Planting Trees Versus Natural Regeneration for Landscape Recovery and Rewilding

Stephen Haywood

the CHURCHILL fellowship

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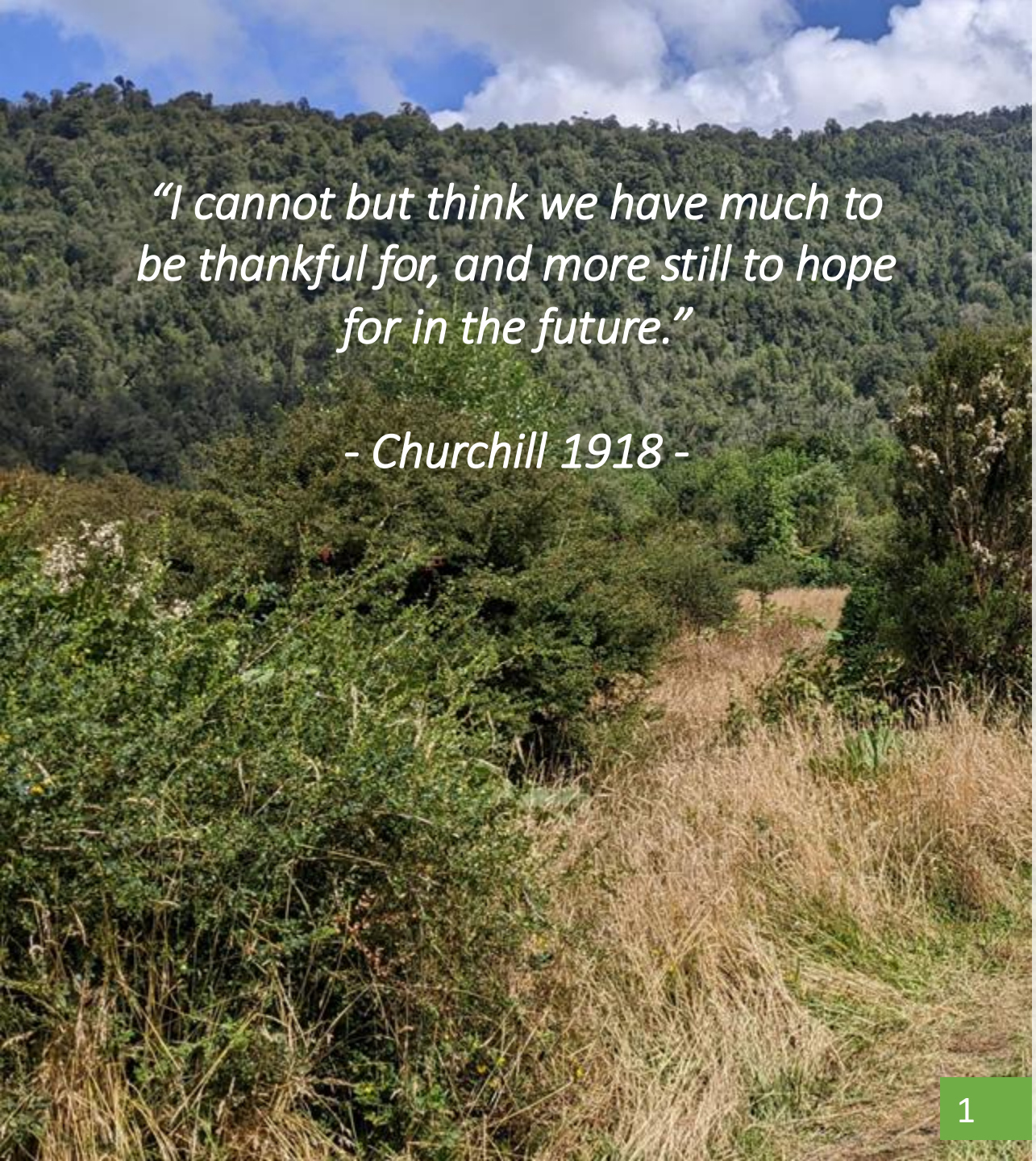

Foreword

As climate change accelerates, reforesting large areas is increasingly seen as a necessary and vital tool in climate change mitigation and adaptation. However, reforestation projects are often driven by political and economic motives, which are often closely associated with requirements for large numbers of trees to be planted and reported on. This can lose sight of the fact that healthy forests are complex systems that require time and careful, holistic management to deliver against multiple benefits.

Natural regeneration offers an alternative to standard tree planting that may provide healthier, multi-functioning forests for a reduced cost. However, evaluation of natural regeneration as a successful technique for large scale reforestation requires support, time and funding from the public and private sector alike. This is at a time when certainty and speed is often a pre-requisite for funding.

In this report, Stephen presents the key learnings that he gained from research carried out on reforestation projects in Chile, Romania, and Albania. This work sets up thought-provoking discussions for landowners, policy makers and communities, challenging global status quos for reforestation projects.

At the heart of this research is the idea that involving local communities in projects that restore natural landscapes can be highly effective in fighting climate change. This approach not only helps the environment, but provides education and job opportunities in those very communities. These strategies are replicable across the world and are already being used in some parts of the UK.

It's a privilege to present this report, which demonstrates that large scale reforesting requires an integration of multiple partners and approaches when creating new forests and woodlands. Future efforts must align partners with a shared aim of creating complex, healthy forests, rather than focusing simply on numbers of trees planted. Only then will we benefit with the multitude of ecosystem services these systems can provide us with.

Will Oliver – Senior Policy Advisor, Greater London Authority

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Summary

Today we are facing both a climate and a nature emergency. In the UK and around the globe governments, corporate organisations, and communities are responding to the current concerns of our natural world to mitigate the severity of impact, reverse the damage caused, and build on the resilience considering the climatic changes forecast.

