CFA Newsletter

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From Abuja to Cairo: my COP27 experience

Gabriel Obhio Aborele at COP27

My journey to Egypt started on Sunday, 6th November, 2022, on board an Ethiopian airline from Abuja to Cairo via Addis Ababa. On getting to Cairo around 1:40am of 7th November, I, with some other conference delegates on board the same flight decided to go by vehicle to Sharm El-Sheikh, a journey that is more than six hours drive by road as a cheaper option, as the trip was self-funded. I was highly impressed with the road network, one of the best I have seen in Africa. Accommodation was my greatest challenge while at Sharm el Shelkh, I paid $120 per night for the one week I stayed. This was rather too high for me but passion to have my voice heard sustained me.

At COP27, I join other Civil Society groups to amplify our voices for developed countries to take urgent steps towards having a concrete finance plan to help developing countries affected by climate crises. Africa global emission rate

Panel discussion at COP27

is about 4% and still the worst hit by climate crisis. Just before the COP27, we witnessed a devastating flood in Nigeria and some other countries lives were lost, livelihoods destroyed and homes submerged. There is a prediction that the trend will continue if urgent steps are not taken by countries to cut down on their emission that is triggering the change in Climate.

I participated in a scheduled side event on the 12th November 2022; jointly organized by **Green Mobilisation Initiative** with other African Civil Society organisations e.g. Women Environmental Programme (WEP), Angel Support Foundation, CARE International, and Support for Women in Environment (SWAGEN).

The joint Side event was tagged: *Delivering Climate Justice for the vulnerable populations and regions* and it drew attention to vulnerable populations and regions that will continue to experience severe climate change impacts if steps are not taken for them to adapt to climate change. Some of the issues we canvassed include severe flooding, submerged homes, destroyed livelihoods, and more importantly loss of human lives. These along with other issues necessitated demand for climate justice for vulnerable populations and regions.

It is noteworthy that countries for the first time have recognized the need for financial support to respond to loss and damages associated with catastrophic effects of climate change, thereby establishing a fund with necessary funding arrangements. This is cheering news as it would set the pace for conversation in years to come on how to compensate communities hit by climate crisis.

At the conference, I also discussed and sought collaborations from other organisations for funding support in some GMI activities such as tree planting programmes (#GreenNigeria schoolsprojects), WASH (Menstrual hygiene management) in Nigerian Schools and our quest to establish an Ecosystem Restoration Camp in Nigeria.

The climate crisis is affecting livelihoods and the effect could be seen in high migration to the cities, high crime rate, food insecurity, high rate of deforestation etc. Some of the effects are why GMI is committed to such issues as restoring degraded lands, supporting communities to conserve their forests, promotion and maintaining home gardens, delivering of quality plant seedlings and finally engaging our youths in tree planting and ecosystem restoration designs. We are also committed to telling stories of communities affected by climate crisis and seek solution on its remediation. Capacity building is also part of our structure as we organise planning alternative livelihoods for communities affected by climate change.

The next COP28 will be held in the United Arab Emirates from 30th November to 12th December, 2023. We are open to collaborations from individuals, organisations or governments. We are proposing joint side events which will bring more of our youths to be part of this global event.

Gabriel Obbio ABORELE is a CFA member and serves as the Chief Facilitator and Founder of Green Mobilisation Initiative (GMI), a Non-Governmental Organization recognised by United Nations Economic and Social Council (ECOSOC) within the Special Consultative Status. GMI has Observer status with the United Nations Framework Convention on Climate Change (UNFCCC) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).

GMI is committed to promoting public awareness on tree planting, forest restoration, ecosystem restoration designs for degraded lands and alternative livelihoods planning for communities around protected areas. Our accreditations had enabled GMI participate in UNFCCC organised programmes like the Conference of Parties (COP) and its subsidiary bodies meeting sessions on issues relating to Climate Change negotiations.

Forest Scenes

More than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows

Investigation into Verra carbon standard finds most are 'phantom credits' and may worsen global heating

The forest carbon offsets approved by the world's leading certifier and used by Disney, Shell, Gucci and other big corporations are largely worthless and could make global heating worse, according to a new investigation. The research into Verra, the world's leading carbon standard for the rapidly growing $2bn (£1.6bn) voluntary offsets market, has found that, based on analysis of a significant percentage of the projects, more than 90% of their rainforest offset credits – among the most commonly used by companies – are likely to be "phantom credits" and do not represent genuine carbon reductions.

The analysis raises questions over the credits bought by a number of internationally renowned companies – some of them have labelled their products "carbon neutral", or have told their consumers they can fly, buy new clothes or eat certain foods without making the climate crisis worse. But doubts have been raised repeatedly over whether they are really effective.

The nine-month investigation has been undertaken by **the Guardian**, the German weekly **Die Zeit** and **SourceMaterial**, a non-profit investigative journalism organisation. It is based on new analysis of scientific studies of Verra's rainforest schemes. It has also drawn on dozens of interviews and on-the-ground reporting with scientists, industry insiders and Indigenous communities. The findings – which have been strongly disputed by Verra – are likely to pose serious questions for companies that are depending on offsets as part of their net zero strategies.

Verra, which is based in Washington DC, operates a number of leading environmental standards for climate action and sustainable development, including its verified carbon standard (VCS) that has issued more than 1bn carbon credits. It approves three-quarters of all voluntary offsets. Its rainforest protection programme makes up 40% of the credits it approves and was launched before the Paris agreement with the aim of generating revenue for protecting ecosystems.

Verra argues that the conclusions reached by the studies are incorrect, and questions their methodology. And they point out that their work since 2009 has allowed billions of dollars to be channelled to the vital work of preserving forests.

The investigation found that:

- Only a handful of Verra's rainforest projects showed evidence of deforestation reductions, according to two studies, with further analysis indicating that 94% of the credits had no benefit to the climate.
- The threat to forests had been overstated by about 400% on average for Verra projects, according to analysis of a 2022 University of Cambridge study.
- Gucci, Salesforce, BHP, Shell, easyJet, Leon and the band Pearl Jam were among dozens of companies and organisations that have bought rainforest offsets approved by Verra for environmental claims.
- Human rights issues are a serious concern in at least one of the offsetting projects. The Guardian visited a flagship project in Peru, and was shown videos that residents said showed their homes being cut down with chainsaws and ropes by park guards and police. They spoke of forced evictions and tensions with park authorities.

To assess the credits, a team of journalists analysed the findings of three scientific studies that used satellite images to check the results of a number of forest offsetting projects, known as Redd+ schemes. Although a number of studies have looked at offsets, these are the only three known to have attempted to apply rigorous scientific methods to measuring avoided deforestation.

The organisations that set up and run these projects produce their own forecasts of how much deforestation they will stop, using Verra's rules. The predictions are assessed by a Verra-approved third party, and if accepted are then used to generate the credits that companies can buy and use to offset their own carbon emissions.

For example, if an organisation estimates its project will stop 100 hectares (247 acres) of deforestation, it can use a Verra-approved formula to convert that into 40,000 CO_2e (carbon dioxide equivalent) of saved carbon emissions in a dense tropical forest if no deforestation takes place, although the formula varies according to habitat and other factors. Those saved emissions can then be bought by a company and applied to its own carbon reduction targets.

Two different groups of scientists – one internationally based, the other from Cambridge in the UK – looked at a total of about two-thirds of 87 Verra-approved active projects. A number were left out by the researchers when they felt there was not enough information available to fairly assess them.

The two studies from the international group of researchers found just eight out of 29 Verra-approved projects where further analysis was possible showed evidence of meaningful deforestation reductions.

