

RESTORE OUR FUTURE

BONN CHALLENGE



Impact and potential of
forest landscape restoration



Join us to restore
350 million hectares
of forests and lands
by 2030



Restore our Future

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Foreword

Dr. Bruno Oberle
Director General, IUCN

The tremendous success of the Bonn Challenge in its first nine years fills me with pride and optimism, as it validates two decades of pioneering work and illuminates a path to 2030 and beyond.

When IUCN first coined the concept of forest landscape restoration (FLR) in 2000, we may not have referred to it as a Nature-based Solution (NbS) yet – because we did not have that terminology at the time - but at its core, this approach perfectly embodies the vast potential of nature as a solution to humanity’s challenges.

FLR harnesses the power of nature to provide benefits to people’s livelihoods, improve access to essential resources, create and restore habitats for countless species, and store vast amounts of carbon to help mitigate climate change.

IUCN has remained a global leader on FLR both politically and technically, and has implemented projects and initiatives in more than 40 countries.

None of those, however, were quite as ambitious or impactful as the Bonn Challenge, which we launched together with the government of Germany in 2011. It laid out a bold vision: to bring 350 million ha of degraded landscapes, an area almost 10 times the size of Germany, under restoration, by 2030. This would not only increase the food and water security for hundreds of millions of people, but also contribute to fulfilling international climate change, biodiversity and land degradation commitments – and ultimately to achieving the Sustainable Development Goals.

Over the past nine years, participants of the Bonn Challenge have taken highly encouraging steps towards making this vision a reality. As of this year, 74 countries,

conservation alliances and private entities around the globe have committed to bring over 210 million ha of land under restoration through their commitments to the Bonn Challenge and its contributing regional initiatives.

Where restoration projects have been implemented, the positive impacts for people and nature have been significant. For example, since 2011, Rwanda has restored 700,000 ha of land across 80 individual projects, applying IUCN’s approach to restoring forest landscapes. It has managed to increase its agricultural productivity and local people’s incomes as well as food and water security while reducing vulnerability to climate change, landslides and other disasters. The country’s early leadership on restoration inspired many others to pledge commitments to the Bonn Challenge, from Africa and the Americas to South and East Asia, with inroads now also being made in Europe, the Caucasus and Central Asia. For example, Azerbaijan will improve the resilience of local communities to climate change, reduce poverty and conserve biodiversity through focusing on its Tugai forests and restoring 270,000 ha of land by 2030. Scotland, which has pledged to restore over 170,000 ha, will establish new woodlands, boost forest cover and help peatlands recover.



“As governments and organisations are rethinking how we work with and exist in nature in a post-COVID world, the Bonn Challenge’s achievements provide a very timely demonstration of the potential of Nature-based Solutions to address society’s problems.”

In this report, we celebrate the success the Bonn Challenge has seen so far. But we are not about to rest on our laurels. By sharing examples of best practices from around the world, the report also aims to build on this success, and as the title suggests, provide inspiration to Restore our Future.

As we head into the UN Decade on Ecosystem Restoration, and as governments and organisations are rethinking how we work with and exist in nature in a post-COVID world, the Bonn Challenge’s achievements provide a very timely demonstration of the potential of NbS to address society’s problems. With the July 2020 launch of the IUCN Global Standard for Nature-based Solutions, IUCN and its partners have put forward a benchmarking tool that

will allow individuals, conservation alliances, and businesses to scale up their ambition, strengthen their commitments to the Bonn Challenge and implement them effectively and sustainably.

If we build on the momentum created over the last nine years and seize this crucial moment in time, we will not just bring 350 million ha into restoration by 2030. We will indeed Restore Our Future. 🌱



Progress

Mr. Jochen Flasbarth

State Secretary, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), Government of Germany

When launching the Bonn Challenge in 2011, IUCN and the Ministry knew we had ambitious goals. But, who would have guessed that the initiative would set such a tremendous ball rolling? Although forest landscape restoration (FLR) had been piloted in various countries, there was no single collaborative effort to help scale it up to reach its true potential globally.

Just under a decade later, we have 74 pledgers from 61 countries, 8 states and 5 associations working intensively to bring over 210 million ha of degraded and deforested lands into restoration. These collective efforts make the Bonn Challenge one of the world's largest collaborative efforts dedicated to the recovery of forest landscapes.

The Bonn Challenge has triggered regional initiatives promoting collaboration between countries on FLR, unlocked new funding and led to the development of new policies and tools to advance implementation. But, it was not only the speed of progress worldwide that ignited the energy of the Bonn Challenge: it is the overwhelming collective commitment across all levels of engagement to restore our future. It therefore comes as no surprise that the seeds for the UN Decade on Ecosystem Restoration 2021-2030 were sown within the Bonn Challenge community, thus expanding the global restoration movement to include all terrestrial and marine ecosystems.

It is clear that FLR is an ideal nature-based solution that can help the global community meet its biodiversity and climate targets, and other UN Sustainable Development Goals (SDGs).

The recently launched IUCN Global Standard for Nature-based Solutions is a clear indication that governments and the private sector are recognising

that forests and ecosystems can provide the answers to achieving a sustainable and resilient society.

The German government has always championed the conservation and restoration of forest landscapes. Since 2008, under the International Climate Initiative, more than 200 million euros were invested in FLR and Bonn Challenge projects across 48 countries worldwide. These numbers are not only proof of our commitment, but also of the need for FLR. The COVID-19 pandemic has made it abundantly clear that we need a new and improved relationship with nature and has bolstered our commitment to advancing FLR globally.

The next decade is critical. We have to succeed in fulfilling the 2030 target of the Bonn Challenge to work towards bringing 350 million ha into restoration, and we have to be ambitious in implementing the UN Decade on Ecosystem Restoration. If we fail to achieve these goals, it would be pointless to have another UN Decade dedicated to this topic.

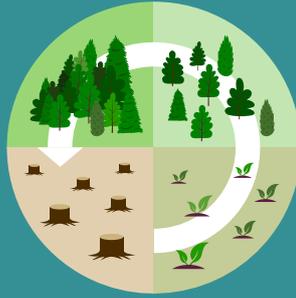
We have put the building blocks in place. When it comes to FLR, we know how and where to restore, we know how to monitor restoration progress in order to pinpoint where we need to improve and how to scale up. All we need is that small push, that next catalyst to restore our future. I invite and encourage you to join our FLR family so that together, we can achieve the 2030 Bonn Challenge goal and the goals of the UN Decade on Ecosystem Restoration. 🌱

Forest landscape restoration (FLR)

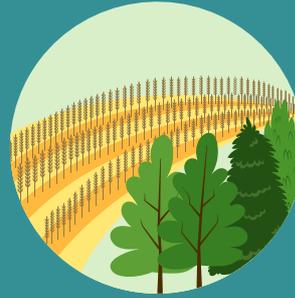
FLR intervention types



Natural
regeneration



Silviculture



Agroforestry



Planted forest
and woodlots



Improved fallow



Mangrove
restoration



Watershed protection
and erosion control

FLR principles



Focus on landscapes



Tailor to the local context
using a variety of approaches



Maintain and enhance natural
ecosystems within landscapes



Restore multiple functions for
multiple benefits



Engage stakeholders and support
participatory governance



Manage adaptively for
long-term resilience



Restoring all our futures

Ms. Bianca Jagger

IUCN's Ambassador for the Bonn Challenge

We are living through unprecedented times due to the Coronavirus pandemic, but Covid-19 is not the only threat we face in the world today. Climate change has become an existential threat. All you need to do is look at California. According to Jeremy Rahn, Division Chief of the California Department of Forestry and Fire protection “California has experienced a historic lightning siege”.

