

## COURSE REPORT

# Forest Landscape Restoration in the Tropics (Delivered in English)

Environmental  
Leadership &  
Training Initiative

**January 30 to March 17, 2017**

An online course organized by:  
Environmental Leadership and Training Initiative (ELTI)  
International Union for Conservation of Nature (IUCN)

**Background:** Forest Landscape Restoration (FLR) provides an opportunity to transform large areas of degraded and deforested land into landscapes that produce numerous ecological, economic, and social benefits. Many countries have made large-scale commitments to restore millions of hectares of degraded and deforested land under the Bonn Challenge, which is an international effort to restore 150 million hectares around the globe by 2020 and 350 million by 2030. Achieving these large-scale commitments, however, requires that decision-makers address the diverse ecological, socio-political, and economic factors that impact restoration efforts at different scales.

The Restoration Opportunities Assessment Methodology (ROAM) provides a framework for countries and regions to identify, analyze, and prioritize restoration opportunities in order to develop a suite of restoration strategies for particular contexts. By situating ROAM within a broader framework of academic knowledge on tropical forest and landscape ecology, socio-political and economic processes related to restoration, and restoration strategies, individuals involved with FLR policy, planning, and implementation can develop the foundation needed to achieve a range of objectives, such as economic growth, food security, biodiversity conservation, and carbon sequestration.



*Slash and Burn Cultivation in the Upper Marikina River Basin Protected Landscape, Philippines, which was part of the focal region for participant Maurice Rawlin's final project. Photo credit: Maurice Rawlins*

ELTI is an initiative of the Yale School of Forestry & Environmental studies supported by Arcadia ([www.arcadiafund.org.uk](http://www.arcadiafund.org.uk)). IUCN is a membership Union composed of both government and civil society organisations. It harnesses the experience, resources and reach of its 1,300 Member organisations and the input of some 15,000 experts. IUCN is the global authority on the status of the natural world and the measures needed to safeguard it.



View of online course platform, which is comprised of six thematic modules

This online course was designed to provide a solid foundation on FLR and develop capacity of FLR practitioners on how they can identify, analyze, and prioritize FLR opportunities using the Restoration Opportunities Assessment Methodology (ROAM). The course provided participants with a series of presentations, live discussion sessions, and activities designed to help them to develop a restoration plan, to apply what they learned during the course, and to discuss strategies to unlock finance and scale up FLR. The course was offered to practitioners and professionals directly involved in FLR, such as IUCN partners and members (including government). Participants exchanged experiences with other peers, and shared concepts and tools with each other, the ELTI facilitators, and guest experts.

### Course Objectives:

- Present the basic principles of forest tropical ecology, restoration ecology, and natural and anthropogenic disturbance, as well as how those disturbances affect the potential for regeneration;
- Provide the knowledge needed to identify, evaluate and compare an array of forest landscape restoration opportunities and how the biophysical and socio-economic conditions of a site influences the decisions about which strategies to employ, including trade-offs;
- Provide guidance on stakeholder engagement and how to analyze the enabling conditions that are needed to successfully implement and scale up FLR;
- Present an array of relevant information needed to develop a strategic plan for FLR, including an overview of ROAM, related case studies, and associated tools and finance strategies;
- Support participants to plan for FLR nationally, or in a specific region or area, by helping them to analyze the ecological conditions, disturbance history, socio-political factors, and monitoring plans in their local context; and
- Provide the opportunity for participants to engage in critical discussions on a weekly basis and connect with a global network of practitioners working on FLR.

**Format:** This six-week course was offered in English and was divided into the following thematic modules, each one lasting a week:

**Module 1.** Ecology, disturbance, and regeneration potential in tropical forest landscapes

**Module 2.** The Restoration Opportunities Assessment Methodology

**Module 3.** Socio-political and cultural aspects of FLR

**Module 4.** Effective FLR practices and strategies

**Module 5.** FLR for production purposes

**Module 6.** Scaling up and Monitoring FLR



## Educational Tools:

- Pre-recorded guest lectures that include video of the guest speaker and their corresponding PowerPoint slides;
- Interactive presentations that synthesize the core concepts of each module;
- Suggested readings to complement the presentations;
- Case studies of restoration projects and examples of FLR and ROAM from a range of countries, including Indonesia, Myanmar, Panama, the Philippines, Sri Lanka, Vietnam and the Central America region;
- Weekly online live discussion sessions with the lead professor and invited guest experts;
- Weekly discussion forums, during which participants are asked to share their thoughts and questions about the weekly material; and
- Targeted discussion sessions to review individual work on the final project, which is an outline of the approach participants would take to accomplish FLR in an area, region, or country.