The journalists were able to do further analysis on those projects, comparing the estimates made by the offsetting projects with the results obtained by the scientists. The analysis indicated about 94% of the credits the projects produced should not have been approved.

Credits from 21 projects had no climate benefit, seven had between 98% and 52% fewer than claimed using Verra's system, and one had 80% more impact, the investigation found.

Separately, the study by the University of Cambridge team of 40 Verra projects found that while a number had stopped some deforestation, the areas were extremely small. Just four projects were responsible for three-quarters of the total forest that was protected.

The journalists again analysed these results more closely and found that, in 32 projects where it was possible to compare

Verra's claims with the study finding, baseline scenarios of forest loss appeared to be overstated by about 400%. Three projects in Madagascar have achieved excellent results and have a significant impact on the figures. If those projects are not included, the average inflation is about 950%.

The studies used different methods and time periods, looked at different ranges of projects, and the researchers said no modelling approach is ever perfect, acknowledging limitations in each study. However, the data showed broad agreement on the lack of effectiveness of the projects compared with the Verra-approved predictions.

Two of the studies have passed the peer review process and another has been released as a preprint. However, Verra strongly disputed the studies' conclusions about its rainforest projects and said the methods the scientists used cannot capture the true impact on the ground, which explains the difference between the credits it approves and the emission reductions estimated by scientists.

The carbon standard said its projects faced unique local threats that a standardised approach cannot measure, and it works with leading experts to continuously update its methodologies and make sure they reflect scientific consensus. It has shortened the time period in which projects must update the threats they face to better capture unforeseen drivers, such as the election of Jair Bolsonaro in Brazil. Verra said it already used some of the methods deployed by the researchers in its own standards, but does not believe they are appropriate for this project type.

Robin Rix, Chief Legal, Policy, and Markets Officer, Verra, told the Guardian: "It is absolutely incorrect to say that 90% of Verra-certified REDD+ credits are worthless. The article bases this false claim on extrapolations of three reports by two different groups, who assessed a small number of projects using their own methodologies. We will publish our own complete assessment shortly.

"The main criticisms of Verra's REDD+ methodologies cited in the article have already been addressed by a review that has been underway since 2021. The multiple methodologies currently used for avoiding unplanned deforestation projects are being consolidated, and a jurisdictional allocation approach is being adopted. Meanwhile, project baselines are now re-assessed every six years rather than ten.

"Verra has certified over 1,500 carbon projects, which have been assessed tens of thousands of times by third party auditors. They have delivered billions of dollars for rural areas in the global south, in support of action on climate change and biodiversity loss. This level of finance was delivered due to strong standards and methodologies, which we will continue to strengthen, in cooperation with governments, scientists, and local communities all over the world."

Verra was specifically concerned with the use of "synthetic controls", where the international group picked comparable areas and used them as a basis for deforestation measurements. Verra felt this was problematic because the controls might not reflect pre-project conditions, and also would compare the project with a hypothetical scenario rather than a "real area, as Verra does". But the study authors argue that this mischaracterises their work: the comparison areas used in both cases are real areas, with deforestation levels based on rates that are local to the projects. The Cambridge group does not use synthetic controls.

"I have worked as an auditor on these projects in the Brazilian Amazon and when I started this analysis, I wanted to know if we could trust their predictions about deforestation. The evidence from the analysis – not just the synthetic controls – suggests we cannot. I want this system to work to protect rainforests. For that to happen, we need to acknowledge the scale of problems with the current system," said Thales West, a lead author on the studies by the international group.

Erin Sills, a co-author in the international group and a professor at North Carolina State University, said the findings were "disappointing and scary". She was one of several researchers who said urgent changes were needed to finance rainforest conservation.

"I'd like to find that conserving forests, which conserves biodiversity, and conserves local ecosystem services, also has a real effective impact on reducing climate change. If it doesn't, it's scary, because it's a little bit less hope for reducing climate change."

David Coomes, a professor of forest ecology at the University of Cambridge who was a senior author on a study looking at avoided deforestation in the first five years of 40 Verra schemes, was part of the Cambridge group of researchers. He reviewed the Guardian's findings and said there was a big gap between the amount of deforestation his team estimated the projects were avoiding and what the carbon standard was approving.

"It's safe to say there are strong discrepancies between what we're calculating and what exists in their databases, and that is a matter for concern and further investigation. I think in the longer term, what we want is a consensus set of methods which are applied across all sites," he said.

Julia Jones, a co-author and professor at Bangor University, said the world was at a crossroads when it came to protecting tropical forests and must urgently correct the system for measuring emission reductions if carbon markets are to be scaled up.

"It's really not rocket science," she said. "We are at an absolutely critical place for the future of tropical forests. If we don't learn from the failures of the last decade or so, then there's a very large risk that investors, private individuals and others will move away from any kind of willingness to pay to avoid tropical deforestation and that would be a disaster.

"As someone who sits outside of the kind of cut and thrust of the wild west that is the carbon markets, I need to believe it can be made to work because money is needed to fund the emissions reductions from forest conservation."

Yadvinder Singh Malhi, a professor of ecosystem science at the University of Oxford and a Jackson senior research fellow at Oriel College, Oxford, who was not involved in the study, said two of his PhD students had gone through the analysis without spotting any errors.

"This work highlights the main challenge with realising climate change mitigation benefits from Redd+. The challenge isn't around measuring carbon stocks; it's about reliably forecasting the future, what would have happened in the absence of the Redd+ activity. And peering into the future is a dark and messy art in a world of complex societies, politics and economics. The report shows that these future forecasts have been overly pessimistic in terms of baseline deforestation rates, and hence have vastly overstated their Redd+ climate benefits. Many of these projects may have brought lots of benefits in

terms of biodiversity conservation capacity and local communities, but the impacts on climate change on which they are premised are regrettably much weaker than hoped. I wish it were otherwise, but this report is pretty compelling."

Shell told the Guardian that using credits was "in line with our philosophy of avoid, reduce and only then mitigate emissions". Gucci, Pearl Jam, BHP and Salesforce did not comment, while Lavazza said it bought credits that were certified by Verra, "a world's leading certification organisation", as part of the coffee products company's "serious, concrete and diligent commitment to reduce" its carbon footprint. It plans to look more closely into the project.

The fast food chain Leon no longer buys carbon offsets from one of the projects in the studies, as part of its mission to maximise its positive impact. EasyJet has moved away from carbon offsetting to focus its net zero work on projects such as "funding for the development of new zero-carbon emission aircraft technology".

Barbara Haya, the director of the Berkeley Carbon Trading Project, has been researching carbon credits for 20 years, hoping to find a way to make the system function. She said: "The implications of this analysis are huge. Companies are using credits to make claims of reducing emissions when most of these credits don't represent emissions reductions at all.

"Rainforest protection credits are the most common type on the market at the moment. And it's exploding, so these findings really matter. But these problems are not just limited to this credit type. These problems exist with nearly every kind of credit.

