About 30% of global forest cover has been cleared and a further 20% degraded to date. Deforestation is the second leading cause and currently accounts for 24% of total greenhouse gas emissions, more than the entire global transportation sector. Landscape degradation through human activities negatively impacts the well-being of at least 3.2 billion people, and costs more than 10% of annual global gross product in loss of biodiversity and ecosystem services. Forest and land degradation also increases competition for scarce resources and contributes to human migration, both of which can lead to increased conflict.

Full achievement of the Sustainable Development Goals (SDGs) is only possible through urgent, concerted and effective action to avoid and reduce land degradation and promote restoration, bringing positive impacts across all dimensions of development. The inherent dynamic interconnections between the Earth’s land systems, climate and human societies mean that efforts to address land degradation and restore landscapes have multiplicative positive benefits. Restored forests and landscapes increase food and water security, sequester carbon, enhance adaptability and resilience to climate change, and minimise the risks associated with conflicts over natural resources and large-scale migration. The social returns of taking action on restoration at a global level are estimated at US$ 5 for every $ 1 invested in restoring degraded land. These facts represent both an excellent investment opportunity for both developed and developing countries. Reversing land degradation and halting deforestation through restoration is possible.

The SDGs envision the transformation needed to secure the rights and future of people across the world and emphasise that healthy, stable ecosystems are a critical part of this. As shown in the infographic that follows, the landscape-scale restoration of degraded lands and forests is intrinsically interlinked with many SDGs.

Countries participating in the High-Level Political Forum on the SDGs noted the need to accelerate transformative actions, including restoring the productivity of degraded land, through coordination and planning across sectors, policy coherence and harmonisation of national strategies and plans, the use of participatory frameworks, enabling policies to provide conditions for private sector investment and the establishment of partnerships. Many participants urged that synergies between SDGs be leveraged, focussing on areas of critical trade-offs. When planned at the landscape scale, restoration strategies are able to balance often competing objectives of different land users and stakeholders and trigger improvements in vertical and horizontal coordination.

Rising populations and incomes, climate change, and dwindling natural resources make it imperative that our work to bring about a sustainable development complement conventional conservation strategies with making better use of degraded resources. As described below, restoration is a critical piece of this work. From bringing back degraded lands into production, to increasing the productivity of working lands, to fortifying the natural ecological processes that underpin provision of clean air, food and water, restoration brings the SDGs within reach.

Forest landscape restoration (FLR), an integrated approach that advances the SDGs

FLR is the process of regaining ecological functionality and enhancing human well-being across degraded and deforested areas large-scale areas comprising overlapping ecological, social and economic activities and values. Successful FLR is forward-looking and dynamic, focussing on strengthening the resilience of landscapes and creating future options to enhance and further optimise ecosystem goods and services as societal needs change or new challenges arise.

Restoring forests and landscapes is more than just planting trees—a restored landscape could include naturally regenerated areas, agroforestry, on-farm trees, mangroves, protected areas, plantings of trees and other woody plants like bamboos, and more. Restoration takes place through an active process that allows the integration of various sectors, plans, and programmes, bringing local communities and other stakeholders together to identify and implement appropriate restoration activities.

FLR helps to identify synergies and address critical trade-offs leading to the achievement of SDGs

The FLR approach fosters synergies between forest ecosystems and water, energy sources, food systems (including food in connection with human health and well-being), green growth and governance. By assessing a whole landscape in the context of development priorities, the FLR approach addresses the multiple and competing demands for land use and management that often lead to degradation and deforestation. It offers options to resolve trade-offs, and ensures a balance between economic, social and environmental benefits from land. Building multiple-use landscapes proves that it is possible to provide sustainable sources of food and energy products as part of strategies where forest conservation, restoration of degraded areas, and increased trees in landscapes are considered as the means to fulfil these demands.

Implementing FLR reinforces cross-sectoral coordination and improves governance

FLR fosters coordination and cooperation across sectors and from local to national levels. It enables dialogue and coordination opportunities where it is possible to identify synergies, joint implementation pathways, and partnerships within different government sectors and actors that are engaged in the same landscape. Government sectors and stakeholders benefit from the potential of complementary and interconnected interventions, which increases efficiency in the use of resources and capacities, and multiplies impacts. FLR can catalyse action at multiple scales and increases ownership by stakeholders, an essential component of mainstreaming restoration priorities across sectors. At the global scale, this allows for synergies between different multi-lateral agreements on climate, biodiversity and development.

