

### Ideas Transform Landscapes





# We can reverse this trend

We can restore the balance between man and nature in forest landscapes.

Forest landscape restoration (FLR) brings people together to build sustainable relationships between communities, commercial interests and the damaged ecosystems on which they depend.

Returning the landscape to its original state is just one solution; there are many alternative strategies, each requiring the participation of all those with a stake in the forest.

The goal with all of these approaches is to revitalise the functions of a forest landscape that can continuously fulfil the needs of both people and the environment.

Forest landscape restoration is important because issues such as

watershed management and biodiversity conservation need coordinated action at a larger scale to be effective.

In countries across the world, FLR is putting communities and ecosystems back on their feet and improving their future prospects with new crops, conservation schemes, wildlife habitats, watershed management systems, tourism opportunities and other land use practices.

### FLR: the main principles

- Promoting active engagement, negotiation and collaboration between all stakeholders
- Restoring an agreed, balanced package of forest functions
- Working across landscapes
- Continuously learning and adapting





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### A learning network

### There is no magical, one-size fits-all blueprint for restoring forest landscapes.

Solutions are always unique to their setting. They have to be adaptable and flexible over time, since they seek to channel the needs of many different forest stakeholders towards sustainable practices that can serve all in the long term.

As practitioners of FLR, we are learning all the time, through experience and from each other. The GPFLR Learning Network provides an all-important vehicle for that learning process. It connects our partners and collaborators around the world, from Scotland to the Sudan and Moldova to Malaysia, in a community of practice, enabling them to spread best practice, build cooperation and exchange new ideas and solutions.

The network's focus is on highlighting the diversity of those solutions and the transferable lessons from them, not on reducing them to a convenient but unworkable formula.

Our aim is to raise awareness of real world FLR experiences and make available the tools and knowledge to support practitioner

The following pages illustrate the diversity of FLR solutions with examples from across the globe.



# future-proof

Forest landscape restoration is not a short-term fix. Simply planting trees and crossing fingers doesn't work.

People mainly cut down trees because the timber for fuel, shelter or trade. To make a lasting difference, any attempt to restore a forest landscape must address those needs, now and in the future.

To work, the FLR process has to be open-ended, forward-looking and fluid. When a solution is put in place, it must be able to bend with the wind and resist the pressures that will undoubtedly arise from shifting social and environmental conditions.

Successful projects manage to address long-term financial sustainability issues by harnessing the forest's economic benefits and supporting communities financially through periods of transition.

In the Great Lakes Region shared by their livelihoods depend on it: they need Burundi, Rwanda and the Democratic Republic of Congo, IUCN's Landscapes & Livelihoods Strategy is working with the NGO Helpage Rwanda to promote the restoration of trees and forests on the slopes surrounding the lakes and on the edges of some important forest reserves. This is generating alternative jobs and new, long-term socio-economic infrastructures for supporting vulnerable communities.

> The three countries are rich in natural resources. But large-scale, wanton deforestation, mainly by intensive charcoal burning, of the banks and water catchments of Lakes Tanganyika and Kivu is having a devastating effect on the ecosystems there.

The Helpage programme, through the efforts of 60,000 local men and women, has produced and planted 12 million

seedlings, rehabilitated 200km of roads and revived the fishing economy by repopulating the lakes with salmon.

In the Central Annamites region of Vietnam illegal logging, hunting and unsustainable extraction of natural resources are threatening one of the world's last remaining lowland wet evergreen forests. Many unique and threatened species are at risk, and the lack of native species in replanting has led to a decline in forest values.

Local and provisional governments and local communities, with NGO support, are putting in place strategic, long-term plans for forest landscape restoration that can meet the region's social and ecological needs by building reserves of high conservation value forest and creating new forms of income generation.

New mapping and remote sensing systems, vital to improving restoration and reforestation efforts, are being introduced. And, by working at both local and provincial level and enabling stakeholders

to plan and manage natural resources sustainably, this initiative is engraining conservation methods and leaving a lasting legacy.

Restoration projects often require longterm funding to be successful. In the Southern Portugal Green Belt, the communities that traditionally managed the forests are thinning as young people move to the cities, and inadequate farming operations have led to catastrophic fires, chronic erosion and flood damage.