"One strategy to improve the market is to show what the problems are and really force the registries to tighten up their rules so that the market could be trusted. But I'm starting to give up on that. I started studying carbon offsets 20 years ago studying problems with protocols and programs. Here I am, 20 years later having the same conversation. We need an alternative process. The offset market is broken."

theguardian.com

CIFOR-ICRAF scientists caution not to abandon forest carbon offsets, in wake of critical coverage

- Carbon offsetting is a popular strategy for individuals and companies looking to offset their carbon footprint and mitigate the effects of climate change. One way to do this is through planting forests or trees. While this approach has its benefits, it also has its drawbacks
- Forest carbon offsets and REDD+ can help reduce deforestation and forest degradation – but those without proper oversight may have limited impact
- Effective REDD+ projects can reduce greenhouse gas emissions, support the rights of Indigenous Peoples and local communities – and the women within those groups – as well as reducing deforestation and forest degradation and providing additional tree cover in agricultural landscapes
- To meet the Paris Agreement goals, we must reduce our use of fossil fuels by 90%, and REDD+ remains an effective solution for sectors that cannot be decarbonised, while also supporting biodiversity and ecosystem services

An article in *The Guardian* on 18 January 2023 questions the effectiveness of REDD+ and forest carbon offsets if projects lack the proper oversight and monitoring standards necessary to achieve their goals of reducing carbon emissions and forest degradation.

But scientists at the Center for International Forestry Research and World Agroforestry (CIFOR-ICRAF) are cautioning governments from abandoning the practice altogether, emphasizing the critical need to reduce our greenhouse gas emissions and the effective role REDD+ can play in mitigating the effects of industries that cannot decarbonise.

"Carbon offsetting is often presented as a panacea or as a dangerous distraction in relation to mitigating greenhouse gas emissions. It is neither one nor the other," says Dr Robert Nasi, acting CEO of CIFOR-ICRAF, a global research and development organisation with more than 75 years of experience in harnessing the power of trees, forests, and agroforestry landscapes to address the most pressing global challenges of our time – biodiversity loss, climate change, food security, livelihoods, and inequity.

To achieve the goals set by the Paris Agreement, we must drastically reduce our dependence on fossil fuels by 90%. But as not all sectors can be decarbonised, this is where scientifically sound, equitable and transparent carbon offset schemes can play a role. Forests and trees (and the oceans) are particularly effective at absorbing and storing carbon dioxide. They also provide many other benefits: they are home to a diverse array of plant and animal species, and they help to regulate the Earth's climate by releasing water vapour and absorbing sunlight. Forests also help to protect against soil erosion and flooding and provide resources such as timber and non-timber products.

Win-win forest and tree-based solutions thus include:

- Protecting intact, and largely intact, forests to preserve biodiversity and ecosystem services. Indigenous-controlled lands play a major role here
- Managing production forests and plantations better, to provide much-needed materials for shifting from a fossil-fuel-based to a bio-based economy, and replace materials with high carbon impact like cement and steel
- Increasing the presence of trees in agricultural lands through diverse agroforestry systems
- Restoring, in a locally adapted and accepted manner, the vast amount of degraded land on our planet, to yield a bundle of critical ecosystem-based goods and services

Each of these solutions has the potential to become forest or tree-based carbon offsets; they also bring along a myriad of other benefits, with carbon storage becoming one of the by-products of better care of our land.

However, carbon offsetting through forests and trees also has its downsides. One major concern is that these projects can displace local communities, particularly in developing countries where land is often scarce. Furthermore, many carbon offsetting projects take place in remote areas, making it difficult to monitor and verify the actual carbon sequestration taking place. Another problem with carbon offsetting through forests and trees is that it is often a short-term solution to a long-term problem. Trees and forests take time to mature and reach their full carbon sequestration potential, and even then, they may not be able to fully offset the emissions being produced.

In sum, carbon offsetting through forests and trees can be a valuable tool in the fight against climate change, but it is important to approach it with caution. Careful consideration must be given to the potential negative impacts on local communities and the need to monitor and verify carbon sequestration. It is also important to recognise that while carbon offsetting through forests and trees can help, it is not a substitute for reducing our overall carbon emissions. It's clear that carbon offset projects will never be able to curb the emissions growth if fuel-fed power stations continue to be built or petrol cars continue to be bought.

"We are like the Red Queen in Alice in Wonderland who needs to run endlessly to stay in the same place," says Nasi. "This is not to say that carbon offset projects should stop – quite the opposite. We must continue to restore forests and peatlands while also scaling up renewable energy and energy efficiency projects via offset schemes. But it cannot simply be an excuse to continue business as usual. Like the Red Queen, we must run faster if we want to go somewhere."

CGIAR.org

Asian demand for timber to intensify pressure on Central Africa's forests

Stricter European controls to ensure the legality of wood has diverted export to Asian countries

Wood truck belonging to timber company Fabrique Camerounaise de paquets (FIPCAM) carries a log cut from a forest near the village of Ngon in Ebolowa, Cameroon. Photo by Ollivier Girard/CIFOR

As the global demand for wood soars and considering Central Africa's large reserves, there is a likelihood that timber export, notably to China and other Asian countries, will ramp up pressure on the sub-region's 200 million hectares of dense humid forests; over half of which are unclassified, experts have posited in a new report.

In the last 10 years, timber exports to Europe from Central Africa have more than halved, falling from 1.4 billion USD to 600 million USD in value, according the report titled Congo Basin Forests – State of the Forests 2021 and produced by Central Africa Forest Observatory (OFAC). Much of Central Africa's 4.2 million tonnes of wood over this period has gone to markets in Asia.

According to Nicolas Bayol and other researchers, who examined timber sector trends in the Congo Basin for the report, the implementation of stricter European control measures to guarantee the legality of wood, notably the FLEGT Voluntary Partnership Agreements, has driven wood export from Central

Africa to Asia. This trend has positioned China as the sub-region's first trading partner – with the country buying wood worth 1 billion USD in 2019.

The researchers also advanced the growing lack of competitiveness of products from primary and secondary processing, which Central African countries mostly produce, as reason for Europe's lack of interest in sourcing from the sub-region. According to the researchers, European importers of raw logs, square-edged timber and scantlings now prefer to turn to competing semi-finished products from South America and South-East Asia since they are cost effective in terms of storage, ready-to-use and can easily be transported by container.

"Despite measures taken to encourage forest operators to develop higher value-added products, the delay by Central African countries remains quite significant due to lack of infrastructures, non-standard transport cost and lack of training in timber-related jobs," Alain Ngoya Kessy, an independent forestry consultant and one of the contributors to the report, said. This pushes operators to turn to markets in Asia and China which are less demanding in terms of quality.

It emerged from findings that timber production in Central African countries has relatively been stable in the last 25 years and was spared by the coronavirus pandemic, with production even growing in 2020 to exceed 8 million cubic metres (m^3). However, Gabon which unilaterally banned the export of raw logs witnessed a drop in production from 2008 to 2012, when production began to pick up again. In 2019, Gabon returned to its pre-1998 production level and in 2020 topped 3 million m^3 – its level of harvesting before the log ban. Across the sub-region, production remains highly concentrated on "flagship" species including Okoume, Sapeli, Frake, Ayous, Limbali, Sorro, Ilomba, Dabema, Tali, Emien, Essia, Padouk S, Eveuss, Ohia/Diana, Fromager and Tchitola.

Besides Gabon which processes the entirety of its harvested timber with the Nkok Special Economic Zone as a reference, the timber processing rate amongst countries of Central Africa varies: Cameroon, 70% of 2.5 million m^3; DR Congo, 55% of 300,000 m^3; Central African Republic, 55% of 550,000 m^3; Congo, 55% of 1.8 million m^3; and Equatorial Guinea, 20% of 800,000 m^3. But most of the countries' exports are largely dominated by primary processing.

For several years now, schemes including private certifications and institutional mechanisms have been put in place to incentivize timber producers to adhere to legal and sustainable management approaches. But such efforts in Central African countries have been thwarted by high implementation costs, low-paying markets, pressure from stakeholders, inadequate governance and difficulties in complying with regulatory requirements, until 2018 when the certification dynamic changed. So far, Cameroon, Congo and Central African Republic have signed FLEGT Voluntary Partnership Agreements with the European Union, the researchers said, while DR Congo and Gabon are in negotiation.