Planting trees has long been perceived as a positive approach to help tackle some of the biggest environmental challenges with pledges made to plant impressively large numbers commonly seen. Organisations in the voluntary sector and teams within public and private sectors have been established to help achieve targets, targets often linked to off-setting carbon footprints to become carbon-neutral, yet these are often unachievable due to the number of barriers and constraints faced.

The Churchill Fellowship has provided an opportunity to 'learn from the world and inspire change in the UK'. Together the community of Churchill Fellows use international learning to lead the change they wish to see across every area of UK life. This research explored how projects in Chile, Romania, and Albania have used natural regeneration and tree planting to achieve their goals of restoring landscapes and rewilding them.

Whilst the reasons for restoring and protecting treescapes varies with each country's history, culture, and climate, so do the methods used. Government policies and funding streams both appear to be the biggest influencers, but all projects visited shared a common theme - the passion to create, restore, protect their woodlands and forests for nature and people. None were planting trees to meet targets, quotas or suffice funding agreements.

It was evident that incorporating local communities into landscape scale projects enables greater understanding and acceptance of the purpose. Similarly, incorporating a blended finance approach is essential in maximising the multiple benefits that can be achieved from these complex ecosystems that are much more than just the trees within them.

Key messages

Woodlands & forests

1) Pledges made to plant large numbers of trees may not be the most effective messaging if the project seeks to maximise the potential of the multiple benefits they can provide.
2) To create, restore, enhance or protect areas of woodland and forest, they need to include more aspects of the complex ecosystem than just the trees themselves.
3) Adopting natural regeneration can be successful in the creation of woodland and forests but best results are seen within a 50m from seed source. These areas are often 2-5 years behind those planted with trees.
4) The use of drones to sow seeds continues to develop. It is considered useful where access to areas is logistically challenging but won't necessarily maximise all the potential benefits woodlands and forest can offer.

Stakeholder engagement

1) Incorporating local communities into landscape scale nature recovery projects is vital for their success. Not only can people provide significant contributions to all aspects of the project, but it helps communities to adapt to changes, adopting a new mindset, and invest their time and energy appropriately.
2) Training and employment opportunities often increase engagement and involvement from communities. With greater opportunities stems greater interest, this is followed by greater understanding and awareness, then advocacy.
3) When a project restores the natural function of an ecosystem, it naturally draws in the most curious of people. In making a destination, consideration needs to be made to the management of both people and nature for its long-term success.

Introduction

This research carried out here isn't data driven or scientifically evidence-based, nor is it a literature review, it is purely opinion based formed from interviews and informal conversations where knowledge and insights have been shared with the aid of helping others learn.

The intention of this report is to provide an indication of how a range of people have taken different approaches to tackling similar issues and what has been learnt along the way. Discussions with stakeholders and organisations have provided thought provoking questions to often sensitive topics relating to historical, cultural, and environmental differences.

The project areas visited were as follows;

1) Reforestemos Foundation, Coyhaique, Chile
2) Carpathia, Carpathian Mountains, Romania
3) Trees for Lure, Lure, Albania

Landscape recovery is a concept being explored in the England and Wales. It formalises a combined effort of multiple landowners and stakeholders to achieve a common aim of restoring and protecting the natural environment that enables sustainable food production, nature-based solutions and provides opportunities for funding by drawing on private finance and the emerging environmental markets.

The concept of Rewilding reminds us that nature knows best and by adopting a series of principles biodiversity loss can be reversed. It is achievable on all scales and feeds into the larger concept of Landscape Recovery. It often comes with its own preconceived ideas associated with surrendering valuable farmland yet there is a balance required where both nature and farming can work hand in hand.

There is a movement of tree planting worldwide in which governments are responding to. There is growing evidence of the knowledge about the importance of trees. However, politics are often dictating planting large numbers of trees with a focus on carbon sequestration, whereas woodlands and forests are complex ecosystems that when created and managed correctly can host a range of benefits and solutions to the climate, nature, and the social emergencies we face today.

Aims & Objectives

There were multiple aims and objectives of this research as the topic is both broad and complex. The principle aims below cover three themes, Explore, Learn, and Inspire.

Aim 1: Explore how the use of natural regeneration has compared to planting trees in landscape recovery and rewilding projects.

- **Objective 1:** Make a comparison between areas of natural regeneration and where trees have been planted at similar times.
- **Objective 2:** Research techniques and methodologies used for tree planting in rewilding and landscape recovery projects.
- **Objective 3:** Assess whether a balance of tree/seed planting and natural regeneration is necessary to achieve objectives of woodland creation in landscape recovery projects in the UK.

Aim 2: Learn how projects can avoid being driven by the number of trees planted to achieve success.

- **Objective 1:** Evaluate how projects are financed and how this relates to numbers of trees planted and the project success.
- **Objective 2:** Learn how community engagement influences decision making on rewilding and landscape recovery projects.

Aim 3: Inspire with ‘lessons learnt' from landscape recovery and rewilding projects.

- **Objective 1:** Evaluate alternative methods of funding of tree planting in landscape recovery projects.
- **Objective 2:** Develop an evidence-base to advise policy makers and project funders of alternative ways to calculate success and contribute to woodland creation projects through measuring area opposed to total number of trees planted.