Nearly 11,000 lightning strikes in three days ignited more than 300 fires, which forced thousands of people to evacuate. The fires came during a record-breaking heatwave; during which they reported what could be the hottest temperature ever recorded on earth 129.9F. A recent study from Ohio State University reported that Greenland's ice sheet has melted to a point of no return. In addition, scientists based at Leeds, Edinburgh University and University College London who have analysed satellite surveys of the planet's poles, mountains and glaciers to measure how much ice coverage was lost because of global heating triggered by rising greenhouse gas emissions - concluded that a total of 28 trillion tonnes of ice have disappeared from the surface of the earth since 1994. Reviews of temperatures for May 2020 by standard-bearer climate data organisations including NASA, NOAA, Berkeley Earth and the European agency Copernicus, unanimously concluded that May was the warmest May on record and it's likely that 2020 will be the hottest year since records began in the late 1800s.

Climate change will have devastating effects on every aspect of our lives; food and water scarcity, poverty, pandemics, security, human rights, mass migration, economics and political unrest.

For over 40 years I have campaigned in defense of human rights and environmental protection. In 2005 I founded the Bianca Jagger Human Rights Foundation (BJHRF) to be a force for change and a voice for the

most vulnerable: children, women and indigenous people. Our mandate is to defend human rights, achieve social justice, and protect the environment. The BJHRF is currently campaigning to end violence against women and girls and achieve gender equality.

In May 2012, I was appointed Bonn Challenge Ambassador to the IUCN. I was delighted to accept this role because I believe its objectives are critical and achievable. Throughout this period I have witnessed the tremendous benefits of forest landscape restoration (FLR) as a tool to mitigate climate change, spur sustainable, inclusive and equitable development and, most importantly, improve the lives of people. The Bonn Challenge is a global effort to bring 150 million ha of degraded and deforested lands by 2020 and 350 million ha by 2030. Today, 61 nations, 8 states and 5 associations have taken up the Bonn Challenge, committing to restore 210 million ha of land.

The restoration of degraded and deforested lands is not simply about planting trees. People and communities are at the heart of the restoration effort, which transforms barren or degraded areas of land into healthy, fertile working landscapes.

Restored land can be put to a mosaic of uses such as agriculture, protected wildlife reserves, ecological corridors, regenerated forests, managed plantations, agroforestry systems and river or lakeside plantings to



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protect waterways. And it has a role to play in achieving gender equity: with its emphasis on the participation of all stakeholder groups in restoration planning and action, FLR helps ensure that women and men at all levels are heard. According to the UN Environment Programme, restoring 350 million ha by 2030 will sequester up 13-26 gigatonnes of carbon dioxide. If sequestering carbon were the only benefit of welcoming trees and shrubs back to degraded lands, some would think that was enough. But we know there are many more reasons for restoration. For example, the Tingua-Bocaina Biodiversity Corridor (TBBC) initiative in Brazil, managed by the Instituto Terra de Preservacio Ambiental (ITPA), has restored about 100,000 ha. In 2012, I visited this initiative, which is securing the water supply for Rio de Janeiro, helping biodiversity, and creating hundreds of new jobs, while generating co-benefits for climate adaptation and mitigation.

I can't emphasise enough that the Bonn Challenge has great power to effect change at every level of society, by restoring degraded and deforested landscapes, governments, companies, organisations and private landowners are providing a cornucopia of benefits and contributing to achieving diverse national and international objectives. It will benefit people everywhere, including the world's poorest and most vulnerable by creating jobs, stable water supplies and more climate resilient crops. With the Bonn Challenge, we can plant the seeds for a healthier planet. Seeds that will grow and save lives and inject billions into the world's economies. 🌱

The impact of the Bonn Challenge on national commitments to address climate change, biodiversity and land degradation

Since 2011, 61 countries/national governments, 8 states/sub-national governments and 5 associations have taken up the Bonn Challenge – committing more than 210 million ha into the world’s largest forest landscape restoration (FLR) initiative.

A recent analysis by IUCN has identified clear synergies between the Bonn Challenge voluntary commitments and the targets countries have already set or are setting under the Rio Conventions on Biological Diversity, Climate Change and Combating Desertification.

The analysis found that 165 countries have set FLR-aligned targets and/actions across different Rio Conventions, and 51 have specifically included FLR-aligned actions in their commitments under all three conventions.

There is considerable potential for countries to strengthen Nationally Determined Contributions (NDCs), post-2020 Biodiversity plans and Land Degradation Neutrality (LDN) targets through their Bonn Challenge commitments, to move towards a low emission and sustainable world for people and nature.

There is a particularly urgent need to significantly raise climate ambition and actions from the forest and land use sector towards the critical, upcoming climate summit, COP26 planned for November 2021, in Glasgow, UK.

Significant progress could be achieved if more countries were to incorporate their voluntary Bonn Challenge targets into their 2020 NDCs. More specifically:

- 117 of 166 countries (70%) have not yet set quantitative FLR-aligned targets from the forests and land use sector to absorb CO₂.
- If the 61 Bonn Challenge countries were to fully incorporate their quantitative Bonn Challenge targets into their NDCs, this would bring 205.78 million ha of increased climate ambition and action in the forest and land use sector.
- In addition, if all of those Bonn Challenge commitments expressed in hectares were translated to tons CO₂e, it would also significantly increase the accountable forest and land-based ambition in NDCs.



Since 2011

74 countries, states and associations

have taken up the

Bonn Challenge.



210 million ha

committed to the world's largest

forest landscape restoration

initiative.

National climate change, biodiversity and land degradation neutrality targets and/or actions aligned with FLR and the Bonn Challenge:

# of Countries	UNFCCC NDCs	UNCCD LDN	CBD National Targets
Total # of countries with targets	186	123	191
Total # of countries' targets analysed	166	90	153
Total # of countries with FLR-aligned targets/actions	128	80	115

Note: the data under UNFCCC were analysed as per NDCs available as of October 2018; the data under UNCCD were analysed per LDN targets available under the country profiles as of August 2020; the data under CBD were analysed per National Targets (or equivalent) related to the Aichi Biodiversity Targets 5, 15 available under the country profiles received from the NBSAPs since COP-10, fifth national reports or from documents submitted separately.

Examining the potential

205.78 million ha

of increased climate ambition and action



if the 61 Bonn Challenge countries incorporate their pledges in 2020 NDCs

190 million ha

of increased ambition for combating land degradation



if the 57 Bonn Challenge countries setting LDN targets incorporate their pledges

Nationally Determined Contributions (NDCs)

Efforts by countries to reduce national emissions and adapt to the impacts of climate change (UNFCCC):

- From an analysis of 166 NDCs, 128 have FLR-aligned quantitative and/or qualitative targets.
 - > Only 49 NDCs have quantitative FLR-aligned targets for mitigation and/or adaptation.
- 61 out of 166 NDCs analysed have made voluntary Bonn Challenge commitments.
 - > 53 have quantitative and/or qualitative FLR-aligned targets under NDCs.
 - > Only 27 Bonn Challenge countries' NDCs have quantitative FLR-aligned targets for mitigation and/or adaptation.
 - > If all 61 countries incorporated their Bonn Challenge voluntary targets into their 2020 NDCs, 205.78 million ha of increased climate ambition and action could be generated from forest and land sector.
- There is a major opportunity for countries to add quantitative elements to their forest and land-based targets expressed in hectares or tonnes of carbon removal – reflecting national commitments already made under the Bonn Challenge.

