishment of new, local nurseries and seed suppliers.
- Promote technical assistance, capacity building, and improve communication between farmers.
- Improve coordination across different funding sources.
- Strengthen capacity of financial institutions in terms of knowledge of forest landscape restoration initiatives.
- Estimate cost savings due to the provision of ecosystem services resulting from implemented measures as an extra input for future decision making.

For further information, please see
Landscapes, at your service: Applications of the Restoration Opportunities Optimization Tool (ROOT)

Resources:
InfoFLR.org
iucn.org/forests

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