Chile - Context

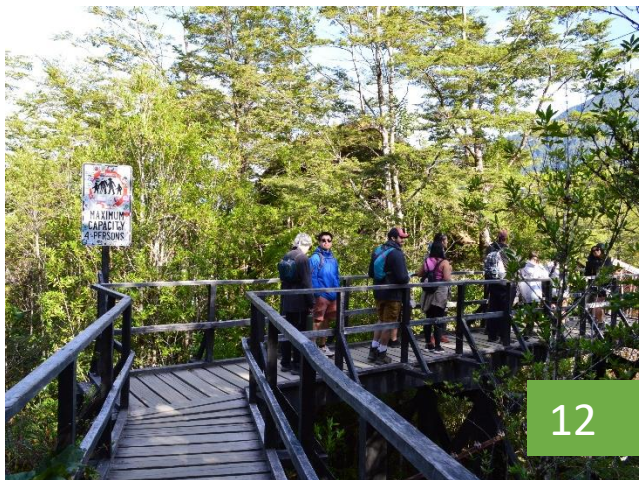
The length of Chile spans 2,700miles from its boundary with Peru, to the tip of South America at Cape Horn. With a change of latitude from 17°30’ S in the north to 56° S in the south, there are considerable variations in the country's climate. This has a strong influence on the environmental challenges each region faces but also on the human geographies that collectively have shaped Chile’s treescape.

According to the Köppen system, there are seven different major climatic zones in Chile. Generally speaking, the northerly regions are desert, the central regions are temperate, and the southern are polar. This research focused on the southern-central regions that is well known for its lakes, forests and agriculture.

During the 19th and 20th Centuries, population growth, intensive agriculture, and over exploitation of firewood all led to reduction in tree coverage. This loss resulted to server soil erosion and reduction in crop yields. Between 1940 and 1950 alone, four million hectares were burned when the Chilian government promoted the land the use change from forest to agricultural land.

In 1973 Augusto Pinochet came to power and dictated the government’s Decree Law 701 that further exploited nature by economising it with an expansion of the forestry industry for export. Generous subsidies were offered for planting trees for timber which led to profitable plantations of Pines replacing native forests, which resulted in further habitat loss and environmental issues such as soil acidification.

Between 2001 and 2023, 326,000 ha were lost due to fire and a further 65,000 ha in 2024. However, this is a small percentage compared to the 2.02 million ha that were felled for timber and the expansion of agricultural land. In 2010, there was 18.7 million ha of natural forest in Chile with a total coverage of 27%. Despite this, tree coverage has remained relatively stable over the last 20 years with only a -0.079% change, which is largely due to the replanting of plantations and efforts made to restore native forests.



Reforestemos Foundation

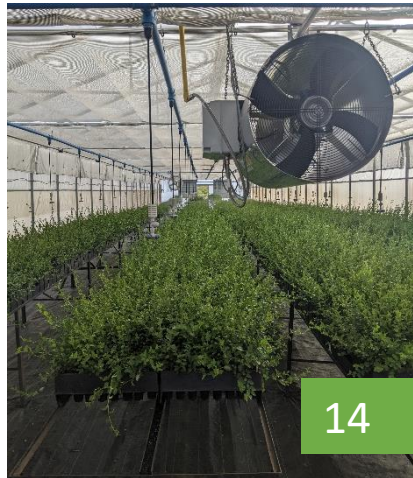
Reforestemos Foundation is a not-for-profit organization established in 2012. Working across Chile to help recover high ecological value areas through restoration, natural habitat protection and reforestation, they lead the largest ecological campaign of reforestation and restoration in Chilean history.

Collaboration with the National Forest Corporation - CONAF (Corporación Nacional Forestal) that is a Chilean State-owned private non-profit organization directs their efforts to National Parks and public land, but Reforestemos Foundation have started working with the wider private sector and with Land Trusts who have purchased large swathes of land across the country to protect it from further exploitation and degradation.

The main drivers for their work is the restoration of the damage done in the 20th century and the recovery of nature but the benefits to eco-tourism are also widely acknowledged and valued. With thanks to the Tompkins Foundation, since the mid-1990s, tourism has increased to become one the largest sectors in Chile and there are expectations of exceptional nature and wilderness as many travel along the Ruta de los Parques (Route of Parks). The route is a chain of 17 National Parks spanning 1,700 miles from Puerto Montt to Cape Horn through the region of Patagonia. As attractive as it may be, the region faces threats from intensive agriculture and scares left by erosion and landslips.

Much of the Foundation's work is tree planting where people from local communities are employed. Volunteers assist at facilitated community days and local companies also offer employees to help. Schools are encouraged to get involved where possible, yet logistics such as terrain and remoteness often poses issues for engagement.

Natural regeneration, locally referred to as passive planting is used where possible. This is usually where local seed sources are nearby, but areas still require management as protection is required to keep wild animals out. Comparisons of success are limited due to funding for monitoring available, however, it is thought that this is significantly cheaper and quicker then planting.



Reforestemos Foundation

Seed planting directly onto the degraded areas being restored has been trailed but with little success. Instead, the foundation has built a specific tree nursey in Coyhaique, in collaboration with the Municipality, Munipalidad Coyaquie – this serves the Aysén Region, one of the 17 across the country. The nursery employees are from the local community and are tasked with collecting, sowing, and establishing up to 100,000 trees each year.

Only 60% are planted as part of the Foundation's work with the remaining 40% of saplings sold within the region to generate income and support the operation. Typical species include Coihue, Lingua, Nerrea Notro. Due to the climate, all planting falls within two short seasons, March-April, and then September. This poses additional challenges when recruiting a suitable workforce, yet nursery staff assist.

Reforestemos Foundation have worked with over 600 companies from over 40 different countries. This is largely through their own web-based platform where funding is restricted to the delivery of works that are reported to help corporate organisations to achieve United Nations Sustainable Development Goals. Individual and repeat donations through a membership scheme offer more than just planting trees, it allows education programmes, maintenance, and monitoring of the sites, three aspects that are vital to the sustainability and longevity of a project.