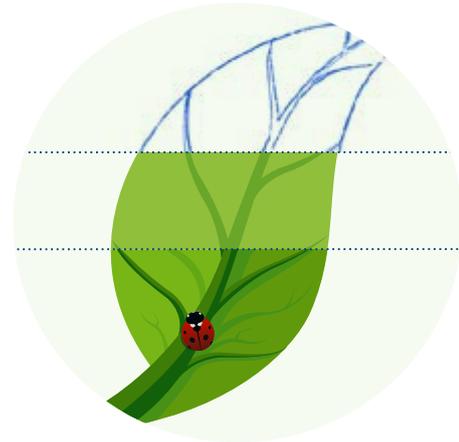
Land Degradation Neutrality (LDNs)

Targets and measures by countries to stabilise or increase the amount and quality of land resources necessary to support ecosystem functions and services and enhance food security (UNCCD):

- 123 countries have committed to set LDN targets, of that number:
 - > 57 countries have voluntary commitments for restoration under the Bonn Challenge using an area-based metric (ha).
 - > If those 57 Bonn Challenge countries incorporated their voluntary restoration commitments, 190 million ha of increased ambition for the achievement LDN goal could be generated.
- Out of 90 countries that have already submitted their LDN targets, 80 of them have FLR-aligned targets and/or actions.
- From these 90 countries, 45 have Bonn Challenge commitments (142 million ha).

148 million ha

of increased ambition for biodiversity conservation or restoration



if the 51 Bonn Challenge countries with plans to refine their biodiversity targets incorporate their pledges

National Biodiversity Targets

Targets that contribute to the implementation of the Aichi Biodiversity Targets (ABT 5, 15) (CBD):

- Of 153 countries analysed, 51 have voluntary restoration commitments to the Bonn Challenge (147 million ha).
- Of 153 countries, 115 have referred to FLR-aligned targets and/or actions.
 - > 43 out of 115 have voluntary commitments to the Bonn Challenge.
 - > 42 out of 115 countries have expressed their FLR-aligned targets and/or actions as “restoration of at least 15% of degraded ecosystems”.
- If the 51 countries with Bonn Challenge commitments and national biodiversity targets related to restoration redefine their pathways to achieve the Global Vision 2050 for Biodiversity under the Global Biodiversity Framework, it would lead to approximate 148 million ha of ambition and action for biodiversity conservation or restoration.

Opportunity to increase impact

The Bonn Challenge has proven to be a key vehicle for climate change mitigation and adaptation, addressing land degradation, and for conserving and restoring biodiversity.

As the processes of updating and / or enhancing NDCs, setting LDN targets, and defining the Post-2020 Global Biodiversity Framework, move forward, countries have a great opportunity to capitalise on their existing and new restoration commitments and quantifiable actions and harness the potential of FLR-aligned actions to address the goals of the Conventions and the Bonn Challenge in a complementary and mutually supporting manner.

The Bonn Challenge’s synergies across all three Rio Conventions offer major new opportunities to catalyse public and private funding for FLR into the next decade and beyond. 🌱

Transforming landscapes and livelihoods in Malawi

The Malawi Youth Forest
Restoration Program (MYFRP)

Bonn Challenge commitment:	4.5 million ha
Joined Bonn Challenge:	2016
Country's total area:	11.84 million ha



In 2016, Malawi announced an ambitious Bonn Challenge commitment to bring 2 million ha of degraded land under restoration by 2020. Recognising the benefits of the approach, the Government has committed a further 2.5 Mha to restoration by 2030, totalling 4.5 million ha.

To help realise this national commitment, the Malawi Youth Forest Restoration Program (MYFRP) was born. The MYFRP initiative rallies young entrepreneurs to tackle forest restoration. This helps to tackle unemployment, improves land productivity and safeguards biodiversity; fostering a sustainable and prosperous nation.

Challenge

Food and water insecurity is an urgent challenge Malawians face every day. Poor agricultural production, heavily degraded soils and rising invasive species stack the odds against farmers - reducing their ability to generate an income from food production to feed their families. These issues are supercharged by increasingly frequent and severe natural disasters, caused by climate change.

A massive 79.5% of Malawi's population is under the age of 36.¹ While a youthful population holds great potential as a powerful labour force, currently unemployment is high, leading to low levels of educational and community engagement.²

To overcome this vicious circle of disengagement, the Department of Forestry sought to spur growth by rallying young people behind the restoration of one of the country's – and one of the world's most vital assets – Malawi's forested landscapes.

Solution

The Malawi Youth Forest Restoration Program (MYFRP) was designed to enhance youth participation in tree planting and forest management, as a vehicle to tackle unemployment and contribute to the country's commitment of 4.5 million ha under restoration by 2030.

The mechanic is simple - young people in youth groups are engaged by local councils across the country to undertake coordinated forest landscape restoration (FLR), such as restoring community woodlots, plantations and riverbanks. In return, they earn a wage upon meeting agreed targets.

In order to maximise socio-economic and ecological impact, the youth program is prioritising degraded areas identified during the national FLR opportunities assessment. The Restoration Opportunities Assessment Methodology was utilised to identify priority areas and the suitable FLR interventions, resulting in a National FLR Strategy.

Having prioritised areas of intense degradation, local youth groups coordinated small taskforces to undertake FLR activities such as tree planting and management; assisted natural regeneration management and fire management activities.

Impact

Government policies are supporting the integration of FLR into different areas of Malawian society, such as the National Forest Policy, which encourages sustainable forest management, plus the National FLR Strategy and National Resilience Strategy.

Anticipated results of national restoration programmes include improvements in agricultural productivity and water security, alongside resilience to climate change, soil erosion and severe weather - spurring sustainable economic growth.

From the MYFRP, over 40,000 ha of biodiverse forest landscapes have been restored to date. Cumulatively, this has facilitated the planting of over four million seedlings of mixed-species - mainly indigenous trees - on 4,893 ha in two years of implementation. The seedlings have a survival rate of 65%.

Natural regeneration activities (such as spot weeding, spot cultivation and fire break maintenance) have been implemented on an additional 34,286 ha of existing forest areas and 4,000 ha of areas planted with trees in the last planting season.

Crucially, young Malawians have collectively earned \$1.2 million USD between July 2018 to July 2020 for successfully contributing to restoration targets. Beyond the economic impacts, local chiefs report increased youth participation, both in FLR, as well as community decision-making due to the scheme. There is now an increased understanding of climate and environment, and an appreciation for parents and elders in the society, which is reinvigorating for Malawian culture.

Future

The next phase of the MYFRP project aims to increase education and engagement in local communities. Though local districts are aware of FLR, the programme has identified opportunities to increase synergies with pre-existing agricultural and environmental advancement projects.

Furthermore, the MYFRP is looking towards more holistic training of extension staff that interface with farmers and youth groups daily. Deepening holistic training will build Malawian communities' capabilities to work alongside nature, to continue transforming land, landscapes, and livelihoods.