Building on pilot projects that developed and tested restoration guidelines for cork oak forests with various local stakeholders, European Union rural development funds have been secured. These new funds have made further work possible and strengthened the capacity of local forest companies, paving the way for local landowners to draw on similar funds for future FLR projects during the transition to renewed and self-sustaining cork forests.

## Cultivating cooperation

### Successful restoration projects must do more than grow trees.

They have to cultivate relationships and cooperation between all those groups with a stake in the forest landscape, from local farmers and land owners to logging companies, from paper pulp manufacturers to family-run charcoal producers.

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It's never an easy task. The stakes are typically high for all concerned: there are often fences to be mended and trade-offs to be made. But restoration can create new opportunities for goods and services, and It is this kind of cooperation that has make it possible for stakeholders to meet their needs in a complementary, fair and sustainable manner.

The blueprint for any restoration project demands their input. This means it is critical to include them all - rich, poor, local, remote, powerful and powerless in the process as early as possible. to agree on the most strategic locations for FLR and establish how the costs and benefits of restoration are shared. now and in the future.

But inclusion is also important for cultivating awareness and mobilising support for change in the legal, administrative and financial mechanisms that encourage destructive practices and hinder constructive ones.

What's needed is collaboration and cooperation. And it is up to restoration champions to make this possible.

led the Tanzania Forest Conservation Group (TFCG) - a Tanzanian NGO working with a collection of public and private sector partners and international NGOs - to establish a series of village forest reserves in the East Usambara Mountains.

Forest cover in this landscape has been massively reduced by a combination of subsistence farming, illegal pitsawing, mining, fuelwood demand for the tea curing process, soap industries and for domestic use, and more recently, unguided new investments in biofuel crops. The village-owned forest reserves were established through participatory village land-use plans along with implementation of improved farming systems and tree planting in forest gaps, which has significantly enhanced the connectivity of the forest within the landscape. The reserves have delivered benefits to local communities in the form of secure and sustainable access to forest goods and services, including medicinal plants such as Ocimum (basil), construction materials, fruits, beekeeping, firewood, water and herbs. Private landowners and businesses, meanwhile, are now exploring commercial opportunities in ecotourism and tree planting for commercial fuelwood and biofuel.

In the Pamu Berekum Forest Area of western Ghana, logging, rampant bushfires, poverty and shifting cocoa and food cultivation have all taken their toll, making it harder and harder for local communities to make a living from the forest.

A community-collaborative restoration project supported by the International Tropical Timber Organization (ITTO) and Forest Research Institute of Ghana (FORIG) won the buy-in of all stakeholders, from local farmers to forestry agencies, the fire service and private logging firms, at the very outset. At an inception workshop, all were invited to discuss and agree their roles and

responsibilities, enabling forest fringe farming communities to collaborate in creating new plantations of highly-valued indigenous species.

Public support and engagement is often essential for transforming landscapes. In the UK's Lake District National Park public involvement is central to the return to the wild of one of the region's outstanding features. Having borne the marks of farming and industrial forestry for centuries, Ennerdale, the Park's most westerly valley, is experiencing a shift towards more sensitive management, with natural processes being allowed to play a fuller part in shaping the landscape and ecology.

The main landowners – the Forestry Commission of Great Britain. The National Trust and United Utilities – are involving local people in the development process to encourage a sense of ownership of the valley and create opportunities for recreation, learning, exploration and sustainable enterprise. Native broadleaves and juniper are being planted to broaden the range of trees in the forests. Timber operations are being reduced, sheep grazing is under control and cattle are being reintroduced to the woodland, Through their own involvement in the restoration, the communities of West Cumbria are discovering the physical and psychological benefits of the landscape on their doorstep.



### Restoration revolutions

It is ordinary people that hold the key to successful forest restoration.

Any attempt to rehabilitate the landscape has to have the support and participation of the communities that depend on it for their survival.

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For the members of the world's poorer forest-dependent communities the restoration of the landscape over a period of years, perhaps decades, pales in significance beside the pressing daily need to make a living and feed hungry mouths. In areas of high poverty, where good agricultural land is in short supply, FLR initiatives have to deliver tangible benefits to local people if they are to be adopted and sustained.

