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Sustainable Forest Management and Sustainable Forest Products in the Caucasus and Central Asia

Forest Landscape Restoration and the Bonn Challenge: Opportunities in the Southern Caucasus and Central Asia

Boris Erg, IUCN ECARO
What is IUCN?

Global convener
1283 Members in 161 countries

Trusted Knowledge
16,151 experts in six Commissions

Effective delivery
Around 950 staff in more than 50 countries

INTERNATIONAL UNION FOR CONSERVATION OF NATURE
Working in Eastern Europe and Central Asia

- Forests governance (FLEG and FLR)
- Water-Energy-Food Nexus
- Protected and other conserved areas (Green List of Protected Areas)
- World Heritage (Advisory Body)
- Business and Biodiversity (WGWAP)
Forest landscape restoration…

it is not just about planting trees............
but about restoring degraded and deforested landscapes
Treating the landscape as a mosaic of different sites

Solutions for a Cultivated Planet

Stable Supplies of Clean Water through revegetation along waterways
Carbon Capture & Storage through increasing vegetation and soils
Biological Diversity through ecologically mindful restoration with native species
Food Security & Nutrition through food source diversification
Resilient Landscapes by enhancing adaptive capacity

Non-Timber Forest Products
fruit, honey, mushrooms and other products from forest richness

Recreation & Ecotourism
through supporting culturally and biologically rich landscapes

Construction Timber
through improved plantation management and use of native species

Cultural Heritage
through integrating local knowledge and traditions

Productive Crops
through the use of forest ability to regulate landscapes

Viable Communities
through local job creation and landscape collaboration

Stable & Rich Soils
through the revegetation of degraded slopes

Energy for Cooking & Heating
by improving the management of woodlots

For more information, please contact:

Carole Saint-Laurent:
Coordinator, Global Partnership on Forest Landscape Restoration
1830 Connecticut Avenue Northwest
Washington, DC 20009
United States Tel.: +1 618 763 3437
carole.saint-laurent@iucn.org

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Different scales and activities within a landscape

- WIDE-SCALE RESTORATION
  - Protected primary forest
  - Secondary forest
  - Degraded primary forest
  - Secondary forest
  - Permanent pasture

- MOSAIC RESTORATION
  - Degraded lands
  - Permanent pasture
  - Intensive agriculture
  - Watershed protection

- Degraded lands

Source: IUCN ROAM Guide
Globally, two billion hectares of degraded & deforested land where opportunities for restoration may be found
There is ample opportunity for restoration of degraded lands across the world.

- **Africa**: Large amount of degraded land, with a significant portion for wide-scale restoration.
- **South America**: Moderate amount of degraded land, with a focus on mosaic-type restoration.
- **Asia**: Significant degraded land, with a combination of wide-scale and mosaic-type restoration.
- **Europe**: A reasonable amount of degraded land, mainly for wide-scale restoration.
- **North America**: Limited degraded land, with mosaic-type restoration.
- **Oceania**: Minimal degraded land, with mosaic-type restoration.

The graph illustrates the distribution of degraded lands across different continents, showing the potential for restoration efforts.
ROAM is a framework, produced by IUCN and WRI, for assessing national and subnational restoration potential – and much more.

It can help governments and institutions:

- Estimate the costs and benefits of restoration strategies and opportunities
- Find the best, priority landscapes to start restoration
- Set the stage for national-level strategies on restoration
- Provide often-missing landscape-level data
- Build high-level support for restoration
ROAM helps us to answers questions such as:

1. **Where** is restoration socially, economically and ecologically feasible?
2. **What** is the total extent of restoration opportunities in the country/region?
3. **Which types** of restoration are feasible in different parts of the country/region?
4. What are the **costs and benefits**, including carbon storage and ecosystem services, associated with different restoration strategies?
5. What **policy, financial and social incentives** exist or are needed to support restoration?
6. Who are the **stakeholders** with whom we need to engage?
7. What options exist to unlock **finance** for restoration?
8. How can we **scale up** restoration?
ROAM involves:

1. Preparation and Planning for FLR
   - Stakeholder coordination and support

2. Data Collection and Analysis
   - Spatial analysis and mapping
   - Benefit and cost appraisal
   - Carbon abatement costs and accrual
   - Restoration diagnostic

3. Results and Recommendations
   - Validation of results
   - Identification of restoration and investment options
Where does ROAM end?