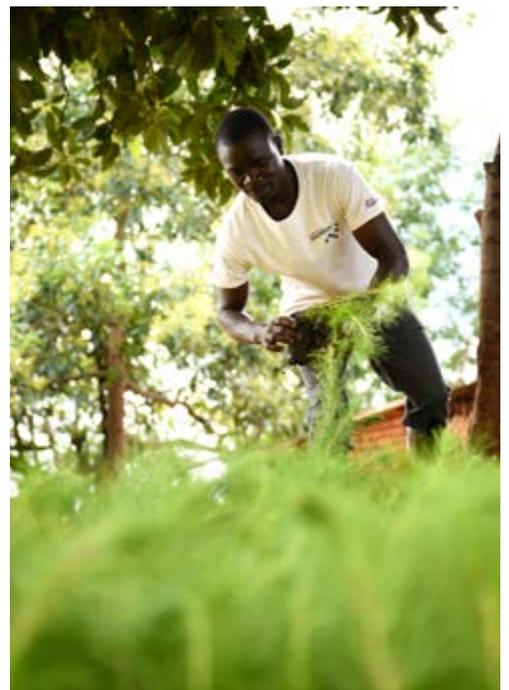
Stakeholders

Youth groups; Ministry of Forestry, Natural Resources through the Department of Forestry; Ministry of Local Government; Department of Youth; National Youth Council of Malawi; District and City councils; Local governance institutions; Community and farm leaders. 🌱

“The government is leading Malawi’s restoration agenda and youth engagement to transform our degraded landscapes – which will increase scale of implementation, contribute to rural economies, and make our commitments achievable.”

Ms. Tangu Tumeo, Principal Forestry Advisor, Ministry of Natural Resources, Energy and Mining. Department of Forestry, Malawi.

1. Government of Malawi Population and Housing Census 2018. 2. Project Syndicate, George Lwanda, *Busiweek*.



Improving ecological and economic wealth in Guatemala

Bonn Challenge commitment:	1.2 million ha
Joined Bonn Challenge:	2014
Country's total area:	10.89 million ha



Guatemala is a megadiverse country, with a high degree of endemism and diversity of flora and fauna. Guatemala is also recognised for its plurality of ethnic groups, languages, beliefs, arts, social structures, agricultural practices and ecology – many of which are linked and sustained by forests.

Faced with widespread land degradation – driven by economic, social and political reasons – in 2014, Guatemala joined the Bonn Challenge, committing to bring 1.2 million ha under restoration.

Between 2014-2019, Guatemala restored 197,142 ha through a diversity of FLR interventions including agroforestry, planted forests and sustainable forest management.

Challenge

Guatemala has 3,574,200 ha² of forest, equivalent to 33% of the national territory, and of which 96% is primary forest – the most biodiverse and carbon-dense form of forest.

Drivers of deforestation and land degradation in Guatemala include agricultural expansion (both, commercial and subsistence agriculture), extraction of wood and firewood, infrastructure development (including the expansion of urban areas), and activities related to drug trafficking.

Between 2010 and 2016, Guatemala lost an average of 18,350 ha or 0.5% of total forest area per year to deforestation. This loss has severely affected the provision of ecosystem services, including the capacity for resilience and adaptation to climate change, provision of water, biodiversity, soil productivity, and others. Land degradation and deforestation have reduced the flow of ecosystem services, negatively impacting the income and lives of many Guatemalans.

To combat deforestation and incentivise restoration, Guatemala developed an integrated forest policy that includes instruments such as the Guatemalan System of Protected Areas (SIGAP), the forest incentive programmes (PINFOR, PINPEP and PROBOSQUE), and the promotion of sustainable forest management. The Government allocates more than 39 million USD per year to fund these efforts.

Solution

For years, IUCN and the Government of Guatemala have been working in Lachuá in Alta Verapaz, a Ramsar site with high levels of biological diversity. Fifty four communities live here and the 20,000 inhabitants live in poverty - surviving on subsistence crops.

For this area, the restoration strategy was aimed at increasing income while simultaneously addressing degradation. It sought to establish public-private partnerships and attract investment, strengthening the value chains of sustainable agricultural products.

Since 2016, IUCN and FundaLachuá incorporated the development of business models, focusing on value added products and building alliances with the public and private sectors. Under this framework they promoted the establishment of new areas of agroforestry systems (cacao and tree species), seeking financial leverage with government incentives, impact investments and formal banking.

The Lachuá ecoregion is home to predominantly indigenous peoples, including the Kekchi'. As the cultivation of cacao has been carried out since pre-Columbian times, the project blended traditional indigenous knowledge with recent production techniques.



“You cannot restore a landscape without considering indigenous communities. The Bonn Challenge in Guatemala has provided benefits for the environment and the people.”

Ms. Samantha Figueroa, Congresswoman and Chair of the Frente Parlamentario Ambiental (Environmental Parliamentary Front).

Impact

Through the National Restoration Programme, the average annual income for cacao farmers has increased by an estimated \$1,411 USD per producer. This has had huge knock-on effects, such as families being able to send their children to school.

The project has sparked real change within the cacao value chain - from production to commercialisation. Between 2011 and 2019, 500 producers and 776 ha of cacao plantations have switched to agroforestry approaches. Cacao yields have increased from 180 kg/ha to 500 kg/ha and 315 full-time jobs were created. Access to the international cacao bean market was provided through trade agreements allowing 236 small organised private producers to sell their products, creating annual revenues of \$197,400 USD.

Crucially, the creation of ecologically sustainable, community-based businesses has significantly relieved pressure on Guatemala's natural areas and vulnerable species. The cacao agroforestry system provides ecosystem services such as erosion reduction (average values ranging between -33.8 and -107.7 tons per ha per year), sedimentation reduction (average values ranging from -0.03 to -4.6 ton per ha per year,) and a decrease in greenhouse gas emissions (303 ha of established SAF led to the mitigation of 9,320 tCO₂e, that is, 1,864 tCO₂e / year). Other positive environmental impacts include forest connectivity, greater plant cover and increased species diversity.

Diversifying the income of farmers has been greatly successful. For example, in 2006, Fundalachuá, the Guatemalan Government and IUCN, supported 170 cacao producers to establish 230 ha of cacao agroforestry systems, creating jobs while protecting Guatemala's unique forest landscape.

Based on the Lachuá experience and in the framework of the National Cacao Strategy, an expansion of cacao production is planned (establishment of at least 15,000 ha of cacao in SAF by 2025) in other areas, in particular in the Verapaz area (Lachuá, Cahabón, Polochic) and the southern part of Petén.

Future

Guatemala has invested \$173 million USD on forest protection and conservation in the last 20 years. Moreover, it is expected that the Government will provide an estimated \$50 million USD per year for the next 30 years under its Forest Policy.

Under the leadership of the Ministry of Environment and Natural Resources, in a strategic alliance with IUCN, a project on Resilient Highlands will be implemented during the next seven years. The Green Climate Fund channelled \$22 million USD into this project to restore 146,500 ha of the highland area.

This project seeks to build community climate resilience in the upper basins of Guatemala's highlands, a region rich in indigenous communities and forests. It will aim to reduce the impact of climate changes on the hydrological cycle in selected watersheds, through annual cropping, plus silvopastoral and agroforestry practices. This will help improve water recharge and production, as well as contribute to the resilience of populations and ecosystems to climate change.

Stakeholders

Fundalachuá (Foundation for Conservation of Ecoregion Lachuá), an NGO led by indigenous peoples; Government of Guatemala: Ministry of Agriculture, National Institute of Forestry and National Council of Protected Areas, Ministry of Environment and Natural Resources; International Union for Conservation of Nature (IUCN). 

