

# Putting a price on ecological restoration

April 8 2014

---

Putting a price on clean water and soil fertility helps the UN set ecological restoration targets for degraded and deforested land.

Forests provide essential ecosystem services for people, including timber, food and water. For those struggling with the after-effects of deforestation, the main hope lies in rebuilding [forest resources](#) through [ecological restoration](#).

Researchers at BU have shown that placing a [monetary value](#) on ecosystem services provides a mechanism for evaluating the costs and benefits of reforestation activity.

"Ecological restoration initiatives are being undertaken around the world, attracting investment of \$US billions annually," explained Professor Adrian Newton. "They make a significant contribution to sustainable development but few attempts have been made to systematically evaluate their effectiveness."

To address this knowledge gap, Professor Newton and fellow BU researchers analysed 89 different types of restored ecosystem sites across the world. The results showed that, although restored land was not as productive as land that had not been degraded, restoration efforts increased biodiversity by 44% and provision of ecosystem services by 25%.

What's unique about Professor Newton's research is that it also provides one of the first evidence-based assessments of how cost-effective

ecological restoration initiatives actually are.

Professor Newton developed this method as part of the ReForLan research project in the dryland forests of Latin America. ReForLan brought together researchers from six countries to assess the environmental degradation and the potential for ecological recovery through restoration.

The methodology assigns financial value to ecosystem services, such as the provision of [clean water](#), carbon storage and [soil fertility](#) that would result from restoration, thereby demonstrating how cost effective these efforts are.

"We examined whether ecological restoration can be cost effective, based on the value of ecosystem services provided by restoration actions," he explained. "This was undertaken by analysing the value of the increased provision of [ecosystem services](#) that could potentially be provided as a result of ecological restoration actions."

So successful is the methodology that it was used to inform the United Nations Environment Programme's restoration targets and specifically 'Target 15' of the Aichi Biodiversity Targets to restore 15% of the world's degraded ecosystems by 2020.

The UN say these targets can be achieved through Forest Landscape Restoration, which is an approach developed, tested and refined by Professor Newton during the ReForLan project.

"We examined how Forest Landscape Restoration may be implemented in practice, and evaluated the cost effectiveness of this approach and its benefit to human communities," he explained.

Professor Newton has demonstrated that at the heart of successful [forest](#)

[landscape](#) restoration is a flexible and adaptive approach. It should allow communities to participate in the decision-making process, and enhance ecosystem service provision for those living within them.

The Forest Landscape Restoration method has been heralded as the solution to restoring 150 million acres of degraded and deforested land. This target is part of a global movement, known as 'Bonn Challenge', named from its inception in Bonn, Germany in 2011. Individual countries have so far committed to restoring 50 million hectares of forest, which is a significant step towards achieving the policy goals.

"This initiative directly employs the Forest Landscape Restoration approach that we researched, developed, tested and refined," explains Professor Newton.

He conclude, "Ecosystems are a rich source of biodiversity and the services they provide are relied upon by local people. The approach developed through the ReForLan project allows policy makers to identify locations where ecological [restoration](#) is most likely to be cost effective."

Provided by Bournemouth University

Citation: Putting a price on ecological restoration (2014, April 8) retrieved 4 May 2024 from <https://phys.org/news/2014-04-price-ecological.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.