Patagonia Sur, a conservation-orientated company has developed a model for carbon offsetting and ecosystem restoration. The model is based on connecting responsible capitalism with conservation projects and in many cases using the monitoring of carbon emissions and offsetting to enable investment. Through Patagonia Sur, Colgate University in New York signed a 15-year agreement to purchase 5,000 tons of carbon offsets annually, this equated to a total of 225,000 native trees being planted across 430 acres of ecologically degraded land.

Further Learnings

José Manuel Rebolledo Cáceres, a forestry Engineer with more than 30 years of experience in regenerative development, sustainable forest management and regenerative agriculture, former CEO of CONAF, former President of the Forestry Institute of Chile, and founder of Regenera Consultores, provided the following valuable insights into this research. A face-to-face meeting was planned during the visit to Chile, however this was not achievable due to his unforeseen work during the forest fires of 2024.

José mentioned that threats to Chile's forests include forest fires that are often caused by negligence or accident but are occasionally intentional. In the last five years this has equated to one million hectares. This threat is made worse by climate change that has brought prolonged droughts allowing fires run faster and further causing greater damage. There is a lack of interest in reforestation from small and medium-sized landowners coupled with clear felling for expansion of urban areas and theft of wood results in an overall net-loss of woodlands.

Currently, the forestry sector in Chile is going through a crisis derived from mega forest fires that have increased significantly in the last 10 years, due to timber theft, and terrorism by radicalized groups [profiting from timber or natural materials]. This means that there are fewer and fewer people willing to reforest due to the risks that this implies.

In Chile, 'forest' trees are planted for the timber industry (sawn wood, plywood, pulp) and to compensate for other national and private initiatives such as wind, solar, fruit, mining where native forests or planted forests are impacted with these projects.

Most trees planted are by either large forestry companies that by law are obliged to replant what they are extracting to maintain future supply. Private and investment companies tend to plant native species to achieve their Carbon Neutrality plans pledged for 2050 or to offset impacts of deforestation caused for development. It's important to note that Environmental Impact Assessments are required by law.

Most of the species that are being planted are Radiata Pine and Eucalyptus for both the sawn timber, panels and cellulose industry. A significantly smaller percentage of native species such as Raulí, Coigue, Roble, Boldo, Quillay, among others, are also planted.

In Chile, the forestry sector is around 60 years old. Natural regeneration has previously been common practice, however, today it is almost not used, except in areas far from native forest where some small and medium-sized owners continue to use this practice, but more and more foresters or owners of forest properties, prefer to make use of better genetics and thus prefer to buy plants in a forest nursery instead of using natural regeneration.

There are examples of different community initiatives and NGOs that promote community participation in reforestation, which not only contributes to environmental restoration, but also strengthens the social fabric, boosts the local economy and promotes greater environmental awareness and education, creating a more resilient and sustainable community.

Forest plantations in Chile are monitored through quality control systems during the planting process to ensure good results. This continues throughout the life cycle to ensure adequate and timely forest management is carried out.

Further Learnings

José continued to explain that the government of Chile has implemented several subsidies and support programs for afforestation of non-native species and reforestation of native ones over the years, with the aim of promoting tree planting, restoration of degraded areas, and sustainable forest management. These subsidies and programs have been fundamental to increase forest cover in Chile and promote sustainable management practices, contributing to the conservation of forest ecosystems and the economic development of rural areas. The main subsidies and programs are:

1. Decree Law 701, enacted in 1974. This is one of the most important instruments in Chile's forestry policy. Its main objective has been to encourage afforestation and reforestation of land through direct subsidies. Subsidies cover up to 75% of the costs of planting and managing new forest areas. Beneficiaries are both large forestry companies and small and medium-sized landowners. Decree Law 701 has had a significant impact on afforestation in Chile. According to historical data from the National Forestry Corporation (CONAF) and the Ministry of Agriculture, it is estimated that thanks to this decree, around 2.8million hectares have been forested in Chile until its last validity in 2012. This program was crucial for the establishment of commercial forest plantations, mainly of pine and eucalyptus.
2. Law 20.283 focuses on Native Forest Recovery and Forestry Development, enacted in 2008. This law seeks to promote the protection, recovery and improvement of native forests, in addition to promoting afforestation with native species. The law includes economic incentives for the afforestation and reforestation of native forests, the recovery of degraded soils and the implementation of sustainable management practices. The target beneficiary are landowners who carry out conservation and sustainable management activities of native forests.
3. Soft Loans and Subsidies. In addition to direct subsidies, the government offers soft loans and other forms of financing for afforestation and reforestation projects.

4. Payments for Environmental Services (PES). Although still under development, there are initiatives to implement PES schemes, where landowners receive compensation for maintaining and restoring forest areas that provide environmental benefits. These include carbon sequestration and watershed protection.
5. National Forestry Corporation (CONAF) Programs:
    i. Native Forest Conservation and Management Fund: Provides financing for conservation and sustainable management projects of native forests.
    ii. Peasant Afforestation Program: Focused on smallholders and rural communities, this program supports tree planting and reforestation with native and exotic species.
    iii. Post-Fire Reforestation Projects: CONAF implements specific programs for the reforestation of areas affected by forest fires, providing subsidies and technical assistance.
    iv. Program + Forests: A program administered by FAO and CONAF and executed by CONAF between 2020-26. It aims to forest, manage and prevent forest fires in 25,000 hectares in that period. To date 56% of the goal has been harvested and forested. Law 20,283 has contributed to the restoration and management of approximately 250,000 hectares of native forest. This number includes both afforestation and reforestation with native species and management and conservation activities that improve the health and sustainability of existing forests.
6. Regional Initiatives. Several regions and municipalities in Chile have developed their own programs and subsidies to support afforestation and reforestation, adapted to local needs and characteristics.

Conclusions

Chile has experienced dramatic changes in forest coverage in the last 100 years, this has largely been a result of a growing population with requirements for more space and resources. Climate change is resulting in an increased amount of forest fires outside of the prone arid areas, leading to an increased loss of valuable habitat.