1. <https://greenhousepr.sharepoint.com/sites/iucn/Shared%20Documents/01%20Background%20&%20messaging/2018%20Barometer%20Report/2019-018-en%20Barometer%20Report.pdf?CT=1596096346351&OR=ItemsView>. 2. Forest data was estimated based on: INAB et al. (2019). Mapa de cobertura forestal de Guatemala 2016 y dinámica de la cobertura forestal 2010-2016. Guatemala: Instituto Nacional de Bosques. Consulted on: <http://www.sifgua.org.gt/>. 3. FUNDALACHUÁ : Foundation for Conservation of Ecoregion Lachuá.

Building resilience through mangrove and forest restoration in Bangladesh

Bonn Challenge commitment:	0.75 million ha
Joined Bonn Challenge:	2017
Country's total area:	14.76 million ha



Bangladesh is ground zero for climate change. Tropical cyclones, floods and droughts batter the country with increasing intensity every year.

The Government, in tandem with NGOs and the UN, has led a programme of interventions to work with communities to improve Bangladesh's resilience to climate change and address poverty by restoring forest cover and degraded lands.

Challenge

Bangladesh is one of the most climate vulnerable countries in the world. Due to its flat, low-lying topography, during the rainy season more than one-fifth of the country can be flooded at once.

An area larger than Manhattan washes away annually, plus sea-level rise is pushing saltwater into coastal agricultural areas and threatens to permanently submerge large areas.

Bangladesh also has one of the world's highest population densities. Accommodating space for agriculture, industry and settlement is a major cause of deforestation, with 40% of households reliant on wood, bamboo and khari for fuel.

The challenges of climate change, coupled with high population density and high levels of poverty, make forests and mangroves a lifeline - providing water and food security, plus floodwater protection. However, declining forest cover and degraded coastal areas are severely limiting their potential as nature-based solutions to the daily trials faced by Bangladeshis.

Solution

Bangladesh joined the Bonn Challenge in 2017 with a commitment to restore 0.75 million ha. Recognising the potential for forest landscape restoration (FLR) to drive socio-economic advancement, it set out to kickstart community-led mangrove and forest restoration programmes to increase tree and mangrove density in degraded areas.

This case study looks at two distinct examples of the kind of restoration work the Bangladesh government is undertaking: mangrove restoration and social forestry restoration.

Some of the most dramatic improvements have been in coastal areas where mangrove restoration programmes have protected communities from cyclonic surges; as mangrove tree roots, trunks, and leaves obstruct floodwater surges.

Mangroves for the Future (MFF), co-chaired by IUCN and UNDP, is the largest regional initiative on coastal resource governance in 12 countries in Asia. Under this initiative, IUCN supported a digital mapping study

“We would like to restore our deforested land, and in our bid to do that we have increased our budget for restoration and improved our management of our forest resources.”

Mr. Ziaul Hasan, Secretary, Ministry of Environment, Forest and Climate Change.

to establish suitable areas for mangrove rehabilitation that would generate income and shield villages in the area of Shyamnagar. For example, the Sora village, which is under the Gabura union, was identified to pilot the mangrove rehabilitation. The MFF led a dialogue amongst the village communities, local Union Parishad (UP) and the Forest Department who agreed on a shared governance structure and benefit-sharing mechanism. As a result, a 35-person village conservation forum (VCF) was established, whereby the community receives 40% of the income from growing and selling fruits, honey, fuel woods, and mangrove saplings.

Social forestry through homestead forests, or 'home gardens' – where trees are mixed amongst crops and livestock in a specific site – is another form of FLR in Bangladesh. They generate most of Bangladesh's commercial forestry products, plus provide income through crops and livestock, poultry and fish production.

Small tree or forest-related enterprises are an example of how you can cultivate a healthy landscape to ensure long-term economic returns. As a result, communities are becoming motivated to maintain forest resources and gather fuelwood and timber from community-planted forests and agroforestry in fallow and marginal lands and homestead gardens, as opposed to standing forests.

Impact

MFF has supported rehabilitation of 125 ha of mangroves through its small and medium grant projects. Climate Resilient Ecosystems and Livelihoods (CREL) - a project of Forest Department funded by USAID came forward to leverage their investment and rehabilitated more than 300 ha.

The mangroves are now a healthy functioning ecosystem, providing shelter from storms for nearby villages, as well as habitat and nursery functions for fish and birds. Scientific studies have determined that restored mangroves provide evidence of resilience to cyclones, for example, all the restored mangroves not only remained intact but protected embankments during Cyclone Amphan.

Over the last few decades Bangladesh's grass roots-led social forestry programme – engaging Government, communities and NGOs in 'home gardens', has successfully expanded tree cover, whilst improving livelihoods of poor communities. This has contributed to, for example, earning of \$34.8 million USD for more than 150,000 beneficiaries.

Future

The successful restoration of mangroves in coastal areas using the governance mechanism introduced by the MFF has become a replicable model for mangrove rehabilitation in Shyamnagar and beyond.

Separately, Bangladesh's social forestry projects demonstrate how governments can meet the needs of local communities by applying the FLR approach to large multiple-use landscapes that are also home to valuable standing forests.

Bangladesh Forest Department now has introduced a collaborative management approach which can transform the forest landscape areas beyond the protected areas.

Stakeholders

Government of Bangladesh: Ministry of Environment, Forest and Climate Change (Forest Department), Ministry of Power, Energy and Mineral Resources; Local Union Parishads (councils); Mangroves for the Future (MFF) initiative; Climate Resilient Ecosystems and Livelihoods (CREL) US-AID project; NGOs, including Shushilan and Center for Natural Resource Studies (CNRS). 🌱

1. <https://www.nationalgeographic.com/environment/2019/01/climate-change-drives-migration-crisis-in-bangladesh-from-dhaka-sundabans/>.
2. Thompson, I., Jashimuddin, M., Rahman, M. M., and Khan, S. I. 2017. Drivers of Deforestation and Forest Degradation in Bangladesh. UN-REDD Bangladesh National Program, Bangladesh Forest Department, Technical Report. January 2017, Dhaka. 3. BBS 2017. Report on Bangladesh Sample Vital Statistic Survey 2016. Bangladesh Bureau of Statistics, Statistics and Informatics Division (SID), Ministry of Planning, Government of The People's Republic of Bangladesh, Dhaka, Bangladesh.



Case study: Restoration of highly degraded areas in Rohingya refugee camps

An example from Bangladesh is demonstrating how the forest landscape restoration (FLR) approach can be used to improve a highly degraded area, in this case in the world's largest refugee camp. The Rohingya crisis in Myanmar has relocated an estimated one million people to 27 congested camps in Bangladesh in late 2017. This unprecedented humanitarian crisis resulted in a full-scale environmental disaster. More than 2,500 hectares of forest land in Cox's Bazar and Teknaf were cleared to make room for the displaced population. The makeshift camps were established on an elephant corridor, which blocked the migration path of about 40 elephants, resulting in human-elephant conflict with the death and injury of both Rohingya refugees and the host community. Clearing of forest cover in a hilly region also increased the risk of landslides and flooding. Pressure on the surrounding forest also increased as the need for fuelwood shot up.