Mainstreaming FLR approaches within national sustainable development agendas catalyses the transformational potential of the forest and land use sector for the SDGs

FLR can be an innovative approach for countries to boost the impact of sustainable land and forest management as a pillar of their sustainable development agendas. In El Salvador, the National Strategy for Restoration of Ecosystems and Landscapes (EN-REP) and National Action Plan for Ecosystems and Landscapes (PA-REP) are part of the country’s vision to improve socio-economic resilience that articulates climate change, disaster risk reduction, food security and biodiversity conservation and management priorities. Malawi’s National Forest Landscape Restoration Strategy (NFLRS) addresses the persistent challenges of food insecurity, lack of income generating activities, declining soil fertility, deforestation, poor water quality and availability, and vulnerability to climate change and natural disasters such as drought and floods.

Several additional national and jurisdictional examples of linkages created between FLR and the SDGs exist, many of them as a result of policy design and implementation based on the application of the Restoration Opportunities Assessment Methodology (ROAM). IUCN has supported 35 of these FLR opportunity assessments, covering an area of 450 million hectares with 160 million hectares of restoration opportunities identified in 26 jurisdictions, all of them in Bonn Challenge countries. The progress that some countries have made to achieve their restoration targets is being captured by the Bonn Challenge Barometer of Progress.
Restoring landscapes for a sustainable future

Forest landscape restoration contributions to the SDGs can be grouped by the different benefits provided:

- Improved livelihoods, economic opportunities and jobs
- Climate change mitigation and adaptation
- Water security and healthy ecosystems
- Gender equality and empowerment
- Food security and health benefits
- Policy coherence and partnerships
- Sustainable supply of forest-based products for energy, consumption and production
A closer look at the interlinkages between FLR and specific SDGs, and successful examples

Improved livelihoods, economic opportunities and jobs (SDGs 1, 8)

Restoring ecosystems and natural resources generates diverse income opportunities within the forestry and agriculture sectors, and can make a substantial contribution to reducing poverty, particularly for rural communities. (SDG 1.2, 1.5, 1.A, 1.9)

Once under heavy degradation, the restored China's Loess Plateau supported the livelihoods of communities in four of China's poorest provinces – Shanxi, Shaanxi, Gansu, and Inner Mongolia Autonomous Region and lifted more than 2.5 million people out of poverty. Through restoration interventions such as erosion control and sediment retention, coupled with sustainable farming methods and replanting, farmers' income doubled from US$ 70 to $ 200 per year; per capita grain output increased from 365 kg. to 591 kg per year and employment rate increased from 70 to 87%.

Restoration can drive the creation of new businesses and markets that create additional income-generating activities in rural economies. (SDG 8.1, 8.3, 8.4)

Case studies across the world indicate that FLR programmes have provided thousands of green jobs each year and generated millions in local labor income. For instance, in Uncompahgre Plateau in western Colorado, Collaborative Forest Restoration (CFLR) Programme has provided 443 full-time and 827 part-time jobs and generated $28 million in the United States, U.S.A, the Collaborative Forest Landscape Restoration Programme has created 12,777 total jobs.13

Sustainable supply of forest-based products for energy, consumption and production (SDGs 7, 12)

Unsustainable harvesting of fuelwood is a major cause of deforestation and forest degradation. Reducing dependency on fuelwood needs to be coupled with sustainable forest management and FLR, which can reduce deforestation and degradation rates. (SDG 7.1)

In Sub-Saharan Africa, landscape restoration interventions that included the establishment of tree-based bioenergy systems have increased the sustainable supply of energy to households for cooking and heating.14 In Madagascar, the establishment of productive forests for wood energy is benefitting 3,000 households and has protected around 50,000 ha. of natural forests.15

Twenty-seven percent of deforestation is attributed to land use change for commodity production.16 The adoption of restoration strategies in food and commodity systems provides a profitable and sustainable pathway to deforestation-free supply chain development. (SDG 12.1, 12.2, 12.6)

Food security and health benefits (SDGs 2, 3)

The productivity and resilience of food systems are strengthened through watershed protection, erosion control, agroforestry, tree management for NTFP, and other FLR strategies. Moreover, restoring degraded agricultural lands can reduce the number of malnourished children by 3 - 6 million while increasing yields and productivity of maize, rice, wheat between 2 to 10%.17

Direct benefits from improved tree cover (medicines and fuelwood) and enhanced tree systems that provide better water access are often key resources for maintaining good health especially in forest dependent communities (SDG 3.2, 3.3)

Sustainable supply of forest-based products for energy, consumption and production (SDGs 7, 12)

Since cocoa is a global, high demand commodity with an established market chain and the potential for high economic returns, tree-based interventions such as coco-agroforestry systems provide a long-term sustainable solution to agrocommodity-driven deforestation among small-scale farmers in Amazon and Africa.19 Cote d'Ivoire, Ghana, Colombia, and 33 leading cocoa and chocolate companies have joined together in the Cocoa and Forest Initiative, demonstrating that sustainable production of this important global commodity through restoration is both possible and profitable in Sao Paulo, locally developed agroforestry systems adopted by the private enterprise Fazenda da Toca, have demonstrated that the agroforestry practices not only restore degraded areas but are more profitable.19