While certification schemes help to ensure that only legally harvested timber is traded, poor oversight of the timber sector in local markets – which accounts for a significant portion of timber harvest – undermines the sustainability of forest resources and produces no direct benefits for Central African countries.

Besides contributing to anti-poaching efforts, through agreements logging concessionaires sign with states, the researchers found that logging operations play a key role in maintaining ecosystem services in Central Africa's 54 million ha of forests of production mainly classified as forest concessions.

"In Central Africa, in selectively logged forests, cutting operations do little harm to the carbon stock, the loss being on average less than 10% of the initial volume of the area cut annually. With a rotation of 25 to 30 years, this represents only about 0.3% to 0.4% of the total annual carbon stock, which is well below the annual growth of tropical forests of about 1.5%," Caroline Duhesme of International Tropical Timber Technical Association (ATIBT), one of the contributors to the report, highlighted.

To ensure the sustainability of timber resources, the researchers recommended that development plans drawn up in the early 2000s and which have proven to be quite good harvest planning tools must be refined and adapted to the specificities of the concessions. This, as the oldest developed concessions still active in Central Africa are beginning their last five-year cycle.

forestnews.cifor.org

Refugees planning together for sustainable forest management

New brief outlines approach to address social, environmental and economic challenges resulting from mass migration in Cameroon

In Cameroon, migrating populations from the Central Africa Republic have no choice but to move away from conflict or resource-depleted landscapes for survival. Refugees in these situations have limited livelihood options, and for daily cooking and heating needs, firewood is often the most available source of energy, while collecting and selling firewood also provide cash income.

But the impacts of mass migration on the wider environment can be devastating. Because refugees do not own the land they depend on for a living, disputes may result over use of limited natural resource use. Woodfuel collection also leads to other impacts, such as soil erosion and land degradation, affecting both local and refugee community livelihoods.

In Garoua Boulaï, a city located in the Eastern part of Cameroon and close to the border with Central Africa republic, satellite images taken before the arrival of refugees in 2015 and 2019 show massive depletion from 83% to 35% of mature secondary forests within a 10 kilometre radius of the city, replaced by grassy savanna. As of May 2021, the municipality hosted 60,277 refugees.

"When you have massive movements of people – for example, 300,000 people or more – they need a place to live,

Refugee woman carrying wood for cooking on fields near by refugee camp Gado-Badzere, East Cameroon. Photo by Emily Pinna/CIFOR

grow food, raise animals, and find pasture for them. This can have a greater than expected impact on natural resources," explains Leo Kortekaas, a senior development officer with the United Nations High Commissioner for Refugees (UNHCR).

Joining forces for people and planet

A new brief outlines an approach undertaken by the EU-funded Governing Multifunctional Landscapes Sustainable Woodfuel project to address the social, environmental and economic challenges resulting from mass migration. A team of researchers from the Center for International Forestry Research and World Agroforestry (CIFOR-ICRAF) provided technical support and co-designed, outlined and implemented a management strategy in partnership with a local non-governmental organization in Cameroon called *Action pour la Promotion et la CREation* (APCRE), which has experience in developing nurseries to promote land restoration as well as in raising awareness to protect the environment and building links between local and refugee communities.

As part of an integrated approach, other partners in the project included international, national, regional and local organizations such as the UNHCR, European Union, Lutheran World Federation, and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH; and local and national government agencies, as well as chiefs and refugee communities.

To manage reforestation efforts, more than 90,000 seedlings were planted in local nurseries by APCRE and communities between 2020 and 2021. Trees planted were a mix of nitrogen-rich and soil fertilizing woodfuel species such as *Acacia mangium* and fruit trees (avocado, citrus and nuts). Including fruit trees contributes to food and income security, as well as creating an incentive for producers to care for the trees planted in their fields.

Public agencies such as primary schools also received seedlings to raise awareness among children about the importance of trees and the need to preserve forests. Both host communities and refugees received training on tree planting, involving both men and women volunteers at each step.

Local ownership and clear responsibilities are key to reforestation success, and the project involved traditional and religious authorities to ensure follow up and protection of the tree nurseries. To prevent bush fires and grazing or trampling by stray livestock, the project recommended building enclosures, and involved communities in the monitoring of compliance through the establishment of rules such as watering young plants and protecting trees from fire or browsing animals.

Planning together early for success

"Including energy supply and livelihood options early on in a 'unified' conceptual framework for initial humanitarian interventions in refugee situations makes it easier to avoid damage and long-term impacts," said Abdon Awono, a CIFOR-ICRAF scientist and co-author of the brief.

"Fruit trees take on average 5–7 years to produce fruit and need rigorous care for the first three years after planting," he added. "So, community involvement and long-term follow-up and monitoring were essential elements of the project to ensure long-term forest management and improved cookstove adoption." Refresher training aimed to build capacity and care for trees or increase use of the improved cookstoves.

"The options developed in this project in Garoua Boulaï aim to contribute, over the long term, to ensuring a social and ecological balance in landscapes with vulnerable forest areas, to withstand pressure on resources and contribute to sustainable woodfuel value chains," said Awono.

There are many refugee settlements in East Cameroon, and this model could be useful for scaling out to other settlements. As it is based on an integrated landscape and value chain approach, this model involves multiple stakeholders at all stages to strengthen local governance and support awareness-raising campaigns and training.

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Faith groups help to save disappearing forests

Eric Bagenzi is on a mission to change the world – one tree at a time.

As a light breeze drifts through the mild afternoon air in early December 2022, the 33-year-old surveys a field in front of him, clipboard in hand. The landscape, located some 45km outside the Rwandan capital, Kigali, is a patchwork of grass, soil and pebble.

A few trees populate the field, some still young and diminutive, others barely protruding past the dirt.

But the important part is that the trees are there.

A number of schoolchildren, local residents and parishioners stand alongside Bagenzi, saplings and spades in hand. The group is gathered under the banner of the Anglican Church of Rwanda's Rural Development Interdiocesan Service.

They are on the front line of a faith-driven movement to bolster Rwanda's tree coverage in order to combat soil erosion, which threatens the livelihoods of at least 70 per cent of the country's population.

"I wanted to help my family and my country to fight this erosion that is reducing our production," Bagenzi says. "I know the importance of trees. When God created the Earth, He said: 'This is the garden where you are going to live. Please take care of these trees.'"

Rwanda's Anglican movement is part of a growing number of faith-based organizations helping to restore forests around the world. Inspired by spiritual teachings highlighting the intrinsic value of nature, these groups have planted an estimated hundreds of millions of trees in the last 20 years, according to new research from the United Nations Environment Programme (UNEP) and partners.

"Eight in 10 people globally follow a religious or spiritual tradition, most of whom consider protecting nature of critical importance," says Iyad Abumoghli, Director of UNEP's Faith for Earth Initiative.

"Faith-based organizations must therefore continue to demonstrate strong leadership by leading tree-growing projects, emphasizing the spiritual and cultural importance of addressing deforestation, and mobilizing communities to prevent, halt and reverse ecosystem degradation."

The perils of deforestation

Globally, some 10 million hectares of forests are lost annually, an area larger than Portugal. This deforestation drives species loss and reduces the ability of ecosystems to provide food, water, medicine, work and shelter to humans. Deforestation also causes more carbon emissions than all but two countries, and it can increase the spread of zoonotic diseases, endangering human health.