UNHCR and IUCN partnered and successfully addressed the human-elephant conflict by forming Elephant Response Teams (ERT) with volunteers from both the Rohingya and the host community. Humanitarian organizations recognised restoration as a priority response to the humanitarian and environmental crisis. The Energy Environment Technical Working Group (EETWG) from the humanitarian groups worked closely with Refugee Relief and Repatriation Commissioner (RRRC) to start massive restoration activities from 2018. The Forest Department provided technical guidance like species selection and planting techniques for restoration. A

total of 16 national and international organisations including IUCN and UNHCR are members of EETWG in the camp restoration programme. A total of 292 hectares of degraded forest areas inside the Rohingya camps were restored with mostly native species in 2018 and 2019 with an additional restoration target of 200 ha. for 2020. To address dependency on forests for fuel, LPG cylinders were distributed and an IUCN-UNHCR follow up study found a subsequent 80% reduction in firewood use.

The IUCN and UNHCR partnership contributed to 50 ha. of restoration. It generates employment, with 200 Rohingya people employed as plantation watchers. Elephant response team members also participated.

Taking an FLR approach can connect the restored areas of the camps with the surrounding forest areas to bring back to ecosystems functions and wildlife refuge. It can also solve the elephant corridor problem in the future.

Stakeholders

16 national and international organizations and institutions, including: Refugee Relief and Repatriation Commissioner (RRRC); Bangladesh Forest Department (BFD); Energy Environment Technical Working Group (EETWG) comprising several organisations including United Nations High Commissioner for Refugees and IUCN.

Restoring Rwanda’s forest landscapes, border to border

Bonn Challenge commitment:	2 million ha
Joined Bonn Challenge:	2011
Country’s total area:	2.47 million ha



The Government of Rwanda was the first country globally to commit to ‘border-to-border’ forest landscape restoration (FLR).

Its ambitious Bonn Challenge commitment to bring 2 million ha under restoration by 2030 is proportionally the highest national commitment to date – representing 82% of its land area.

Rwanda has been one of the key pilots for FLR. Between 2011-2019 it has brought 708,628 ha into restoration, with progress nationally continuing to accelerate. Its practices have been shared broadly internally, as well as across the African continent.

Challenge

Like many African countries, Rwanda has suffered widespread deforestation, losing over 65% of its forests between 1956 and 1996. This intensified between 1990 and 2005 as many Rwandans displaced by the genocide returned and resettled in rural areas.

As much as 33% of Rwanda’s GDP comes from agriculture and with 71% of its population residing in rural areas, most Rwandans rely on the land for food, income, water, firewood and construction materials.

The fast-growing population is vulnerable to the increasing frequency and severity of landslides and other climate-related natural disasters, which is worsened when land has been cleared for agriculture.

Recognising the challenges facing its communities, Rwanda completed a national landscape restoration assessment using the Restoration Opportunities Assessment Methodology (ROAM) to pilot cost-efficient FLR initiatives.

Solution

Rwanda’s agenda for FLR is intertwined with its 2020 Economic Development and Poverty Reduction Strategy, National Strategy for Transformation (NST 1 2020-2027) which sets out a roadmap to increase forest cover by up to 30% of Rwanda’s total land area.

To provide a framework for scaling up FLR, Rwanda set out a raft of policies, such as the Green Growth and Climate Resilience Strategy (2011); National Forest Policy (2010 updated in 2018); and Strategic Plan for the Transformation of Agriculture in Rwanda Phase III & IV (2013, 2018).

Through these strong frameworks, Rwanda has implemented a ‘border to border’ restoration approach - increasing agricultural productivity; improving food security; increasing resilience to climate change; improving water supply; and reducing vulnerability to landslides.

Given Rwanda’s high population density and the importance of agriculture for the economy, agroforestry, the incorporation of trees into agricultural landscapes, was the most wide-reaching opportunity. To scale up FLR across the country, Rwanda engaged smallholder farmers, inviting them to select their own inexpensive restoration interventions – mostly agroforestry, the protection of riverbanks and roads, and restoring degraded forests.



Impact

Through these initiatives, farmers began to produce tree seedlings themselves. Over 137,562 jobs have been created to help smallholder farmers restore their land at low cost. As FLR practices were increased on farms, agricultural productivity rose alongside.

Following significant success, Rwanda sought to inspire other African countries to match its ambition. In 2016, the Government of Rwanda hosted the Bonn Challenge EAC+ Ministerial Roundtable, with the support of the Secretariat of the East African Community and IUCN. The session encouraged 12 African countries to commit to the Bonn Challenge.

In 2017, with support from IUCN and BMU, a similar ministerial roundtable where Rwanda shared its lessons learned was organised for the Southern African Development Community with 12 countries participating.

In 2017, with the mission statement “We don’t want to inherit degraded lands”, Rwanda’s Youth Forest Landscape Restoration movement was born. It was spearheaded by activist Honorine Uwase Hirwa, who was later selected as one of five Youth Ambassadors for the African Forest Landscape Restoration Initiative (AFR100) – a regional pan-African initiative to bring 100 million ha of degraded and deforested landscapes in Africa into restoration by 2030, contributing to the Bonn Challenge.

This pan-African youth campaign engages with schools and universities to raise awareness of FLR and calls on local and national policymakers to invest in restoration. 100,000 young people across Africa have been educated on restoration and Honorine herself has trained more than 15,000 young people to plant trees and care for the land.

Future

Restoration is sweeping across the country and the collaborative nature of the Bonn Challenge means the knowledge gained in Rwanda’s restoration efforts has spread far and wide.

Continuing in its role as an FLR leader, Rwanda was also one of the pilots for the Barometer of Restoration Progress, helping define how countries can track the implementation of restoration pledges. It’s likely that the total area it reports under FLR is actually an underestimate, as in-kind contributions from farmers and communities to implement FLR are not always taken into account. Through the Restoration Barometer³ and by improving the level of transparency, the Government can justify greater budgets and greater impact going forward.

Stakeholders

Government of Rwanda, including Ministry of Environment; Ministry of Agriculture; and Rwanda Water Resources Board; Smallholder farmers and NGOs, including One Acre Fund and Albertine Rift Conservation Society (ARCOS); FONERWA (Rwanda Green Fund); AFR100 (African Forest Landscape Restoration Initiative); Government of Germany, including Federal Ministry of the Environment, Nature Conservation and Nuclear Safety (BMU); Development partners, including World Bank, US-AID, UK AID, Netherlands Embassy, Swedish Embassy, Vi-Agroforestry; Private sector, including Bank of Kigali and MTN Rwanda; Research and academic institutions, including African Leadership University, University of Rwanda, IPRC, King David Academy, Gatsibo Secondary Schools. 🌱

“The success of Rwanda’s restoration drive is down to the collective effort of many groups, from smallholder farmers, private sector operators, civil society and government institutions. With these efforts combined, it is very possible that using Rwandans’ home-grown solutions, and available resources, the country’s forest landscapes can be fully restored.”

Mr. Charles Karangwa, Regional Technical Coordinator Forests Landscapes and Livelihoods IUCN Eastern and Southern Africa

1. Second Bonn Challenge progress report. 2. National Forest Cover Map, 2019. 3. Developed by IUCN, the Restoration Barometer measures progress based on success factors that create favourable conditions for restoration such as funding and supportive policies; and results and benefits, such as land area brought under restoration, carbon sequestration, biodiversity conservation, and the creation of jobs. For more: www.infoflr.org/bonn-challenge-barometer.