Although government forest policy has shifted from an economic to a sustainability focus, the misuse of certain subsidies has still led to a loss of native woodland and a rise in monoculture crops.

Landscape scale restoration initiatives have been driven by the charity sector. For example, Reforestemos Foundation, and The Tompkins Foundation have worked hard to reduce further human-led impacts by raising awareness of the importance of these forests and integrated communities to landscape scale projects. Planting native tree species is just one element of a much wider rewilding programme be delivered that support local and national economies, yet a more important one may be the designation of National Parks that gives greater protection for the future.

While natural regeneration (passive planting) has been trialled, it is often unfunded resulting in a lack of monitoring which hinders learning and stakeholder buy-in. As it is acknowledged that this method still requires management but lacks reported results, traditional tree planting the preferred method.

A current success with the work of Reforstemos Foundation is how local communities are integrated into the projects. Locals collect seeds from local sources and grow the saplings in their nurseries that are sponsored by municipalities. Local people are employed and the wider community engaged with planting days that spreads awareness and appreciation of the work. To generate additional income, some trees are sold to smaller projects to.

Romania - Context

The country is famous for its forested region of Transylvania, ringed by the Carpathian Mountains. Broadly speaking, one-third of the country is mountainous, one-third is forested, and the remaining third are hills and plains where the most fertile land for agriculture is found, this also coincides with higher population density. As the population has increased, so has the need for more agricultural and development land that has led to deforestation. Romania currently has 26% tree cover. This used to be 50-60% in 1800.

The logging industry has unfortunately been unsustainable and exploitive, leaving the soils on slopes unprotected and exposed to erosion. In 1920, a law was passed that flat lowland areas of native forest were to be felled for agriculture. This resulted in 1million hectors being lost. Post Second World War, significant amounts of wood were exported to Russia to repay war debts. What was felled was replanted with fast growing monocultures.

After the revolution in 1989, nationalised land was returned to private owners, yet many didn't know how to manage it properly. There were no restrictions on cutting and replanting. Logging continues today yet this is usually illegal where land is taken or sold to those who exploit the resources.

Rural areas of Romania have largely retained a more traditional way of life with many having small holdings and producing their own food. The younger population have moved abroad or into urban areas for greater work prospects.

As Romania joined the European Union exploitation continued as new trade routes opened. The largest clearcut recorded occurred in 2018 when 600ha of trees were removed leaving an open and baren landscape.

An estimated 70% of the forest is monoculture, a reversal from when 70% was mixed species. No government tree-planting program is in place.

Shepherd grazing is common across the region. This hinders natural regeneration, as livestock often favour young broadleaf saplings.

Carpathia

In 2009, the Foundation Conservation Carpathia initiated one of the largest private forest conservation projects in Europe, the creation of a new 200,000ha National Park.

Their initial aim was to conserve the natural Carpathian ecosystem in the Făgăraș Mountains, for the benefit of biodiversity and local communities. However, it quickly became apparent that safeguarding forests and natural grasslands wasn't enough and landscape scale restoration and rewilding was required.

The plan is to eventually transfer ownership of the purchased land and organisation to the Romanian government, replicating the National Parks in Patagonia, Chile and Yellowstone, in USA.

Carpathia has so far purchased over 830ha of clear-cut land, areas that have been left bare after trees have been removed, some of which was less than 10 years ago. They work with neighbouring landowners to aid collaborative reforestation.

Restoration of forest ecosystems include alluvial zones along mountain streams, reintroducing missing native species to mountain monocultures, and removal and replanting of forest tracks and the ravines that eroded to the sides of them.

In total, Carpathia aims to replant 100ha annually. More recently they have started to restore shrublands on some selected alpine grasslands, where traditional grazing with livestock by shepherds has recently been abandoned.

To meet the project's demand for trees, they established several organic nurseries of various sizes, operated by local labour.

The Carpatia Forest Conservation Fund is a 20-year voluntary scheme that compensates private landowners in the Făgăraș Mountains to reduce logging pressures and increase acceptance of forest protection.

Carpathia

Community involvement is considered vital to the National Park's creation, pursued via consultations and engagement events. Carpathia attempts to put local people at the centre of its work, offering sustainable economic opportunities, environmental education programmes, as well as events, jobs and marketplaces.

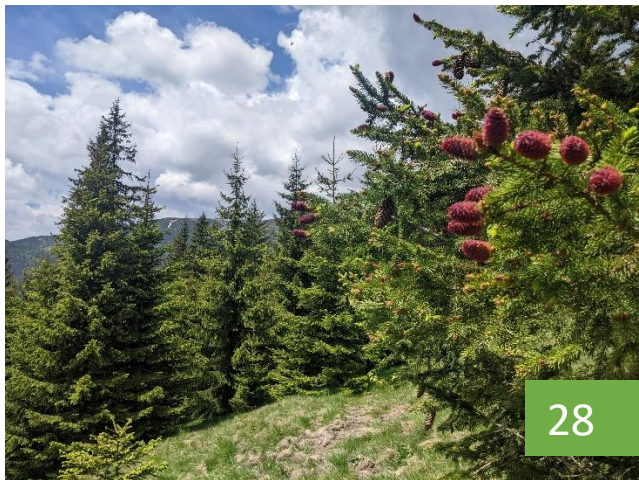
The increase in the eco-tourism through their conservation enterprise brings visitors into the heart of nature with tours, accommodation and learning opportunities. This has been well received by the local community along with the annual community festivals they host to celebrate the forest, food, and farming.

In achieving their reforestation goals, seed planting using drones has been tested in remote, hard-to-reach areas with over 100,000 seeds dispersed over two years. However, monitoring establishment and success rates remains difficult, so results aren't formally recorded yet.