Agricultural expansion, unsustainable logging and the impacts of the climate crisis are among the main drivers of deforestation globally. Halting deforestation and maintaining forests could prevent emissions of approximately 3.6 gigatons of carbon dioxide equivalent.

Credit: Unsplash/Mitch Lally – Inspired by spiritual teachings, faith-based groups have planted an estimated hundreds of millions of trees in the last 20 years, according to new research from UNEP and partners.

Alongside curtailing deforestation, experts say that restoring forests, a process that includes tree-growing, is crucial. The restoration of 350 million hectares of deforested and degraded land by 2030 could deliver a net benefit of up to US$9 trillion, according to the Food and Agriculture Organization of the United Nations. Reforestation could cost-effectively take nearly 1.5 gigatons of carbon dioxide equivalent out of the atmosphere per year.

Reviving forests is a key part of the UN Decade on Ecosystem Restoration, a global push to revitalize a host of degraded landscapes and seascapes. Experts say crucial ingredients in forest restoration include growing the right trees in the right places and respecting the spiritual value of certain tree species. Local forest custodians, including indigenous and faith groups, often have a deeper understanding of the environment and native tree species from their long-term relationship with the area.

Indigenous peoples manage an estimated 25 per cent of Earth's land, and faith institutions own 8 per cent of habitable land. Experts say that building upon these groups' knowledge and outreach is therefore key to addressing deforestation, restoring forests and achieving the Sustainable Development Goals, humanity's blueprint for a better future.

The Faith for Earth Initiative and the Interfaith Rainforest Initiative, hosted by UNEP, are at the heart of this drive. Among the initiatives' main goals is to empower faith-based organizations to advocate for environmental protection and to provide them with knowledge and networks to bolster communication with decision makers and the public.

Environmentalism rooted in faith

From Canada to Fiji, gurdwaras, Sikh places of worship, are a cornerstone of Sikh communities and serve as a global networking system. In 2009, Ravneet Singh tapped into this network to help EcoSikh, the non-profit he works for, launch Sikh Environment Day. It was designed to inspire a stronger environmental connection within the Sikh community. Based in India and the United States, EcoSikh also has branches in Canada, the United Kingdom and Ireland.

"Each year, we promote the lessons from the scriptures and the needs that we must fulfil as Sikhs," Singh says. "The faith speaks about the environment, environmental protection, the species around us and the creation of resources like water, air and soil."

Sikh communities can draw inspiration from Guru Har Rai, the seventh spiritual master of Sikhism from 1644–61, who was an ecologist and environmentalist, says Singh.

For Bishop Jean Pierre Methode Rukundo of the Anglican Church of Rwanda's Karongi diocese, Christian teachings provide a similar message.

Credit: EcoSikh – Sikh communities have played an important role in leading tree-growing initiatives around the world.

"It is part of our mandate as the church to contribute to environmental protection according to what the Bible teaches," he says.

Without pause, Rukundo cites a few Bible passages from memory, linking them to the church's tree-growing efforts and its advocacy for the environment.

"What we do falls in line with government policies and biblical teachings. There is a complementarity and synergy working together."

New guidelines informed by decades of work

To guide faith-based organizations, Trillion Trees and WWF, in collaboration with UNEP, published the first-ever comprehensive guide to tree-growing this December.

Tree Growing for Conservation and Ecosystem Restoration draws upon the expertise of faith actors that have planted millions of trees. It features a simple, step-by-step approach to assist faith actors in developing and implementing tree-growing initiatives.

"The report provides a clear framework for faith groups to mobilize their communities to plant and grow trees in a way that contributes to larger ecosystem restoration," says Fran Price, WWF Global Forest Practice Lead. "These guidelines can help create transformational change for nature, people and the planet."

John Lotspeich, Executive Director of Trillion Trees, says the world must scale up efforts to protect, restore and regenerate forests by using science-led solutions and building upon the expertise of faith-based groups.

"We know that faith-based groups around the world are already growing millions of trees, and their work is invaluable in ensuring forests have a positive impact on the planet."

As faith-based organizations turn to the new guide, collaboration with other faith actors, indigenous peoples and governments is considered essential.

The Interfaith Rainforest Initiative is one important facilitator of this collaboration.

It plays an active role in five countries, including Peru, the fourth-largest rainforest country and one of the planet's most biodiverse areas. Some 350,000 indigenous people live in the Peruvian Amazon and indigenous groups manage one-fifth of the forest, according to the Interfaith Rainforest Initiative. Legal recognition of their management rights has significantly decreased deforestation and disturbance, reaffirming calls to acknowledge indigenous groups' stewardship across Peru and worldwide.

In parts of the Apurímac region, where an estimated 84 per cent of the population is indigenous and 78 per cent is Catholic, city officials are working with faith leaders to identify how religious groups and indigenous communities can inform policy-making, says Laura Vargas, the Interfaith Rainforest Initiative's facilitator for Peru. She describes this as "a very interesting step forward" in allowing local communities to defend their forests.

The path forward

Faith-based organizations are shaping the future of the planet – not only by guiding policy, but also by mentoring younger generations.

Credit: UNEP / Diego Rotmistrovksy – Some 350,000 indigenous people live in the Peruvian Amazon and indigenous groups manage one-fifth of the forest.

"We must continue to make progress for institutionalizing values-driven advocacy and best practices to tackle deforestation and environmental crises long into the future," says Abumoghli, Faith for Earth director.

For Bagenzi, from Rwanda, that means giving a platform to the youth. The Anglican church runs several schools in Rwanda, and faith leaders will accompany schoolchildren in the field, helping them plant trees while teaching them about the importance of playing an active role in faith and environmentalism.

"When you want to be sustainable, you can't only think about today. Involving young people is the best way to create better living conditions for tomorrow," Bagenzi says.

"The young are many, and the future is for them."

UNEP.org

Selectively logged forests are not broken

Tropical rain forests are disappearing at an alarming rate, threatening the world's richest ecosystems and crucial carbon stores in favor of immediate needs such as fuel and raw materials.

Conservation efforts focus mainly on preserving pristine and undisturbed old forests, yet selectively logged forests – where timber is not clear-cut, but instead selectively harvested – now make up about a third of rain forests worldwide.

"The ecological value of logged forests has been underestimated; they are not as broken as they look," said Yadvinder Malhi, an ecosystem ecologist from the University of Oxford who was involved in a large-scale biodiversity survey of forests and agricultural land in the state of Sabah, Malaysia, on the island of Borneo.

The results, which were published in December in the journal *Nature*, showed that logged forests can be buzzing with life and ecological functions and therefore have an important role to play in conservation.

Conservation Potential

Logged forests in the tropics are often seen as "degraded," a label that is used to justify clearing them for agriculture such as oil palm harvesting. "That label rightly draws attention to the necessity of old-growth forests for biodiversity but can be dangerous because it suggests logged forests are of low ecological value," said Malhi.

The data "can go beyond showing the value of logged forests to quantifying that value."

Ecologists have previously been unable to calculate exactly how ecosystem processes are affected by logging because of a lack of field data from the tropics, including species population counts.

To address this lack, Malhi and a team of researchers spent a decade collecting an extensive data set, including 36,000 measurements of tree growth rates and population data on 248 bird and mammal species from cameras, cage traps, and point counts.

"Their data [are] unusually rich," said Natalia Ocampo-Peñuela, a conservation ecologist from the University of California, Santa Cruz who was not involved in the study. "It means they can go beyond showing the value of logged forests to quantifying that value."

A Cascade of Sunlight

To quantify ecosystem function, the team calculated how much energy was produced and consumed through different levels of the feeding network and in adjacent sections of logged forest, old forest, and oil palm plantation.