The ‘all-lands’ approach to restoration in the US

Bonn Challenge commitment:	15 million ha
Joined Bonn Challenge:	2011
Country’s total area:	914.7 million ha



The United States (US) has the world’s fourth largest forest estate, totalling around 300 million ha. US forests filter and store more than half of the nation’s water supply and absorb approximately 12% of the nation’s carbon emissions.

Given the patchwork of land ownership patterns in the US, successful forest restoration requires engaging local communities - bringing diverse groups together to pool resources to enhance shared landscapes.

This approach, dubbed an ‘all-lands’ approach, has placed 19 million ha under restoration as of 2019, surpassing the US’ 2020 commitment by 4 million ha.

Challenge

A significant portion of the forests managed by the US Forest Service (USFS) are fire-adapted. Fire-adapted forests require small-scale controlled fires to promote forest health. Indigenous Peoples used wildland fire to manage these forests, but professional foresters began to remove this practice in the early twentieth century.

As a result, many fire-adapted forests are overstocked and suffer both a deficit of “good fire” and risk of catastrophic wildfire. While the amount of forests is largely stable, other threats to ecosystem health include insect and disease epidemics, drought, and invasive species.

Urban growth is proving a critical challenge. As private landowners sell to developers, developments are quickly spreading into once forested areas. For the first time in a century, the United States is again at risk of a net loss in its forest estate – which would turn US forests from a carbon sink to a carbon source.

Solution

The US Bonn Challenge commitment includes everything from reforestation and invasive species removal to wildlife habitat improvements and treatments to reduce the risk of catastrophic wildfire. The efforts include work done by USFS and partners on National Forest System land, as well as work that USFS funds to reduce wildfire risk and treat insects and disease on other federal, state and private lands.

The US is learning valuable lessons on implementing restoration, including to:

- Involve the scientific community and monitor restoration efforts to understand what is working and what needs adjustment.
- Take a landscape-scale approach, working across large areas and multiple jurisdictions.
- Engage in partnerships and collaboration, which build public support for restoration and help ensure that social, economic, and ecological needs are met.
- Invest the time required to establish trust and build effective community relationships.
- Learn from others, such as benefiting from local and tribal knowledge, and from the experience of global partners.

The US achieved around 10% of its Bonn Challenge accomplishments through the USFS Collaborative Forest Landscape Restoration Program, or CFLRP. Under the program, community members across the country join together to propose projects based on a shared vision: large landscapes of healthy, resilient forests and communities at less risk of catastrophic fire. Since 2009, there has been 23 large-scale CFLRP projects across the United States, each lasting 10 years and covering at least 20,000 ha.

Impact

As of 2019, the US has succeeded in placing 19 million ha under restoration. The US expects to place a total of 20 million ha under restoration by the end of 2020. This restoration effort is targeted to the needs of each landscape and includes (as part of CFLRP projects):

- Establishing 710,000 ha of forest by tree planting, seeding, and natural regeneration
- Improving rangeland vegetation on 3,700,000 ha
- Enhancing wildlife habitat across 10,370,000 ha
- Improving soil or water resources on 1,340,000 ha
- Reducing the risk of wildfire on 10,300,000 ha

By sharing leadership and capacity, the majority of participants in these restoration efforts report reduced conflict and improved decision-making processes. By bringing people together, we can support integrated outcomes. For example, from 2010 to 2019, CFLRP projects treated almost 2.3 million ha, created nearly \$2 billion USD in local labour income, supported an average of 5,440 jobs annually,¹ and attracted over \$470 million USD in partner funding.

An independent economic analysis commissioned by the Missouri Pine Oak Woodlands Restoration CFLRP showed that for every dollar invested, the community benefited from \$2.20 USD of local activity, driving a net value of \$28 million USD.

Future

By applying the forest landscape restoration (FLR) principles, USFS has made great progress towards restoring the ecological and socioeconomic functions of US forests. However, to effectively address ongoing risks, the agency is looking to expand restoration projects to cover even larger US areas and create shared priorities for restoration across ownership boundaries.

It aims to do so by continuing to invest in spatial analysis and data analytics tools, which are becoming increasingly advanced.

Furthermore, the USFS has a unique opportunity to work alongside the private sector and meet ‘triple bottom line’ of environmental, economic, and social impact. For example, it is now working with a public benefit investment firm in California and using a Forest Resilience Bond to accelerate treatments for watershed and community benefits.

Stakeholders

Government of the United States of America: US Department of Agriculture’s Forest Service (USFS); State Governments; Indigenous communities and Tribal governments; NGOs; Private landowners; Forest products industry and other local businesses. 🌱

“Restoration is hard work, but it is achievable, and we are not doing this alone. We work collaboratively across jurisdictions with our local, state, and tribal partners who are key to the health, vitality and productivity of our nation’s forests.”

Ms. Victoria Christiansen, Chief of the U.S. Department of Agriculture’s (USDA) Forest Service.

1. Wildlife habitat and wildfire risk reduction are often accomplished on the same hectares. The US Bonn Challenge total does not double count those hectares. 2. Economic modelling applied to derive these estimates was completed using the Treatment for Restoration Economic Analysis Toolkit: <http://www.fs.fed.us/restoration/CFLRP/guidance.shtml>. 3. Second Bonn Challenge progress report: <https://portals.iucn.org/library/sites/library/files/documents/2019-018-En.pdf>



Restoring the Brazilian Amazon to bring back biodiversity and stabilise climate

Bonn Challenge commitment:

12 million ha by the Brazil government

1 million ha by the Atlantic Forest Restoration Pact

Joined Bonn Challenge: 2016

Country's total area: 851.6 million ha



Spanning 670 million ha, roughly the same size as Western Europe, the Amazon is home to 34 million people and 20% of Earth’s species. The rainforest plays a vital role in humanity’s survival, acting as a massive carbon sink that absorbs around a quarter of carbon taken up by forests around the world annually. Between 2008–2014, 9.4 million ha of rainforest were enabled to naturally regenerate in the Amazon. In 2016, under the Bonn Challenge, Brazil raised its commitment to 12 million ha by 2030.

Complementing the national pledge is an extra commitment to restore 1 million ha of the Mata Atlantica forest by the Atlantic Forest Restoration Pact (PACTO). The Atlantic forest covers almost 10 million ha including tropical forests as well as grasslands, savannas, shrublands and mangrove forests. The Atlantic Forest is characterised by high biodiversity and endemism.

Challenge

Brazil’s diverse ecosystems and species are under serious threat from loss of habitat through logging, the expansion of industrial farming and increasingly frequent and severe forest fires.

The Amazon is highly vulnerable to climate change due to its complex and biologically diverse ecosystems.

The relaxation of environmental laws on conservation areas and indigenous lands has led to unchecked agricultural expansion, triggering a major response and push for restoration.

Solution

The National Plan for the Recovery of Native Vegetation (PLANAVEG), which was launched in 2017, is a key policy supporting Brazil’s Bonn Challenge commitment. PLANAVEG unlocks forest landscape restoration (FLR); by raising awareness of the benefits, enhancing the quality of seedling of native species, promoting markets for native vegetation products and conducting research.

Recognising the rich vein of ancestral knowledge on protecting the Amazon, restoration policy frameworks have a clear connection with the strong Brazilian social and environmental movement, including important indigenous leaders and mature scientific institutions.

Impact

Areas of the Amazon committed to restoration have delivered significant biodiversity benefits. Of the 9.4 million ha of land that has been brought under natural regeneration, 2.3 million ha of that was located in priority biodiversity areas, and five per cent of the secondary forest vegetation was located inside indigenous territories.