This map shows the current IUCN engagements at a national or sub-national level on ROAM throughout the world. Colors indicate the stage of ROAM currently under development by stakeholders. Uganda and Rwanda have already completed national level forest landscape restoration opportunity assessments and have moved to sub-national assessment and implementation. The demonstrated phases here reflect progress on their sub-national work that was informed by the national analysis. Progress for Mexico and Brazil are also expressed nationally on the map but are underlaid by priority state-level sub-national assessments. These are outlined in the included progress table.

Map prepared by Craig R. Beatty, IUCN July 2016. Data provided by IUCN regional offices (DRAFC, PACO, SUR, ESARO; an ARD) baselayer provided by US National Park Service. Map is based on consensus geography and does not include representations of disputed territories.
Geographies: Current IUCN restoration portfolio ...and still growing...
Azerbaijan
Plant new forest areas, water and land protecting forest strips (windbreaks)

Kazakhstan
Committed to low carbon growth by means of Green Economy, which entails the conservation of ecosystems and enhancement of forest cover

Uzbekistan
Restoration of forests in mountain and piedmont areas, conservation of indigenous plant species in semi-deserts and deserts

Armenia
Consider 20.1 per cent as an optimal forest cover indicator of the territory of the Republic of Armenia

Georgia
Implement afforestation/reforestation activities on already identified 1,500 ha of degraded lands by 2030; Afforest/reforest up to a total of 35,000 hectares (conditional)

Tajikistan
Systematic reforestation in accordance with the State Programme
Forest Landscape Restoration case studies in Armenia

Three pilot regions were selected:
- Lori region (Drapas, Deped, Yeghegnut)
- Syunik region (Halzidor)
- Tavash region (Aknaghbyur, Ganzdakar)
Forest Landscape Restoration case studies in Azerbaijan

Garanboy district

The area has been entirely degraded due to illegal logging and local grazing practices. Complete restoration with elements of mosaic landscape with agroforestry complexes has been proposed.

Ismailli district

Three main types of intervention:
- Ecological restoration where natural regeneration still occurs
- Planting of trees in degraded areas
- Planting of agriculture plants, e.g. forest nut and walnut

Figure 9: Vegetation trends for forest and shrubland (left) and agricultural land (right) for Garanboy district in Azerbaijan. Trends are based on MODIS NDVI satellite imagery for the period 2000 to 2014.

Figure 10: Vegetation trends for forest and shrubland (left) and agricultural land (right) for Ismailli district in Azerbaijan. Trends are based on MODIS NDVI satellite imagery for the period 2000 to 2014.
The objective was to assess the opportunities for forest landscape restoration in the selected 4 regions of Georgia – Akhaltsikhe, Akhalkalaki, Chokhatauri and Tinaeti.

Assessments have been carried out for selected local communities:

Tianeti – village Sakdrioni; Chokhatauri – village Bukistsikhe; Akhaltsikhe – village Mikeltsminda; Akhalkalaki – village Kotelia.

The assessment identified windbreaks and anti-erosion protective forests as two main types of intervention that will improve ecological conditions and bring local economic benefits.
Forest Landscape Restoration in Central Asia
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Obstacles to Forest Landscape Restoration

- Inadequate legal framework for sustainable forest and land management
- Inadequate land tenure reforms
- Out-dated approaches to sustainable forest and land management
- Limited capacity of local institutions
- Lack of adequate financial resources for forest management

Source: FAO 2015

Opportunities:

- Erosion control and other land protection measures
- Mosaic landscapes
- Watershed protection
- Agroforestry landscapes
- Windbreaks
- Green belts
Going forward

- National forest landscape restoration assessments
- Cost benefit analysis and restoration scenarios
- Valuation of restored landscapes
- Carbon analysis
- Ecosystem services assessment
- Forest dependency analysis
- Multi-criteria degradation analysis
- Climate hazard and Eco-DRR
- Tracking and reporting
InfoFLR has news, resources, and updates on forest landscape restoration (FLR) around the world. This website aims to provide access to tools including the Restoration Opportunities Assessment Methodology (ROAM), and information of global initiatives like the Bonn Challenge.

You can find country profiles highlighting domestic targets and policies related to restoration and how they link to international commitments.

https://infoflr.org/take-action/flr-tools
Thank you!
www.iucn.org
www.InfoFLR.org
www.BonnChallenge.org