In addition to the discussion forums, participants also completed literature searches and peer-to-peer feedback assignments as part of the final project.

At the end of the course, participants who completed all of the course requirements received a certificate of participation.

## Participants:

This course was offered for IUCN Members and partners directly involved with FLR, particularly those working in Asia. Twenty-six applicants were selected as participants for the course given their achievements and potential to be leaders and decision makers for FLR and ROAM in their respective regions. The majority of participants were located in Asia (China, Cambodia, India, Indonesia, Myanmar, Nepal, the Philippines, Thailand, and Vietnam), although some participants working professionally in Asia were based in the U.S. or Australia. Participants represented various regional offices of IUCN, Environment Ministries, the Food and Agriculture Organization, the World Bank, as well as research organizations and academic institutions.

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**Maeve Nightingale**  
Manager, Capacity Development, Mangroves for the Future, IUCN Asia

**IUCN Traditional Mangrove Restoration - Planting**  
Mangroves for the Future

*Pre-recorded guest lecture on restoration strategies for mangrove ecosystems in Asia, presented by Maeve Nightingale (IUCN Asia).*

**Case Study: Reforestation and Health in West Kalimantan, Indonesia**

**Steps: Low Input, Optimal Treatment for High Growth Performance** [Click to read how this "optimal treatment" was determined](#)

1. Cut undesirable vegetation
2. Weed 1 m circumference around seedling
3. Spray with Round-up (Wait 3-4 days after before planting)
4. 'Circular crush' pressing around seedlings every 4 months

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*Interactive text-based clickable presentation on a case study of integrating reforestation and health, in West Kalimantan, Indonesia. This presentation was one of several case examples shown during the course on integrating socio-political considerations with FLR.*

**Who is investing in FLR?**

**FUNDING SOURCES**

- Climate finance:** Voluntary carbon markets; REDD+; CDM; small grants; adaptation funds; Green Climate Fund; national climate funds
- Private sector:** Corporate social responsibility; private impact funds; institutional investors
- Development cooperation:** Development finance institutions; technical cooperation agencies
- Non-governmental funding:** International, national and local NGOs and foundations
- Environmental funds:** Extrabudgetary funding; private, public, national, international sources
- State budgets and resources:** FLR integrated in budgeting system; public incentives for FLR (e.g. payments for ecosystem services)
- Non-traditional funding:** Crowdfunding; green bank cards

**Risks and barriers for FLR investment**

The more degraded the landscape, the higher the cost of restoration and the higher the risk of the investment. Different investors are willing to accept different levels of risk.

**COST OF THE RESTORATION** vs **RISK OF THE INVESTMENT**

- Traditional investors (pension funds, commercial banks)
- Private equity impact funds, crowdfunding (lending), development finance institutions
- Governments, international cooperation (technical assistance, grants)
- Corporate social responsibility, private foundations
- Crowdfunding (donations)
- NGOs, public foundations

*Live online discussion session on FLR Finance during the course, with presentations by guest experts, Rao Matta and Ludwig Liagre (FAO).*

## Instructors and Coordinators:

**Dr. Mark Ashton** from the Yale School of Forestry & Environmental Studies (F&ES) served as lead professor for this course. He participated in four live sessions and provided feedback on project work at several points during the course. **Karin Bucht**, ELTI's Online Training Program Associate, facilitated the delivery and management of the course, with teaching assistance from **Asha Bertsch** (M.F. 2017, Yale F&ES). **Mirjam Kuzee** of IUCN provided support related to the invitation of guest speakers, selection of module components, and facilitation throughout the course.