The creation of a total of 112,000–191,000 jobs per year is projected from the implementation of the 12 million ha national pledge. This includes people directly involved in the implementation and maintenance of the restored areas in the different restoration scenarios (e.g. natural succession, enrichment and total planting). It also includes indirect jobs in the related production chains of timber and non-timber products from restored areas.

The successes with restoration programmes are leading to the creation of a national advisory committee with representatives from civil society and the government. Its primary goals are improving the debate around programme implementation and suggesting priorities for proposed actions.

Project

On the frontline of the deforestation crisis, The Nature Conservancy's (TNC) Forest Cocoa Project in the Amazon has worked with 250 smallholder farmers since 2012 to transform degraded pasture land through agroforestry systems using native species alongside cocoa, palm and Brazilian mahogany. Planting native trees protects crops from extreme weather events and enriches the soil with nutrients, to increase yields, benefiting hundreds of families in southeast Pará.

To support the sustainability of the cocoa supply chain – from farmer to product - TNC has partnered with multinational confectionary company, Mondelez International, local government agencies and local cooperatives plus the National Bank. Through the partnership, farmers are given technical assistance and training on agroforestry systems, rural entrepreneurship, sustainable cocoa production and the restoration of degraded areas, plus access to rural credit they need to create resilient businesses. In turn, farmers deliver sustainable cocoa beans; allowing Mondelez's brands to authentically tell customers that their chocolate helps conserve Amazonian forests.

Agroforestry has been practised for millennia and now through a programme of engagement and support, local farmers are beginning to grasp the huge potential to work with nature to generate income, improve livelihoods and ensure food security for future generations while conserving and restoring local biodiversity.

Stakeholders

Government of Brazil: Ministry of Environment (MMA), Ministry of Agriculture (MAPA); Atlantic Forest Restoration Pact (PACTO), a coalition of 280 non-governmental organisations, The Nature Conservancy, companies and government agencies. 🌱

“Stopping deforestation and restoring the Amazon biome is urgent to prevent a climate tipping point that would transform the region into a savannah. Agroforestry is one of the clever ways to create alternatives to deforestation and at the same time promote forest restoration, especially with smallholder farmers. The Nature Conservancy Forest Cocoa Project in the Southeast Pará region has transformed the lives of over 250 farmers.”

Mr. Rodrigo Mauro Freire, The Nature Conservancy's Restoration Deputy Manager.



Join us to restore 350 million hectares of forests and lands by 2030

This report provides a snapshot of how 6 countries have prioritised the restoration of forest landscapes to boost ecological and human health and wellbeing to the benefit of people and planet. Stories told through communities, NGOs and governments show the significant impact created through the Bonn Challenge.

Since its launch in 2011, 61 nations, 8 states and 5 associations have taken up the Bonn Challenge – committing more than 210 million ha to the world’s largest forest landscape restoration initiative. The breadth of the achievements is testament to our collective ability to restore forest landscapes locally and the combined impact that it creates at a global level.

Evidence of the impact of restoration is clear

We see the evidence that when Governments, communities and businesses join forces to conserve, restore and manage degraded forest ecosystems, significant social, economic and ecological value is created. Combating deforestation is critical but, in isolation, it is no longer sufficient to help the planet stay below 1.5°C of warming. The application of the forest landscape restoration (FLR) principles can play a vital role in both sequestering CO₂ emissions, and rebuilding communities in the post-COVID-19 world.

The impacts of COVID-19 are widespread and take many forms beyond the obvious, and they will be felt for years to come. Many impacts are probably not even yet visible. For forest landscapes and the people who depend on them, this can mean disruption of value chains and loss of jobs in the forestry sector, which could also influence migration patterns. But this can be turned around – trees and forest landscapes can be harnessed and enriched so that they provide an important engine for building back better post-COVID. Forests must be at the heart of the COVID-19 recovery. They can better provide security and greater resilience for communities and indigenous peoples and particularly the vulnerable, for example, in terms of improving food production and creating new sources of income.

The Bonn Challenge’s target to bring 350 million ha of degraded land into restoration between now and 2030 can generate \$9 trillion USD in ecosystem services and remove an additional 13-26 gigatons of greenhouse gases from the atmosphere.

Mainstreaming restoration

We cannot effectively tackle climate change, biodiversity and land degradation challenges without applying nature-based solutions at scale. Investors are increasingly focusing on the financial risks stemming from the destruction of natural ecosystems. Over half of global GDP — \$44 trillion USD — is potentially threatened by loss of nature. Rising transparency on the economic value of natural capital is giving rise to new structures to engage business, such as the Task Force on Nature-related Financial Disclosures. Rigorous measurement standards, and the certainty of government commitments can unlock business as a key multiplier of global restoration.

Commitment to communities

Governments that have committed land to restoration have strived to achieve an optimal mix of land uses at a broader landscape scale, which enables compromises to be reached objectively, reducing conflicts over land-use. Those leaders have bravely stepped outside of short-term party politics to enact policies that improve the capacity of ecosystems to meet the needs of their communities.

The countries that have pledged reflect a vast range of geographies, political and socio-economic contexts, biophysical conditions, capacities and motivations – from achieving international environmental commitments, to advancing gender equity among smallholder farmers. What they all share is their ability to commit to a framework for their communities to work with nature – helping return degraded and deforested lands to health to create socio-economic opportunities.

In all cases, once the vision has been set, the Bonn Challenge becomes an implementation vehicle for realising national priorities, such as water and food security and rural development - while contributing to achieving international climate change, biodiversity and land degradation commitments, including the Paris Agreement.

Increasing ambition

The Bonn Challenge has already leveraged political support, knowledge generation and financial muscle for the restoration of millions of hectares. This will contribute to the Decade on Ecosystem Restoration, which the United Nations General Assembly has proclaimed for 2021–2030. The initial, 'big idea' – to implement a decade-long global restoration strategy – was conceived at the 3rd High Level Bonn Challenge Roundtable in 2018. Around that table, global leaders analysed the Bonn Challenge's real-world lessons – and the genesis of a strategy was born: to enable healthy restored ecosystems to play their vital role in assuring human survival.

Faced with global climate, biodiversity and land degradation emergencies, the impact of the Bonn Challenge can - and will – help to reverse centuries of damage to forests, drylands and other terrestrial ecosystems. Armed with the evidence, the stories of hope and collective action, we call for all governments to join us in placing 350 million ha under restoration by 2030. Plus, through sharing their stories we call for more countries to join us in restoring economies and ecosystems in parallel. By embedding FLR at the heart of development, we can realise a more equitable society, that works with nature to the benefit of all people.



For further information and to discuss joining the Bonn Challenge, please contact: bonnchallengesecretariat@iucn.org

1. FAO, 2020. 2. <https://www.sciencedaily.com/releases/2015/09/150915090404.htm>. 3. <https://www.weforum.org/reports/new-nature-economy-report-ii-the-future-of-nature-and-business>. 4. <https://www.iucn.org/news/nature-based-solutions/202007/iucn-standard-boost-impact-nature-based-solutions-global-challenges#:~:text=The%20new%20IUCN%20Global%20Standard,challenges%20on%20a%20global%20scale>.



Join us to scale our impact in the UN Decade on Ecosystem Restoration

For further information and to discuss joining the Bonn Challenge,
please contact: bonnchallengesecretariat@iucn.org

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