Incoming sunlight supplies energy to the entire rain forest ecosystem. By tracing this energy flow up through the food web, researchers were able to measure the vibrancy of the logged forests in Sabah. Credit: Zoe G. Davies

All life on Earth is ultimately powered by energy in the form of sunlight, initially supporting plants and other photosynthesizing organisms, which in turn underpin the rest of the food chain by providing food for insects, birds, and mammals. "In our study we use this cascade of captured sunshine as an indicator of ecosystem vibrancy," said Malhi.

For each area, researchers measured the productivity of the vegetation – the amount of biomass in terms of leaves and roots – and then calculated how much food energy was being consumed by all the birds and mammals on the basis of their population densities. That gave them an estimate of the fraction

of captured sunshine moving through birds and mammals in the rain forest.

More Edible

"We expected that the logged forests would just be holding on, but they are equally if not more ecologically vibrant."

The surprise, said Malhi, was that the birds and mammals in the logged forests consumed twice as much food in the form of leaves and insects as those in the old forests. "We expected that the logged forests would just be holding on, but they are equally if not more ecologically vibrant."

The reason for this increased energy, said Malhi, is simply that the logged forests become more edible – the plants put their energy into rapid growth rather than protecting themselves with chemical defenses as they would in a mature forest.

That increase in plant growth can sustain more insects and in turn more birds and mammals. The disturbed canopy also allows more light onto the forest floor, explained Malhi, meaning larger animals like elephants and deer can access lower-level vegetation. "In some ways you can liken the logged forests to a salad bowl – the leaves are richer in nitrogen and protein," said Malhi.

"That doubling of energy is a remarkable indicator of the conservation potential of logged forests," said Pieter Zuidema, a forest ecologist from Wageningen University and Research in the Netherlands who was not involved in the study. "This could kick-start a new avenue of investigation into ecosystem energetics in human-modified forests throughout the tropics, where logging intensities and management strategies differ and energy flow might vary."

Changing Perceptions

These results don't mean logged forests are superior, cautions Malhi. "There are lots of reasons why old-growth forests are irreplaceable – including their biomass, carbon stores, and rare species."

"Old forests can't be beaten in terms of their biodiversity," said Ocampo-Peñuela. "But mosaics of different land covers are becoming more common, and that means the landscape needs better protection as a whole, whilst balancing society's needs." She added that conservationists are increasingly seeing the need for this kind of holistic approach, but data on how different land types can complement each other are missing from the global conversation.

For Malhi, the findings are a ray of hope in the concerning trend of global deforestation, showing how resilient nature can be in the right circumstances. "We're not implying that it's fine to log more old-growth forests; this is about changing the perception that logged forests are somehow ruined ecosystems."

eos.org

Tech titans embrace responsible forestry

While many companies focus sustainability efforts on their products and other consumer touch points, two of tech's largest companies are including large facility construction and remodel projects as a foundation to their efforts having a 'nature-positive' approach.

Large organizations have large facilities; and large facility construction uses a lot of resources. A strong sustainability program aims to increase positive impacts while making the operational efforts part of the organization's internal and external story, inspiring stakeholders and creating brand value. The intersection of large facilities and a strong sustainability program can have far-reaching and long-lasting positive effects – especially in our forests and natural environment.

Thanks to **COP15** and the resulting **Global Biodiversity Agreement** signed by over 190 countries, the critical issue of biodiversity loss has been catapulted into the spotlight and many corporate and financial plans. The **World Economic Forum**'s ***2022 Global Risks Report*** identifies biodiversity loss as the third most severe risk on a global scale over the next 10 years. Healthy, responsibly managed forests support biodiversity, maintain water quality, sequester carbon for long periods of time, and produce vast quantities of oxygen.

A peer-reviewed study by **Ecotrust** and the **University of Washington** showed that forests managed to **Forest Stewardship Council** (**FSC**) standards are globally significant in their ability to store large quantities of carbon, which is key to mitigating the effects of climate change. The range of additional carbon storage extended from 13 percent to 69 percent more in FSC-certified forests, with an average of approximately 30 percent more than legal management practices alone.

While many companies focus sustainability efforts on their products and the point where the brand meets the consumer, two of tech's largest companies are including large facility construction and remodel projects as a foundation to their efforts having a "nature-positive" approach. When it comes to wood and forest products, responsible sourcing is of utmost importance.

META

Within **Meta**'s global real estate portfolio of commercial office space and data centers, the inclusion of FSC-certified wood has been a component of sustainable design and construction standards for over five years. For data centers owned and constructed by Meta, project specifications require 100 percent FSC certification for all new, permanently installed wood. As of 2017, the company's data center projects averaged 94 percent FSC-certified wood, totaling 16.9 million square feet globally.

To achieve these goals, Meta has integrated the requirement for FSC wood into its project-delivery process, coordinating with design and construction partners on every site to support compliance. When complications and project-specific constraints arise, such as long lead times or supply chain issues (especially during the pandemic), the sustainability team troubleshoots with their general contractors and timber suppliers to exhaust all options before relaxing requirements. Additionally, its data center portfolio of in-flight projects is also on target to comply with this FSC requirement.

Meta's design standards for office spaces also include 100 percent FSC-certified criteria for all permanently installed wood products. Since including FSC within its workplace Healthy and Sustainable Materials Standards for office spaces in 2015, it is estimated that at least 50 percent of permanently installed wood

procured across the portfolio is FSC-certified, with multiple offices exceeding this baseline and hitting over 95 percent compliance. Meta's recently completed, 440,000-square-foot construction project on the West Coast successfully procured 98 percent FSC-certified wood. Similar to the implementation process for data centers, a sustainability subject matter expert on all office developments educates and supports global design and construction teams in meeting office space standards.

With over 180 offices across 40 countries, Meta faces challenges with market availability and cost premium associated with FSC-certified wood. Steps to meet compliance wherever feasible include educating local project teams and timber suppliers on the preference for FSC-certified products. This hands-on approach of supporting suppliers has resulted in several instances of wood vendors and fabricators earning FSC certification to comply with Meta requirements and uphold the chain of custody of their inventory. Many of these companies were open to achieving certification; and the motivation and education from the building-owner side was a key component sometimes lacking in their regional industry.

"These accomplishments are both beneficial to our sustainability goals and create a lasting, positive impact on local markets and supply chains," says **Amruta Sudhalkar**, Senior Sustainability Program Manager at Meta. "We remain committed to increased market transformation by leveraging our buying power and holding our development teams accountable in supporting robust, sustainable forestry standards."

GOOGLE

At **Google**, sustainability was a central tenet of design and development of its **Bay View** and **Charleston East** campuses. As Google's first-ever ground-up development projects, Bay View and Charleston East provided an opportunity to design places that embody Google's values of building and operating sustainably, being a helpful neighbor, and creating the best places to work.

Both projects pursued **LEED-NC v4 Platinum** certifications, as well as **Living Building Challenge** (**LBC**) **Petal** certifications – **Water Petal** at Bay View and **Materials Petal** at Charleston East. These certifications served as strong drivers for the project teams in their pursuit of sustainable design and performance, while also offering Google highly credible platforms to tell the story of their work advancing sustainability in the building material industry.

From day one, Bay View and Charleston East prioritized building materials that advanced Google's sustainability goals, from selecting salvaged products to materials with healthy chemistry. Much of the sustainable-materials effort was about enabling the entire team – from designers to engineers to the construction team – to rethink long-held conventions about building materials by aligning everyone on a shared vision for sustainable and human-centric buildings.