Seeds for planting in their nurseries or dropping by drones require manual collection and specialist processing to ensure good germination. During the planting of nursery grown trees, the project doesn't use tree guards or fencing as this is costly and time consuming, yet reports high success rates.

Natural regeneration has effectively increased forest diversity, especially where larger trees shelter existing native seed banks. In clear-cut areas without a seed bank, planting is necessary. Poor soil can make establishment difficult, so preparation and species selection is crucial: first stabilising the soil with ground vegetation, then planting pioneering species, followed by larger trees like Beech.

Carpathia has scope to expand geographically, integrating more communities into the restoration and protection of natural forest ecosystems.



Further Learnings

Despite European law protecting large areas of high-conservation value old-growth forest in Romania, Greenpeace investigated how systemic destruction was continuing across the Carpathians forests, including in two Natura 2000 - protected areas. The report concludes that it is highly likely the extracted timber is used to create IKEA furniture sold across Europe as they are the biggest consumer in the region. Link: Greenpeace International

In November 2024, the Romanian Forestry Authority announced a Forest Regeneration Program that aims to deliver over 8,000 hectares of naturally regenerated woodland and nearly 4,000 hectares planted. These announcements indicates positive change in governance and management policy in Romania. These areas will require protection from grazing pressures if the project is to succeed. Link: Romania Insider

Similarly, leaving areas to naturally regenerate where possible can be critical to the health of woodland ecosystems. Species facing pressures from diseases can have a greater chance of survival through natural selection. Environmental campaigners and ecologists claim that natural colonisation provides greater biodiversity. Professor Richard Buggs, Dr Laura Kelly, and Dr Daniel Wood from Royal Botanical Gardens Kew lead research on the resilience building of Ash trees exposed to the fungal disease 'Chalara', Ash Dieback (*Hymenoscyphus fraxineus)* that has swept across Europe over the last 30 years found that saplings growing naturally from local seed sources are evolving to be more resilient to the disease. Link: Centre for Forest Protection project ADB513

Author of Treewilding, Dr. Jake Robinson concludes that involving communities in combating land degradation is needed replacing the millions of hectares of forests destroyed in recent centuries. Humans have a deep spiritual and philosophical connection to forests and 'Ecological Forestry' can help achieve a more harmonious balance between social and environmental needs says Dr. Robertson. Fostering nature connectedness through education and engagement with local communities will help grow and sustain nature guardians. Link: Treewilding

Conclusions

The treescape in Romania has changed dramatically in recent history, fuelled by a range of exploitive practices yet many of these are no different to what other countries have experienced at various times in history. What is relatively unique is the efforts made for reforestation and restoration of the wider Carpathian ecosystem by the charity sector. This approach requires significant seed funding and influential support to raise interest, backing and help promotion.

Foundation Conservation Carpathia have proven that building trust with local communities is key to the success and longevity of such projects. Not only can reforestation be valuable for wildlife but also for local economies with the introduction of eco-tourism. There is a change of mindset required from the community upwards as well as government downwards to ensure protection is maintained in perpetuity.

Tree planting can be costly at this scale yet essential in areas that have suffered such degradation. To aid this, private finance and charitable foundations supporting wildlife conservation have been called upon, highlighting the importance of collaborative partnerships.

The tried and tested approach is to collect seeds, process them and grow saplings nearby the planting sites as this helps with acclimatation and reduces overall costs. Where areas being restored are in close proximity to native woodland, natural regeneration can help boost diversity.

Conversely, the Romanian government has historically held polices for forestry management that hinders ecosystem restoration and is restrictive to organisations and local communities wishing to aid efforts. The latest research nationally and internationally has started to influence change at a government level and conversation efforts are being expanding each year.

Albania - Context

Like many European countries, Albania has experienced vast changes to their treescape in recent history. In Albania this has been driven by government policies during its communist era, population growth, profit, and environmental changes.

Under communist rule, the forestry industry was tightly regulated with compulsory replanting for future extraction, however, this was generally monocultures so the diversity of the natural ecosystem was continuously in decline.

Population growth has driven deforestation as expected on the fringes of urban areas, how in the more rural mountainous areas trees have been harvested for profit, often illegally with devastating impact on the wider landscape.

Forest fires are becoming more regular and intense with changes in climate; occasionally these have been deliberately started and then exacerbated by arid conditions during summer months.

In the Lurë lakes region (northwest) up to 500ha were completely deforested; most of this damage is in the highest protected areas of the national park.

Government policy changes still occur and at times favour deforestation for energy production or tourism. A new law was passed in February 2024 for protected areas, meaning that changes to ecosystems are not permitted. However, developers are still permitted to build in these sites if it's for tourism.

It is estimated that reforestation of the damaged areas would require planting around 1.2m trees.

Generally, there is monitoring of all tree planting in Albania, however, it is often self-assessed due to restrictions in funding, this leads to questionable results of not only the success rates but how many trees were initially planted. Enforcement is meant in be place but not always practices by government officials due to, again, funding.

A significant barrier for the reforestation, landscape recovery, or rewilding projects that are often led by the charity sector is the pubic perception and the lack of trust in them as a direct result of the manipulation of charities by corrupt businesses.

Trees for Lurë

Trees for Lurë is a non-governmental organisation with a mission to provide local communities with the tools and resources needed to reforest the most damaged areas of the Lurë-Dejës Mt. National Park. Founded in 2019, the non-profit pride themselves on the social benefits empowering local support and driving environmental benefits where poor land management has over exploited the natural resource.

The management team is predominately voluntary whereas the labour used for site preparation, propagation and sapling planting is largely paid. This paid team consists of 60% men and 40% women. Volunteers who may work during the week are invited to help plant an average of 10% at planned weekend events. This approach has truly integrated the community into the project.