The first step towards restoration in those cases is to make local men and women

aware of the true benefit of investing in the land to make their dependence more sustainable. That benefit, for many millions of villagers on forest fringes around the world, is survival.

It is local people that are leading the transformation of the endangered mangrove forests of Caribbean Colombia, spreading the benefits of restoration by word-of-mouth. Forest-dependent communities and local, regional and national government have come together with the aid of the International Tropical Timber Organization (ITTO), the Ministry of the Environment and the National Corporation for Forest Research and Development (CONIF) to rehabilitate large swathes of the forest and create alternative livelihoods for local people.

The mangrove ecosystems had been damaged by road-building, tourism, shrimp farming and subsistence harvesting. But 300 villagers, trained in mangrove rehabilitation and management practices, have progressively taken ownership of project activities, producing seedlings, digging new drainage channels and getting the message across to neighbouring communities.

In the highlands of northern Thailand, the 1700 inhabitants of one village, Ban Mae Sa Mai, were also threatened. They were concerned that their place in Doi Suthep-Pui National Park was at risk, having practised shifting cultivation and clearing significant areas of forest to grow cash crops such as lychees and vegetables. The villagers took the initiative and formed a partnership with the Forest Restoration Research Unit (FORRU) at the University of Chiang Mai to restore the natural forest on the cleared landscape.

One of the most remarkable cases of deprived communities restoring their natural forest habitat is that of **Eritrean refugees in eastern Sudan.** The Shagareb camps have existed

for nearly 50 years, but as deforestation, water and sanitation problems have worsened, women and children have had to walk further and further afield to find water and firewood.

Employment is hard to find and environmental protection has come behind shelter, food and medical care in the refugees' list of priorities.

Now, following encouragement and training from the Office of the United Nations High Commissioner for Refugees (UNHCR), the Sudanese Forest National Corporation and IUCN, refugees in the camps and residents from neighbouring villages are growing trees and crops, and becoming more self-sufficient.

Planting drought-resistant acacia trees has provided fuel wood and fodder for livestock, and by intercropping sorghum with wild grasses, villagers have a guaranteed source of livestock feed even when crops fail. As the forests are recovering, the communities are recovering, too, becoming less dependent in the longer term on aid agencies for their survival.

### Critical

Government policy plays a critical role in encouraging forest landscape restoration and preparing the ground for significant, lasting environmental improvements.

However, bringing about change in land use policy is a slow, challenging and highly political process. This is unfortunate. There are parts of the world where FLR has a huge contribution to make in terms of sustainable development, employment, social cohesion and biodiversity, but where well-intentioned policies may work against the aims of restoration.

Despite tree-planting efforts and a logging ban that has been in force since the late 1970s, three quarters of the forests in the watershed of China's Miyun Reservoir – which provides most of the drinking water for the 17 million residents of Beijing – are in poor condition.

Many of the residents of the water-shed are poor and economically disadvantaged, especially compared to their neighbours in the city. However, restrictive policies prevent local residents from reaping the full benefits of the resources on their doorstep, and are contributing to poor forest health. In addition, inappropriate fuelwood collection practices have prevented forests from developing and maturing into more productive and bio-diverse stands.

With the encouragement of the State Forestry Administration of China (SFA), the IUCN Livelihoods and Landscape Strategy is working with the Beijing Forestry Society to demonstrate how forests can be managed to deliver a number of benefits to the local

population while recovering their productivity, biodiversity and watershed functions. If successful, the project will provide a demonstration case that could be the catalyst for policy change at a wider level.

One of the areas hit hardest by the Colorado forest fires of 2002 was the Upper South Platte River Watershed, which provides 90% of the drinking water for nearly one million city dwellers. The watershed, which was already struggling under the ravages of earlier fires, experienced severely degraded water quality and damaged water treatment and storage facilities. Yet out of this scarred landscape, a positive healing transformation is taking place on the ground and in the affected communities.

Restoration and protection efforts have led to more than 400 hectares of forest being planted each year by federal, state and private entities. However, the most dramatic and exciting change is the cooperation between partners. Seeking to restore ecosystem functions damaged by past fires and restore water quality, private landowners, companies, water authorities, and representatives from different levels of government – federal, state and county – came together to set up working agreements on restoration efforts and wildfire coordination.