One major pillar of Charleston East and Bay View's sustainable material goals was sourcing as much lumber as possible from FSC-certified responsibly managed forests. Over 96 percent of all new wood used in the Bay View campus is FSC-certified, supporting Google's goals to build and operate sustainably while delivering healthy, biophilic workplaces. One example is the FSC-certified Birch plywood that serves as the cladding for conference rooms. This material not only helped with wayfinding in the building, but also added elements of biophilia into the space by introducing natural patterns of wood.

Charleston East – which is currently under construction – is striving to achieve 100 percent FSC-certified wood for both temporary construction uses and permanent building fixtures. This goal, supported by the project's LBC Materials Petal certification pursuit, has challenged the project team to prioritize responsible sourcing from the outset of construction for uses such as concrete formwork and temporary lagging. FSC wood also features prominently in the design of the building itself: The structural system is clad in FSC-certified CLT (cross-laminated timber).

Between Bay View and Charleston East, sourcing FSC lumber has not only served to minimize the developments' impact on global forests – it also advances Google's vision to create places where architecture, nature and people can co-exist in harmony for decades to come. Beyond these two sites, the sustainability innovations at Charleston East and Bay View inspired systems and strategies that are now helping teams achieve Google's ambitious corporate sustainability commitments in projects across the company's global real estate portfolio.

Due to excellence in their support of responsible forestry, both Meta and Google's Bay View and Charleston East projects are **2022 FSC Leadership Award Winners**.

sustainablebrands.com

Post-flood demand for firewood piles pressure on Pakistan's forests

In the wake of last year's floods, when stores of wood were lost and gas supplies damaged, people across Pakistan have turned to forests for fuel.

In July 2022, 28-year-old Haroon Jan finished storing away a carefully planned stock of firewood in his home in Mankyal village, in northern Pakistan's Khyber Pakhtunkhwa province. Jan planned to use the wood to keep him and his family warm through the coming winter, and for maintenance of their house. But just a month later, flash floods hit Mankyal. The gushing water swept away Jan's house, and the wood stored inside.

"It happened within the blink of an eye," Jan recalls. 34 people lost their lives in Khyber Pakhtunkhwa's Swat district during flash floods in August 2022, according to a spokesperson from the Swat government who spoke with The Third Pole. As many as 1,049 houses were damaged in Bahrain tehsil (subdistrict), in Swat, on 26 August alone. After the floods, Jan and his fellow villagers turned to the nearby mountain forests to replenish the wood stock they had lost.

According to Zubair Torwali, an environmental activist from Kalam in Swat district who spoke with The Third Pole in November 2022, "Pressure on forests in Swat has doubled since recent floods with little to no check from authority."

Collecting firewood (Image: Jeremy Graham / Alamy)

Similar scenes have occurred across Pakistan since massive floods driven by extreme monsoon rainfall hit the country in July and August 2022, experts tell The Third Pole. Around 8 million people were displaced, and faced both limited access to firewood and unprecedented gas outages, as major gas supply lines were damaged. Many people affected by the floods were left with no option but to cut down trees for fuel to cook with and heat their homes.

"They will survive this winter by cutting these forests but are they ready to survive next floods, that will come due to deforestation?" said Abdur Raheem Ziaratwal, a former provincial minister in Balochistan. "We are born alongside these trees, they are our lifeline and the lungs of the environment – save them or no one can save you from disasters," Ziaratwal told The Third Pole.

'Timber mafia' exploit opportunity

The juniper forests of Ziarat, in southwest Pakistan's Balochistan province, extend across more than 110,000 hectares and are the second largest juniper forests in the world, according to Pakistan's submission to UNESCO to recognise the forests as a World Heritage Site. Some trees in the forests may be thousands of years old.

Local people have always gathered wood for their daily use from the forests. But according to Mahmud Tareen, a Ziarat resident and environmental activist, "Post-flood stress on these forests is unprecedented."

While condemning the environmental impact of the deforestation, Tareen noted that locals have no alternative source of fuel. "If they don't cut trees for firewood, the option is to die of cold," he told The Third Pole. Temperatures frequently dip below zero during winter in the Balochistan cities of Quetta and Ziarat.

One factor exacerbating the situation has been illegal loggers jumping at the economic opportunity presented by heightened demand for timber. According to Malik Achakzai, assistant professor at Balochistan University's Department of Journalism, the cities of Ziarat, Quetta and Qalat were flooded with firewood from October, when gas outages coincided with the arrival of cold weather. Aware of people's desperation, in October 2022 sellers in Ziarat and Quetta were charging PKR 2,000–2,500 (USD 9–11] for a donkey-load of firewood from the juniper forests, compared to PKR 500–800 (USD 2.5–4) before the floods, Achakzai told The Third Pole.

Zubair Torwali described a similar situation in Swat, in northern Pakistan. "In the past, the timber mafia was not that greedy. They would cut large trees and leave behind its branches and fallen trees – people would mostly use [those] as firewood. But now [after the floods], the timber mafia don't leave them behind, so people cut standing trees to fulfil their needs. That adds pressure on the forests."

Tree loss was also witnessed in Sindh province, in southeastern Pakistan, in the aftermath of last year's floods. "Logging in the riverine forests on the River Indus and coastal mangroves intensified after the floods last year in September, as even those who would [previously] use gas are now dependent on firewood," Ghulam Jaffar, a forest range officer in the Sindh Forest Department, told The Third Pole.

Pakistan's need for firewood

According to a 2018 study from the Pakistan Institute of Development Economics (PIDEE), citing the FAO, an estimated "72 percent of all wood used in Pakistan is consumed as fuel wood." The same study says that around 51 million people in Pakistan have no access to electricity, while in 2022 PIDE reported that 78% of households in Pakistan have no access to gas.

Trees cut down for firewood in the Babrain area of Swat district in Khyber Pakhtunkhwa, northern Pakistan (Image: Zubair Torwali)

The Pakistan Economic Survey 2021–22 identifies firewood and timber extraction as among the main drivers of forest cover loss in Pakistan. According to the Sindh Forest Department, demand for fuelwood in the province stands at around 6.4 million m^3, whereas sustained supply is only around 1.68 million m^3, leaving a huge gap between supply and demand.

A 2016 study looking at deforestation in the Pakistan Himalayas (including Pakistan-administered Kashmir, Khyber-Pakhtunkhwa and Gilgit Baltistan) identifies demand for fuelwood as the main driver of deforestation in Pakistan-administered Kashmir, and a major contributor to deforestation in mountainous Khyber-Pakhtunkhwa province (alongside commercial timber harvesting and militant activities).

Compound threats facing Pakistan's forests

A growing population and dependence on forest resources like firewood are compounding other threats to Pakistan's depleting forest cover, which continue to escalate.

A senior official at the Forestry Environment and Wildlife Department of Khyber Pakhtunkhwa, speaking on condition of anonymity, told The Third Pole that unplanned urbanisation and unchecked grazing have been taking a heavy toll on forests in the mountainous province. The official said that rates of deforestation in privately-owned forests doubled after the 2022 floods – a ban on cutting trees in government-owned forests means pressure is concentrated elsewhere. And although construction is banned in government-owned forests, development in adjoining private areas for the expanding tourism sector has seen deforestation spill over into government forests, the official said.

Pakistan's minister for climate change Sherry Rahman told The Third Pole that illegal logging is a major reason behind loss of forest cover in Pakistan. Speaking in November 2022, Rahman said that provincial governments are responsible for management of forests under the 18th Constitutional Amendment Act 2010.