A key principle of the charity is to be transparent with their reporting, project finances, and success rates. This has been criticised by many yet has proven to be worthwhile in their mission to gain the trust and support of local communities as they can see the true costs of the project and be reassured that their efforts are legitimate.

The organisation created a tree nursery that produces 20,000 saplings each year. This is managed by the local community and uses locally sourced seeds. As the Lurë-Dejës Mt. National Park is a protected area under the management of Agjencia Kombëtare e Zonave të Mbrojtura (AKZM) there are certain requirements that need to be met. This includes specie (only 4 permitted), seed source (local) and the altitude of the nursery (1100 a.m.s.l).

The team have experimented with using natural regeneration and seedballs from drones, but degraded areas were so severe the soil conditions were found to be too poor for germination to occur. Greater success has been reported when planting.

The Lurë-Dejës Mt. National Park is not the only area in Albania where deforestation and land degradation can be seen. The team have highlighted a number of additional sites that would benefit from replicating their business model. However, to achieve this, political support will be required from at all levels and trust in project donors.

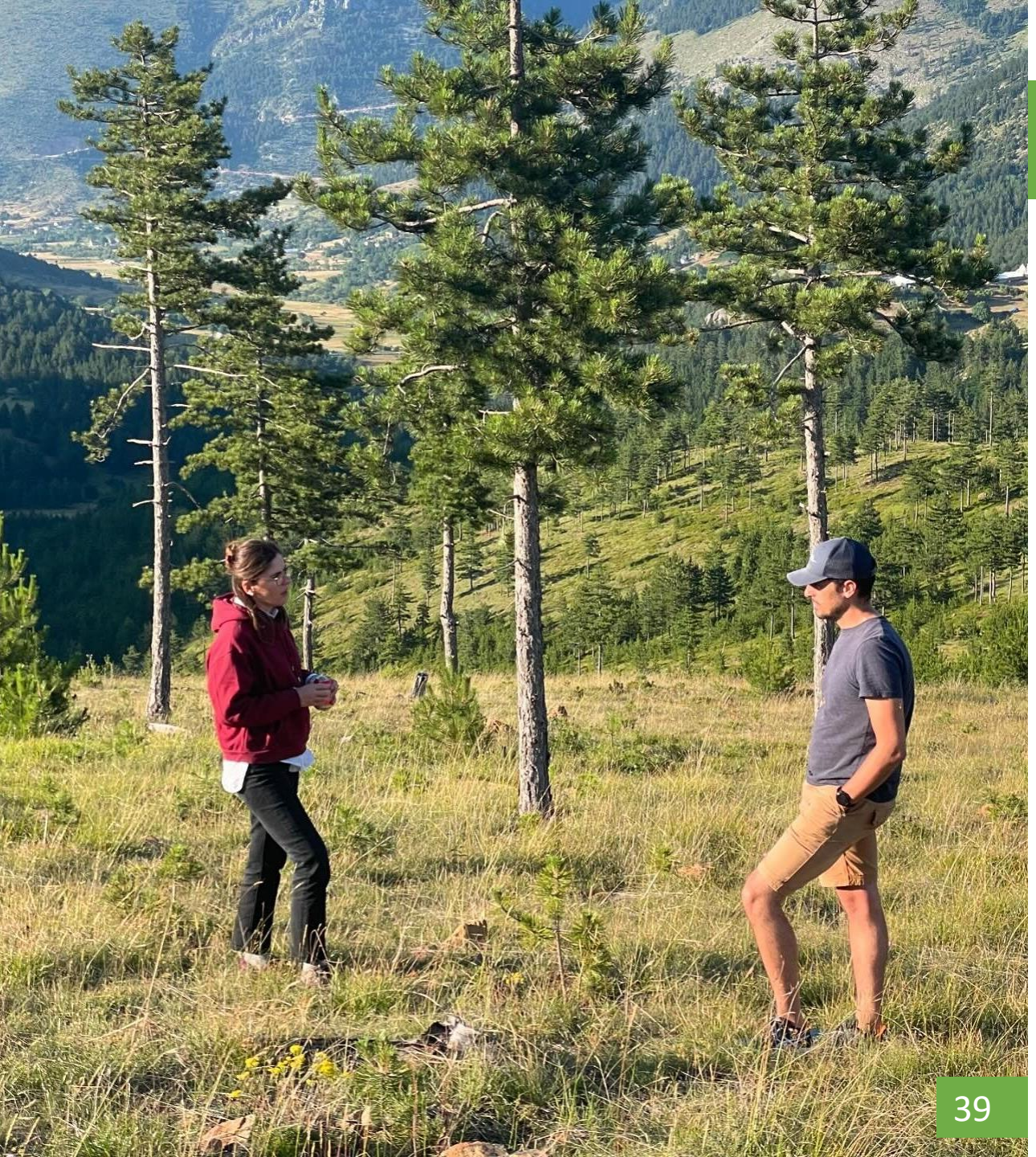
Further Learnings

In 2023 The Conversation (Link below) reported that worldwide of forest restoration and protection have had little success as countries around the world struggle to meet targets despite various programmes imitated. The academic Nobel Laureate Elinor Ostrom suggests that governments are one of the reasons for this failure. Governments that control the rights to extract resources and control how and when any forest restoration happens with little consideration to the communities who live there.

This has been observed across Europe. A recent study by Ostrom found that where governments have provided local communities informal or customary rights of use and management, the forests had high species diversity and provided a sustainable social and economic resource. To achieve the greatest impact, Ostrom highlights the need to empower local communities more, provide strong governance, involve them in the management plans and ensure their rights and tenure are secure. Link: The Conversation.