In addition, private landowners and government agencies at all levels have adopted Community Wildfire Protection Plans (CWPP) that establish priority actions and cooperation. Wildlife species not present before the fire have made the Upper South Platte their new home. Dense forests have owls and the open forests have deer, turkey and elk. A true instance of a phoenix rising from forest flames.

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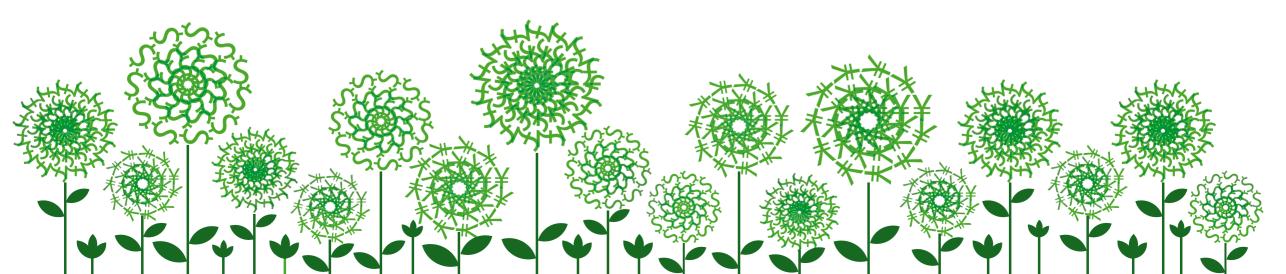
# Growing alternatives to poverty

For many communities around the world, it is not a matter of choice as to whether to exploit forests or not; there is simply no alternative for them. Poverty and a lack of economic options make forest loss an unavoidable outcome in the struggle for to survive. Where that's the case, forest landscape restoration relies on demonstrating the viability of other forms of income generation that don't continually sap the forest's resources.

In the highlands of east and west Africa. hundreds of thousands of smallholder farmers and residents are feeling the benefit of the World Agroforestry Centre's innovative approach to conserving landscapes degraded by pollution and deforestation. The PRESA (Pro-poor Rewards for Environmental Services in Africa) project's reward mechanisms include incentives such as cash payments, conditional property rights and low-cost information to land users. Balanced and effective agreements between stewards and beneficiaries in four countries will empower community groups and promote fair access to natural resources such as drinking water and food.

In north-eastern Argentina, the frontier community of Andresito is enjoying long-lost livelihood security while repairing a vital green corridor that links protected areas of the Upper Paraná Atlantic Forest. Farming and ranching have damaged the integrity of the corridor, inhibiting its capacity to convey flora and fauna between other areas and harming the local community's forest enterprises.

However, an initiative by Fundación Vida Silvestre Argentina is putting an end to the degradation and providing local people with a healthy income. Twenty local farmers have established a cooperative for the sustainable harvest of palmito – heart of palm – which grows under the forest canopy. The palmito is packaged on-site by local men and women, which allows them to retain a higher share of the market price. And, as the operation thrives, farmers are encouraged to increase their forest areas and grow more palmito.







## Welcome visitors

The concept of welcoming wealthy western visitors to the world's most precious natural environments remains problematic for many conservationists. But it needn't be.

For many countries, such as Nepal, Kenya, Madagascar and Ecuador, ecoa significant portion of the gross domestic product. Even in prosperous economies it can offer vital support for By replanting and allowing the forest conservation and education efforts.

Practised responsibly, ecotourism can be a positive force for the conservation of biological and cultural diversity, enjoying not just the consent but also the active participation of local communities.

On the banks of the Kinabatangan River in Malaysian Borneo, WWF is working tourism is a vital industry, contributing with oil palm plantation owners to reverse the destruction of the forest corridor that, just a generation ago, ran along the river. to return to the riverside, the companies are playing their part in preserving rare species such as Asian elephant, orangutan, proboscis monkey and Sumatran rhinoceros. The most important areas for restoration have now been identified, which should lead to even more focused and effective restoration activities in the Kinabatangan.