Water security and healthy ecosystems (SDGs 6, 15)

Restored forests and landscapes can enhance both the provision and quality of water, and improve the resilience of water systems in areas prone to flooding and erosion. (SDG 6.5, 6.6, 6.B)

In Guatemala, agroforestry systems have reduced the use of chemical fertilisers and pesticides, while increased tree cover helps to purify water resources. Together, this has led to improved access to clean water and decreased risks from exposure to pollution for farmers.24

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Xaya and Pcxay-rivers, FLR outcomes benefitted 150 families directly, with indirect benefits to 500 families by improving water scarcity for household consumption, irrigated agriculture and hydropower generation. Similar examples are found in the New York City25 and Beijing watersheds, among others.

FLR is at the heart of SDG 15, aiming to advance the conservation, restoration, and sustainable management of forest landscapes, contributing to the fight against desertification, habitat loss, species extinction and climate change. The UN Decade of Ecosystem Restoration 2021-2030 will provide added impetus for the restoration of ecosystems at a landscape scale consistent with the FLR approach. (SDG 15.1, 15.2, 15.3, 15.4)

A meta-analysis of 89 restoration opportunities assessments in Latin America revealed that FLR can be effective for both increased provision of biodiversity and ecosystem services by 44% and 25% respectively.27 Landscape connectivity analysis in Brazil showed that restoring all deforested riparian buffers within Areas of Permanent Protection (areas that must be protected to preserve water resources, landscape features, geological stability, biodiversity, gene flow, soil and ensure human well-being) resulted in the reconnection of isolated forest patches,28 while agroforestry and commercial tree plantations lead to increased landscape hospitality to some endangered species.29

Restored landscape efforts in Baekdudaegan, Republic of Korea, have reconnected fragmented ecological corridors, restored the lands of abandoned military bases and mines, and protected endangered species.30 In El Salvador, 17% of restored forest landscapes are found within protected areas and 39% in Key Biodiversity Areas.31 The Great Green Wall is being implemented in over 20 countries in Africa, aiming to restore degraded land and neutralise the pervasive effects of desertification in one of the vastest regions of the planet. Country members are already reporting results: Ethiopia 15 million ha., Senegal 25,000 ha., and Nigeria 5 million ha., among other countries.32

Climate change mitigation and adaptation (SDG 13)

Thirty percent of the climate change mitigation solution needed by 2030 involves restoration, conservation, and sustainable management of terrestrial ecosystems. Restored forest landscapes are also better at protecting communities against climate-related hazards and natural disasters. FLR is therefore an important component of national and local disaster-risk reduction strategies and policies. (13.1, 13.2)

In the U.S., underground efforts to restore 404,685 ha. in the Lower Mississippi river basin will reduce 200,000,000 metric tons of carbon emissions, equivalent to US carbon footprint by 2%.33 In El Salvador, restoration of 122,094 has sequestered 351,321 tons of CO2 since 2010.34 Restoration activities such as agroforestry practices have been used in the Sahel region to enhance the resilience of agricultural systems against adverse impacts of rainfall variability and shifting weather patterns under climate extremes.35

Gender equality and empowerment (SDG 5)

Women play a key role in natural resource use and management, and their actions influence the outlook of forest and landscapes. Gender equality and equity are matters of fundamental human rights and social justice, as well as a pre-condition for sustainable development. FLR is underpinned by inclusive social arrangements, and placing women at the forefront of restoration programmes helps to achieve inclusive, equitable and participatory approaches and responses. (5.5, 5.A, 5.B)

Gender-responsive FLR programming brought women to the forefront of forest conservation and restoration efforts in Brazil, Uganda, and Armenia.36 In Armenia, FLR interventions increased income opportunities and fuel wood supply for forest dependent communities, particularly vulnerable groups including women-headed households and the elderly.37 In Uganda, the FLR approach provided a framework to enhance gender equality and women’s empowerment in natural resources management.38 Gender-responsive FLR39 implementation also addresses inequality and tenure issues as the barriers to FLR implementation. For example, women are actively engaged in restoration along Cameroon’s equatorial coast which in some cases has resulted in strengthened tenure security.40

Policy coherence and partnerships (SDG 17)

Embarking on FLR efforts will address the different socio-economic, environmental and governance aspects that operate within complex landscapes. By its very definition, FLR is participatory hence builds and reinforces connections and interactions between various land uses and the multiple sectors, stakeholders and policies at national and subnational level that manage and influence those multifunctional landscapes. By involving stakeholders and actors at all levels and sectors and building an articulated vision for integrated land use planning and management, FLR can help generating coherence for the implementation different policies, identifying synergies and addressing trade-offs in policy design and implementation. (17.14, 17.16, 17.17)