EcoAlbania, a non-governmental organisation recently sought to raise the profile of the Vjosa River due to the negative impacts abstraction is having on it. With support from Rewilding Europe, they initiated a project called Save the Blue Heart of Europe with the aim to protect the biodiversity along the river and stop plans for hydropower development and gravel abstraction though awareness raising and policy change.

Their efforts resulted in the establishment of a transboundary national park, the first of its kind in Europe. There are now plans made by the government to apply for the whole basin to be a UNESCO biosphere reserve, a designation that will bring additional protection for the environment but also possibly funding to aid any required restoration as well as the benefits from eco-tourism. This marks a change is attitude towards the environment by the Albania government and one that will be welcomed in the wider landscape. Link: Rewilding Europe



Conclusions

Due to the condition of the degraded land, natural regeneration hasn't been successful to date. However, Once the planted species have established and understory species start to establish, new seed sources will become available allowing natural regeneration to occur to an ever-recovering rich ecosystem.

By sourcing seeds locally there are economic, environmental and social benefits; overall project costs can be lower and there is a smaller chance of importing pests and diseases. There is greater confidence in knowing that the specie can succeed in the conditions and climate, yet adding more native species will help to create greater diversity essential for landscape recovery and rewilding efforts.

The success of Trees for Lurë comes from the establishment of the tree nursery that supplies the needs of the project whilst providing local employment as well as the business governance structure and transparency they offer. To overcome local distrust of NGOs, it clearly shows all costs and results, building trust with communities and funders. Using a volunteer management team means more money goes directly to planting trees. While this effective model can be copied elsewhere, future growth may require paid core managers.

Although this effective business model is replicable across sites in Albania and other countries, there may become a point where costs for core management and operations will need to be considered.

Online research

This Fellowship sought to engage with projects outside of the UK utilising seed dropping drones yet those contacted decline the meeting invites or failed to respond. As an alternative, online resources were used to gather an understanding of the technique and to evaluate the suitability as an alternative method of woodland creation to manually planting trees.

In 2014 drones were used to drop Pine seeds in Butovc, Kosovo. This was led by Sustainability Leadership Kosovo who have partnered with the Croation company Project 02 to operate the drones. Seeds are mixed with clay and minerals to protect them from being eaten before they germinate. They claim it is five times faster than human planting and remote areas can be accessed much quickly with drones covering a hector of land in just two hours, dropping between 2-5,000 seeds. The success rate is reported to be between 25-30% yet this is countered by dropping three times as many for the density required. Link: Reuters

A project in the UK has embarked on drone technology to drop a variety of species seeds on areas of moorland where access and terrain is remote and challenging. 75,000 seeds were dropped in eight hours covering 11 hectors, the amount dropped overcompensated by three to four times for losses when based on Forestry Commission standard densities. This project is part of a trial where the Woodland Trust will assess success rates and cost benefits, taking into account any savings made with not needing to pay for planting, replanting, and tree protection that is often used in the UK. Link: BBC

Mast Reforestation operates in the US and target areas destroyed by forest fires, a threat that is increasing worldwide. DroneSeed provide the aerial seeding services, yet Mast indicates the need for seed collection and quality checks. Whether reforestation is achieved through this method or conventional planting, projects are funded through the sale of carbon removal credits providing opportunities for private finance to support nature recovery. Link: Mastreforest

Source: Reuters/ Valdrin Xhemaj

Source: Reuters/ Valdrin Xhemaj

Source: BBC/ Here Now Films

Source: BBC/ Here Now Films

Source: Mastreforest

Source: Mastreforest

Fellowship Conclusions

This Fellowship has highlighted that a greater understanding and awareness of the impacts of unsustainable forest and woodland management is the key for restoration and long-term protection. Education and knowledge sharing between projects across the world and between authorises and local communities allow a balance of nature and people-centric objectives to be achieved.

Incorporating local communities into landscape scale nature recovery projects is vital for their success. Not only can people provide significant contributions to all aspects of the project, but it helps communities to adapt to changes, adopting a new mindset, and invest their time and energy appropriately.

Training and employment opportunities often increase engagement and involvement from communities. With greater opportunities stems greater interest, this is followed by greater understanding and awareness, then advocacy.

When talking about creating new woodlands, the focus shouldn't just be on carbon offsetting, as this can feel distant to many people. Instead, the strongest message highlights the local environmental, social, and economic benefits—things communities can see and feel. Real, tangible benefits build greater local support.

Similarly, big pledges from governments to plant millions of trees may not be the most effective way to communicate if a project wants to maximize all the different benefits forests and woodlands offer. This is because they are complex, rich ecosystems – much more than just trees themselves.

When a project restores the natural function of an ecosystem, it naturally draws in the interested environmentalists and nature lovers. In making a destination for eco-tourism, a platform is created for raising awareness of issues and solutions nationally and internationally. However, consideration needs to be made to the management of both people and nature for its long-term success.

A combination of environmental and social focused Trusts, Foundations or non-government organisation can be successful drivers in landscape scale restoration projects that incorporate communities into their work. This is vital to achieve not just outputs but outcomes that build sustainable resilience for both people and nature.

Natural regeneration has been trialled by many with varying success. It is not often funded so there is little to no monitoring carried out to gauge success. The success largely depends on soil conditions, something that the projects visited target the poorest and therefore traditional planting is the preferred option. Adopting natural regeneration can be successful with these areas 2-5 years behind those planted with trees.

Seed planting by drones is still in its infancy, however it can cut costs significantly if the ground conditions are right for germination. Drones are often used in the more remote inaccessible locations however won’t necessarily maximise all the potential benefits woodlands and forests can offer.

Across the projects visited, it was clear that establishing local tree nurseries can be a key benefit to large scale reforestation efforts. They offer initial routes to local employment and can provide good investment opportunities for both the project and key stakeholders.

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