This is good news for the Lower Kinabatangan's burgeoning tourism industry and the local population. Tourism is a major employer in the region and is set to grow in coming years - provided the 'star' species continue to survive and flourish in sufficient numbers. Forest restoration is helping make sure they do. More recently, some tourist lodges have got involved in tree-planting and forest rehabilitation activities themselves, encouraging tourists to lend a hand.

In a very different part of the world, an increased diversity of wildlife in Kielder Forest, the UK's largest man-made forest, is attracting visitors in growing numbers and reconnecting them with nature.

The Forestry Commission of Great Britain was created in the wake of the First World War to return large areas of bare land across the UK to forest and provide a reliable supply of timber. A vast, regimented reforestation programme followed which, while successful in terms of timber production, offered little in terms of diversity or interest. Over the past 20 years, this has changed, with forests undergoing transformation into multipurpose landscapes. Native tree species have returned along with bogs and ponds, footpaths and open areas. Today, half a million people visit the forest each year to walk, cycle, ride horses and enjoy the area's scenery and wildlife.



When forests are destroyed, the world loses more of its capacity to absorb carbon dioxide from the atmosphere.

Not only that, but when trees are cut down, a portion of the carbon sequestered in their biomass is returned to the atmosphere.

So deforestation adds greenhouse gases to the atmosphere; and it does so on a colossal scale that rivals the emissions from the burning of coal.

Forest landscape restoration and sustainable management helps in rebalancing overall emissions and reducing unnecessary forest damage and destruction. There are other benefits, too, such as the sustainable harvesting of timber for manufacturing and of biomass for fuel, with newly-restored forests providing new carbon sequestration capacity that can be traded internationally.

In Moldova, a lack of sustainable agricultural practices and investment over several decades in community land led to degradation in the form of soil erosion and landslides, and major losses in productivity.

With the backing of the World Bank, Moldsilva - the country's state forestry agency - has funded the Moldova Soil Conservation Project, which is planting 3000-5000 hectares of new forest plantations each year. With an investment of \$18 million, the project has been designed to lock up carbon worth several million dollars on the carbon market each year until 2017. This potentially significant revenue stream could grow even further through increased planting of native species to improve resistance of the planted forests to climate change.

Importantly, the carbon financing, which was a strong incentive in the decision to undertake the afforestation programme, is helping to overcome the longstanding

lack of investment of human and financial resources in land amelioration. It has encouraged local communities to establish their own forest restoration scheme in cooperation with Moldsilva, with the aim of planting 8000 hectares of new forest.

The care of these plantations will provide employment for men and women, and help to meet their fuel and timber needs with a reduced impact on endangered flora and fauna. Challenges remain, however, in persuading all stakeholders that sort-term benefits should be waived in favour of more significant longer-term returns.

Vietnam is one of the countries expected to be hit hardest by climate change, and the Central Annamites landscape is regarded by scientists as one of the most critical conservation priorities in south east Asia. The forests there are home to numerous endemic species as well as more than 30 different ethnic peoples.

The full effects of climate change on the region are hard to predict, but, to encourage resilient ecosystems and livelihood opportunities for local people, a WWF Vietnam programme is aiming to create corridors of protected forest habitat through a mosaic of protected areas, watershed forest, and production forest.

The programme, incorporating the World Bank GEF Green Corridor and Asian Development Bank (ADB) Biological Conservation Corridor Initiative, is restoring connectivity between communities and supporting livelihoods through ownership and user rights of forest resources. The process has only just started. To be a success, a high degree of commitment will be needed across the landscape for decades to come.

# Join the GPFLR and help us grow

Our members and collaborators are making a difference all over the world, improving the well-being of communities and enterprises and the environment in which they live and operate.

You can make a difference, too.

Join the Global Partnership on Forest Landscape Restoration and gain access to the world's leading learning network for FLR practitioners.

Contribute to the global FLR effort with expertise, funding, policies and projects. Benefit from the experience and advice of a growing community of FLR partners, and gain access to the latest research, policy information and tools in the field of forest restoration.

Improve your restoration efforts, and gain recognition for them from a global audience.

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Every effort has been made to present all information accurately, however no liability is accepted for any inclusions or advice given or for omissions from the publication.

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