A range of guest experts provided pre-recorded video lectures and/or participated in live video conferences. These guest experts included:

- **Mark Ashton**, Ph.D., Yale University, School of Forestry & Environmental Studies, United States.
- **Peter Ashton**, Ph.D., Harvard University, Department of Organismic and Evolutionary Biology, United States.
- **Craig Beatty**, M.S., International Union for Conservation of Nature, Washington DC Office.
- **Gillian Bloomfield**, M.F.S., Environmental Leadership and Training Initiative at Yale University, United States.
- **Kathleen Buckingham**, Ph.D., World Resources Institute, United States.
- **Miguel Calmon**, Ph.D., International Union for Conservation of Nature, Washington DC Office.
- **Eva Garen**, Ph.D., Environmental Leadership and Training Initiative at Yale University, United States.
- **Mirjam Kuzee**, M.Sc., International Union for Conservation of Nature, Washington DC Office.
- **Ludwig Liagre**, M.B.A., Food and Agriculture Organization, Rome, Italy.
- **Rao Matta**, Ph.D., Food and Agriculture Organization, Rome, Italy.
- **Ronald McCarthy**, M.Sc., International Union for Conservation of Nature, ORMACC Office.
- **Pamela McElwee**, Ph.D., Rutgers University, United States.
- **Florencia Montagnini**, Ph.D. Yale University, School of Forestry & Environmental Studies, United States.
- **Gerhard Mulder**, M.I.A./M.Sc., International Union for Conservation of Nature, Washington DC Office.
- **Maeve Nightingale**, M.Sc., International Union for Conservation of Nature, Asia Office.
- **Luciana Ludlow Paz**, M.Sc., International Union for Conservation of Nature, ORMACC Office.
- **Scott Perkin**, Ph.D., International Union for Conservation of Nature, Asia Office.
- **Chuck Peters**, Ph.D., New York Botanical Garden, United States.
- **Dean Rizetti**, M.Sc., International Union for Conservation of Nature, Australia.
- **Leander Raes**, Ph.D., International Union for Conservation of Nature, ORMACC Office.
- **Mike Verdone**, Ph.D., BBC Research and Consulting, United States.

**Outputs and Follow-up:** The majority of participants were actively engaged throughout the course and indicated that they benefited from their interactions with instructors, guest experts, and peers. As part of their homework, participants developed and submitted detailed FLR and ROAM planning documents for 13 different focal regions in eight countries. Each project included an outline of: (1) the ecological, historical, social, and political context of the area; (2) a "Roadmap to ROAM," detailing steps needed and actors involved; (3) discussion of FLR strategies; (4) a cost-benefit analysis; (5) approaches to scaling up; (6) a monitoring strategy; and (7) proposed actions following ROAM.

In coming months, ELTI and IUCN will follow up with participants to see how the course and project assignments have influenced their professional development, and how they are managing and planning FLR in their respective regions.

**For more information:** please contact Karin Bucht, ELTI's Online Training Program Associate; [karin.bucht@yale.edu](mailto:karin.bucht@yale.edu).

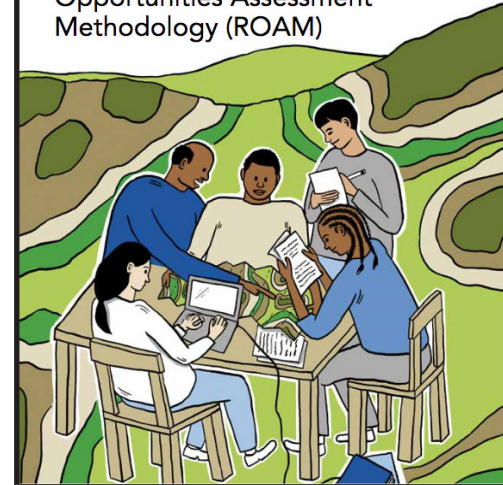
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## A guide to the Restoration Opportunities Assessment Methodology (ROAM)



The "Restoration Opportunities Assessment Methodology (ROAM)" handbook. Tools and exercises from ROAM were integrated into the course via lecture materials, readings, discussions and project work, in order to improve participant's understanding and capacity for implementing ROAM.