

Landscape Restoration, Natural Regeneration, and the Forests of the Future



Robin L. Chazdon

We face an unprecedented opportunity to transform degraded and unproductive lands into functional landscapes that offer multiple benefits to society and future generations. The massive scale of this opportunity creates an enormous implementation challenge that requires engagement, mobilization, and commitment of all sectors of society across all regions of the planet. Forest and landscape restoration (FLR) is a holistic process that aims to regain ecological integrity and enhance human well-being in deforested, human-impacted, or degraded forest landscapes. This process focuses on large spatial scales, where multiple land uses and forms of land ownership coexist, and where management decisions are usually made by different sets of stakeholders.

Forest and landscape restoration requires spatial planning to maximize effective long-term outcomes, engage diverse groups of stakeholders, and minimize overall costs. Natural regeneration of forests is the least expensive and most ecologically effective approach to large-scale forest restoration. Natural regeneration can also be assisted in ways that do not focus on tree planting. Natural forest regrowth is promoted by high local resource availability and high propagule (i.e. seeds and sprouts) availability. Identifying and mapping areas where natural regeneration potential is high should be a major priority in large-scale restoration planning.

Many future forests will grow up in predominantly deforested landscapes. Restoring functionality at the landscape scale does not require restoring the species composition of the original forest. But fostering natural regeneration in those areas where it is already occurring or likely to occur can conserve native species, sequester substantial amounts of carbon, enhance connectivity within the landscape, and allow limited funds to be spent on tree planting in other strategic areas. These naturally regenerating forests will be critical habitats for species in mosaic landscapes where forest patches coexist with other forms of land use and create sources for regeneration in planted forests.