

COURSE REPORT

Introduction to Forest Landscape Restoration

March 15-April 25, 2021

An online course organized by:

The Environmental Leadership & Training Initiative (ELTI) at the Yale School of the Environment The Russell E. Train Education for Nature Program (EFN) at the World Wildlife Fund (WWF)



A mixed mosaic agricultural landscape commonly found in Panama's Azuero Peninsula. Forest landscape restoration (FLR) is an effective strategy for such regions, because it is a holistic restoration approach that improves ecosystem services while enhancing local livelihoods. © lacob L. Slusser

Background: Some of the world's greatest biodiversity is located within the tropical forest ecosystems of Latin America. Biodiversity maintains healthy and productive ecosystems to provide humans with a myriad of services required for daily life. Unfortunately, many of these tropical forest ecosystems are degraded due to the strain of conventional agricultural practices that eliminate forest cover and reduce ecological functioning. As a result, these landscapes have more fragmented forests, have less biodiversity, produce fewer ecosystem services and are more vulnerable to the threats of climate change. Unless actions are taken to increase sustainable practices and enhance the resiliency of forest landscapes, these degraded systems will fail to sustain both agricultural productivity and ecosystem services and consequently decrease the opportunities for sustainable rural livelihoods.

ELTI is an initiative of:

Forest landscape restoration (FLR) is an important land management approach for degraded agricultural areas. A long-term process, FLR recognizes the need to implement a variety of land uses and incorporate diverse plant species to restore the entire landscape in a way that both enables the restoration of ecological functionality and enhances human well-being. Within Latin America there is a great need for FLR training opportunities to help guide decision making about the sustainable management and restoration of tropical forest ecosystems in complex biodiverse and social landscapes.

This online course provided participants with an introduction to the concepts and techniques needed to design, implement, and monitor effective FLR projects that meet diverse restoration goals and enhance the livelihoods for those who depend on the landscape.

Objectives:

- Present the basic principles of forest ecology, natural and anthropogenic disturbances and how these disturbances affect regeneration potential;
- Provide a variety of FLR methodologies and how the biophysical and socioeconomic conditions of a site influence decision-making about which strategies to use;
- Help participants to analyze social and cultural aspects, history of disturbances and strategy of involving different stakeholders in restoration;
- Present case studies that exemplify the adaptation of various restoration techniques, as well as tools to develop a strategic plan for restoration;
- Present the fundamentals of restoration monitoring to quantify ecosystem services and for adaptive management strategies;
- Offer participants the opportunity to connect with a global network of professionals who are currently working in restoration.

Course Structure: This six-week Spanish-language course included a series of videos, interactive presentations, discussion forums and live sessions with invited experts, all with a focus on guiding participants to apply the concepts learned to their work on-the-ground.



A group discussion between participants, ELTI instructors and invited guest expert, Dr. Dylan Craven. © ELTI Archive

The thematic modules were:

- Module 1: Introduction to ecology, disturbance, and regeneration potential
- Module 2: Social and cultural aspects of restoration
- Module 3: Strategies to catalyze restoration
- Module 4: Integration of restoration and production
- Module 5: Restoration monitoring and evaluation
- Module 6: Development of a restoration project



This site classification map from the course project of Carolina García and Laura Sierra, from the Tití Project Foundation, illustrates how the participants conducted a diagnostic of the degraded area, prioritizing areas and proposing multiple restoration interventions according to each site's conditions. © Tití Project Foundation

Participants: WWF staff-members selected the course participants. They represented six countries and 12 local NGOs focused on wildlife conservation.

Instructors and Coordinators: Jacob L. Slusser (Panama Coordinator, ELTI Neotropics Training Program) served as the lead instructor for the course. Saskia Santamaría (Associate, ELTI Neotropics Training Program) facilitated the delivery of the course, with assistance from Gillian Bloomfield (Coordinator, ELTI Online Training Program). Dr. Alicia Calle (The Nature Conservancy - Colombia), Dr. Dylan Craven (University Mayor-Chile), Dr. Florencia Montagnini (Yale University), Zoraida Calle (ELTI & CIPAV) and Enrique Murgueitio (CIPAV), served as guest experts invited to the live sessions. Additionally, 12 international speakers presented theory and case studies in pre-recorded lectures that comprised the course modules.

Outcomes: The course received an overall 4.8 rating (out of 5) from participants, who valued the detailed course content, particularly highlighting the diversity of themes and practical site-based case studies.

Each week participants developed a different section of their restoration plans in alignment with module themes. They provided feedback to their peers and received regular feedback from the lead instructor, Jacob L. Slusser, MSc. By the end of the course, the participants produced nine unique restoration plans focused on sites within five countries. Participants were encouraged to communicate with ELTI staff about the progress on their projects, so they could be provided follow up support as well as showcase their work on ELTI social media.

This event was possible thanks to Arcadia Fund, whose Environmental Conservation grants support programmes that protect and enhance biodiversity and provide field training and academic research.