Partnerships for FLR have emerged at all levels and are playing a key role in scaling up restoration ambition and implementation. For example, the Global Partnership on Forest and Landscape Restoration (GPFRL) has fostered collaborative action to drive FLR globally since 2003. At national and subnational levels, FLR planning through the application of the ROAM in 26 jurisdictions was built on increased collaboration between different ministries, development agencies, subnational governments, smallholders and other actors on the landscapes, including different social groups such as women, men and indigenous communities. The WIO Mangrove Network provides a forum for scientists, managers and policy makers from government and NGOs to contribute to solutions for addressing the issues in mangroves in Western India.41 In Malawi, for example, the diverse stakeholders were brought together under the “whole of government” effort to coordinate FLR opportunities assessment at national level, and as a result, National Forest Landscape Restoration Strategy were targeted more strategically with a strong commitment to partnerships and cooperation across sectors.42 Guatemala’s Ministries of Environment and Agriculture recognise the importance of FLR as a strategy for sustainable development and livelihoods’ improvement, whereby the implementation of their Bonn Challenge pledge to restore 1.2 million ha. is seen as a country strategy that leads multi-sectoral policy design.43

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39 Gender equality key achieving FLR outcomes. https://www.iucn.org/content/gender-equality-key-achieving-flr-outcomes-how-women/62150/05/62159/critical-participation-supports


42 Western Indian Ocean Mangrove Network, http://wionn.org/


Reinforcing progress on the SDGs by scaling up FLR

Demonstrate leadership and commitment

Political or administrative leaders are important to catalyse action and facilitate the mainstreaming of FLR in in-country development policies.45 Once they have stepped forward to demonstrate leadership and commitment, which attracts domestic and international attention to a country’s landscape restoration potential, regional and international partner organisations are able to help mobilise support for fundraising, capacity-development, and implementation of a country’s landscape restoration goal.

Generate institutional ownership and cross-sectoral coordination on FLR

Although demonstrations of political will are fundamental to jumpstart action on FLR, sustained engagement is necessary. Arrangements for designing and implementing landscape restoration programmes by their very nature need to be large, diverse, and representative of the diverse sectors and interests affected. This includes the engagement of a range of actors involved in policy, regulatory, and governance streams, which can also minimise risks associated with political turnover. Many countries, such as Burundi and Mexico, are already developing cross-sectoral cooperation arrangements as a result of utilising the FLR approach, involving complementary agendas such as climate change mitigation, adaptation and resilience, rural development, biodiversity, desertification, among others.46

Unlock public incentives to facilitate public and private investments

There are already good models for pioneering public investment to kick-start FLR implementation. For example, the governments of Rwanda and Guatemala have designed and implemented public investment packages of public incentives for FLR coupled with supportive regulatory frameworks and clear legal arrangements for land tenure and management. This has created the necessary enabling environment for private sector investments. Initial financing resources for building technical capacities and addressing enabling conditions can also be secured from donor countries, international development banks, or international funds like the Green Climate Fund (GCF) and the Global Environmental Facility (GEF). However, to make financing more suitable for improved forest and land use management approaches such as FLR, countries need to build on accrued domestic finance and leveraged public finance to attract additional private sector participation.

Public sector leaders both in administrative and political positions are encouraged to optimise the contribution of FLR to domestic development agendas, by establishing or fostering the country’s political commitment, for example, by making a pledge to the Bonn Challenge and embedding FLR in their SDG action plans. This can be preceded or followed by an assessment of FLR potential, using ROAM for instance, in order to identify, confirm or expand the scope of the country’s ambition.

Decision makers should be encouraged to adopt landscape approaches to realise the potential of healthy forests and landscapes. Collaborative institutional frameworks and participatory frameworks should be developed in order to ensure continuous engagement from multiple stakeholders and sectors in both the design and implementation of FLR-related policies and strategies.

Governments should create or develop enabling public policy instruments, so that public incentives and programmes for restoration are well-aligned with national or subnational objectives and policies for green growth and rural development. This will facilitate synergies and coordination between private investors, financing agencies and supporting actors in civil society and local communities to improve land use and production patterns.47

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46 See examples on the following hyperlinks: Yucatan Peninsula in Mexico, El Salvador, Guatemala, Malawi, and Madagascar.
47 Scherr, Sara et. al, op. cit.
Start a conversation on forest landscape restoration, the Bonn Challenge, and SDGs by reaching out to our Forest Conservation Programme: forests@iucn.org