Mexico

Restoration Opportunities Assessment Methodology

ROAM
COUNTRY
BRIEF

Productive restoration enables the recovery of degraded landscapes and ecosystem services, which support human well-being.

Why FLR

In 2002, about 45% of Mexico showed some evidence of degradation.[1] By 2013, this figure has risen to 55% of which at least 18% was directly caused by agriculture and conversion to pasture.[2] Degradation has a significant impact on agriculture and livestock, and consequently threatening food security of 25% of the Mexican population.[3] This is particularly relevant considering that only 22 million ha in the country are suitable for cultivation. In addition, inadequate management has led to productive land degradation, loss of productivity and ultimately the need to expand farming and livestock areas, causing extensive deforestation, loss of biodiversity and affecting the ecosystem services needed for human well-being.

Between 2002-2012, the Yucatan Peninsula lost 82,560 ha per year,[4] and the state of Chiapas alone had a deforestation rate of 40,422 ha per year, highest in the country. In this context, Mexico has taken on several international restoration commitments with national agencies and state governments working alongside organizations, such as Reforestamos México A.C., Pronatura A.C., IUCN and WRI, among others.

The restoration goal in Mexico has been promoted by SAGARPA (recently renamed as SADER) and CONAFOR, with the purpose of generating inter-sectoral policies to align actions and enable the country to meet its international and domestic commitments. In 2014, SAGARPA made a 7.5 million ha restoration pledge to the Bonn Challenge and CONAFOR pledged another one million ha by 2020. There were also commitments made by three states: Quintana Roo and the Yucatan

QUICK FACTS

- Mexico has pledged 8.5 million ha to the Bonn Challenge by 2020, including 1.12 million ha of subnational pledges.
- Subnational pledges for the period 2021-2030 include:
  - 350,000 ha (Campeche)
  - 180,000 ha (Chiapas)
  - 400,000 ha (Quintana Roo)
  - 300,000 ha (Yucatan)
- FLR in Yucatan Peninsula could generate more than US$ 1 billion per year of net economic benefits over the next 25 years.
- Yucatan Peninsula alone can capture 62.6 MtCO2e through FLR, or contributing to the implemention of 29.7% of the NDC.
- If fully implemented, FLR in the Yucatan Peninsula could sustain more than 412,000 direct jobs during the next 25 years.
- Average carbon sequestration by rain fed agroforestry can reach 38 tCO2e per ha and silvopastoral systems could provide up to 52 tCO2e per ha in terms of carbon capture.
- Benefit-cost ratio of FLR could range from 1.3 to 3.9 and annual net present value between US$ 226 and 3,815 per ha, depending on the restoration model.
- Agroforestry, including a combination of timber species with permanent, semi-permanent and annual crops, may rise internal rate of return from 13% to 700% compared to monoculture permanent agriculture such as orchards.

[1] SEMARNAT-CP. 2003. Memoria Nacional 2001-2002. Evaluación de la Degradación del Suelo causada por el Hombre en la República Mexicana, escala 1:250,000. Memoria Nacional.
[2] INEGI (Instituto Nacional de Estadística y Geografía) (2014). 'Erosión de suelos en México, escala 1: 250 000'. Boletín de prensa Núm. 295/14 2014. INEGI, Aguascalientes, México.
[3] Urquía-Fernández, N. (2014). 'La seguridad alimentaria en México'. Salud pública Méx. 56 (supl. 1):s92-s98.
[4] CONAFOR (2017). Emissions Reduction Initiative (IRE) Document Forest Carbon Partnership Facility (FCPF). Carbon Fund. Date of Submission or Revision: November 3, 2017.

in 2015 and Chiapas in 2017. Together, they added 1.23 million ha for restoration between 2021 and 2030.

Although existing initiatives are in place (such as REDD+ and IRE), complementary actions to address the objectives of the Bonn Challenge are necessary. In this regard, Mexico aims to restore degraded lands by implementing a productive restoration and thereby mitigating climate change, conserving biodiversity and promoting food security.

FLR in the Yucatan Peninsula

The following restoration models were identified for Yucatan Peninsula, in which approximately 21% of the rural landscape (2.86 million ha) show different levels of degradation:

- Ecological restoration;
- Conservation agriculture;
- Improved milpa systems (shifting cultivation);
- Commercial forest plantations;
- Silvopastoral systems;
- Agropastoral systems;
- Agroforestry rainfed;
- Agroforestry irrigated; and
- Secondary forest enrichment.

Estimating that productive restoration models could be economically feasible in 2.17 million ha of degraded land, this could result in 3.4%, 1.8%, and 1.2% increase in the annual state GDPs for Yucatán, Campeche and Quintana Roo, respectively, while also contributing approximately one third of the nationally determined contribution (NDC) target established for the entire country.

FLR in Chiapas

A total of 27,243 km² (36.4%) of rural landscape in the state of Chiapas have different levels of degradation. The state government has given political priority to climate mitigation and adaptation and is transitioning to a green economy. It pledged a total of 350,000 ha to the Bonn Challenge by 2030 and 119,339 ha of its 2020 target have already been implemented. The following restoration activities were identified for Chiapas:

- Ecological restoration;
- Rehabilitation of degraded forests;
- Conservation agriculture;
- Agroforestry systems;
- Forest plantations; and
- Silvopastoral systems.

The value chains analyses showed that coffee, honey and cocoa currently have the least impact on the environment when produced with good management practices.

Benefits and opportunities

Landscape restoration aims at recovering ecological functionality, enabling ecosystems (including agroecosystems) to deliver a flow of environmental services, including the provision of goods and services, such as food, fuel, potable water and sequestered carbon, among others.

These actions combine with productive restoration to generate a diversity of benefits, which reduce the vulnerability of local communities, support economic sectors, and contribute to sustainability and climate change mitigation efforts.

Productive restoration of the landscape is an initiative that contributes directly to the Rio Conventions (on Climate Change, Biodiversity and land degradation and Desertification), to the 2030 Agenda for Sustainable Development and to Mexico's National Development Plan.

Next steps

Several components must be defined for Mexico to implement productive restoration. Among them is the generation of a comprehensive strategy and framework that considers a crosscutting vision and ensures inter-institutional coordination led by SADER and CONAFOR. This coordinated effort must involve multiple stakeholders from relevant sectors, where the definition of indicators to monitor and evaluate implementation will ensure the successful realization of the projects in the coming decades.

Resources:
InfoFLR.org
iucn.org/forests

IUCN

INFOFLR by IUCN