Zafar Khan, a sociologist at the University of Peshawar, stressed that deforestation in Pakistan has serious socio-economic and environmental impacts on the people of the country. "The government should be mindful of the fact that once these meagre forests disappear, [conflict over resources] will not only threaten peace in the volatile region but also the existence of millions," Khan told The Third Pole. But addressing unsustainable take of wood for fuel is a complex task. "One-sided implementation of laws and banning cutting of trees without providing alternatives have not and will not stop deforestation," said author and environmentalist Sultan-i-Rome.

Sherry Rahman agrees: speaking at a session of the Pakistan National Assembly in October 2022, Rahman emphasised, "Those who cut forests for firewood cannot be arrested as they don't have any other option to cook and heat their homes during winter."

thethirdpole.net

Climate change is threatening Madagascar's famous forests

Urgent action is needed to protect Madagascar's forests. Rijasolo/AFP via Getty Images

Global climate change doesn't only cause the melting of polar ice caps, rising sea levels and extreme weather events. It also has a direct effect on many tropical habitats and the animals and plants that inhabit them. As fossil fuel emissions continue to drive climate change, large areas of land are forecast to become much hotter and drier by the end of this century.

Many ecosystems, including tropical forests, wetlands, swamps and mangroves, will be unable to cope with these extreme climatic conditions. It is highly likely that the extent and condition of these ecosystems will decline. They will become more like deserts and savanna.

The island nation of Madagascar is of particular concern when it comes to climate change. Of Madagascar's animal species, 85% cannot be found elsewhere on Earth. Of its plant species, 82% are unique to the island. Although a global biodiversity hotspot, Madagascar has experienced the highest rates of deforestation anywhere in the world. Over 80% of its original forest cover has already been cleared by humans.

This has resulted in large population declines in many species. For example, many species of lemurs (Madagascar's flagship group of animals) have undergone rapid population decline, and over 95% of lemur species are now classified as threatened on the International Union for Conservation of Nature (IUCN) Red List.

Drier conditions brought about by climate change have already resulted in widespread bush fires throughout Madagascar. Drought and famine are increasingly severe for the people living in the far south and south-western regions of the island.

Madagascar's future will likely depend profoundly on how swiftly and comprehensively humans deal with the current climate crisis.

What we found

Our study investigated how future climate change is likely to affect four of Madagascar's key forest habitat types. These four forest types are the dry deciduous forests of the west, humid evergreen forests of the east, spiny bush forests of the arid south, and transitional forests of the north-west corner of the island.

Using computer-based modelling, we simulated how each forest type would respond to climate change from the current period up to the year 2080. The model used the known distribution of each forest type, and current and future climatic data.

We did this under two different conditions: a mitigation scenario, assuming human reliance on greenhouse gas reduces according to climate commitments already made; and an unmitigated scenario, assuming greenhouse gas emissions continue to increase at their current rate.

Our results suggest that unmitigated climate change will result in declines of Madagascar's forests. The area of land covered by humid forest, the most extensive of the four forest types, is predicted to decrease by about 5.66%. Dry forest and spiny bush are also predicted to decline in response to unmitigated climate change. Transitional forest may actually *increase* by as much as 5.24%, but this gain will almost certainly come at the expense of other forest types.

We expected our model to show that mitigating climate change would result in net forest gain. Surprisingly, our results suggest entirely the opposite. Forest occurrence will decrease by up to 5.84%, even with efforts to mitigate climate change. This is because global temperatures are forecast to increase under both mitigated and unmitigated scenarios.

These predicted declines are in addition to the huge losses of forest already caused by ongoing deforestation throughout the island.

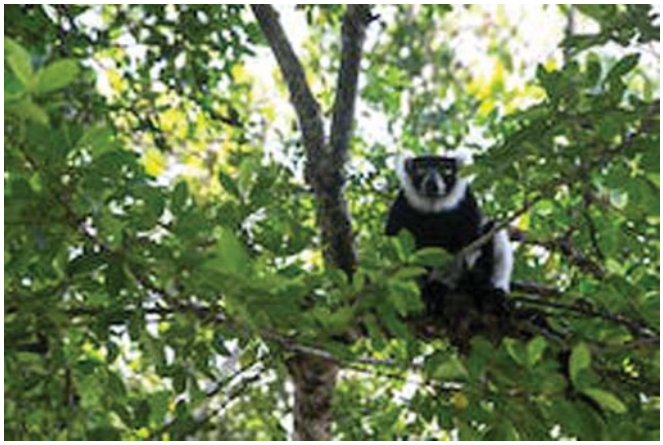
It looks as if the damage has already been done.

Climate change, a major threat

The results of our research highlight that climate change is indeed a major threat to Madagascar's forests and likely other ecosystems worldwide. These findings are deeply concerning for the survival of Madagascar's animals and plants, many of which depend entirely on forest habitat.

Not only will climate change decrease the size of existing forests, changes in temperature and rainfall will also affect the amount of fruit that trees produce.

Many of Madagascar's animals, such as its lemurs, rely heavily on fruit for food. Changes in fruit availability will have serious impact on the health, reproductive success and population growth of these animals. Some animals may be able to adapt to changes in climate and habitat, but others are very sensitive to such changes. They are unlikely to survive in a hot, arid environment.



Madagascar lemurs and other animal and plant species may become extinct if the forests disappear. Rijasolo/AFP

This will also have serious knock-on effects for human populations that depend on forests and animals for eco-tourism income. Approximately 75% of Madagascar's population depends on the forest and subsistence farming for survival, and the tourism sector contributes over US$600 million towards the island's economy annually.

To ensure that Madagascar's forests survive, immediate action is needed to end deforestation, protect the remaining patches of forest, replant and restore forests, and mitigate global carbon emissions. Otherwise these remarkable forests will eventually disappear, along with all the animals and plants that depend on them.

theconversation.com

CIFOR-ICRAF announces Dr Eliane Ubalijoro as Chief Executive Officer

- Dr Eliane Ubalijoro will be the first African woman CEO of a CGIAR Research Center
- CIFOR-ICRAF's acting CEO Dr Robert Nasi will become Chief Operating Officer
- Ubalijoro and Nasi will lead the merged organisation of CIFOR-ICRAF – the world's leading research and development centre on trees, forests and landscapes

The Board of Trustees for the Center for International Forestry Research and World Agroforestry (CIFOR-ICRAF) is very pleased to announce the appointment of Eliane Ubalijoro as Chief Executive Officer (CEO) of CIFOR-ICRAF and Director General of ICRAF. Ubalijoro will be the first African woman Director General of a CGIAR Research Center and CEO of two Centers in CGIAR's 52-year history.

Born in Rwanda, Ubalijoro is the Executive Director of Sustainability in the Digital Age, and Professor of Practice for public-private sector partnerships at McGill University's Institute for the Study of International Development. Over the past two decades, her research has focused on innovation, gender, and sustainable development.

"I see CIFOR-ICRAF as a critical institution, poised to accelerate its research and impact, leading the way to achieving the 2030 goals by harnessing the potential of forestry and agroforestry to create ecosystems that generate prosperity, sustainably," said Ubalijoro. She is interested in combining CIFOR-ICRAF's wealth of knowledge in forestry, ecology and sustainable agriculture with the transparency that high-resolution satellite data and artificial intelligence can bring to connect with work that aims to increase biodiversity worldwide and ensure transparency in terms of carbon sequestration.

Alongside Dr. Ubalijoro's appointment starting May 2023, Dr Robert Nasi – CIFOR-ICRAF's acting CEO – will take up the position of Chief Operating Officer. Nasi is a globally recognised forestry scientist who has been researching the ecology and management of tropical forests for the past four decades, including the sustainable use of forest resources and the intersection of conservation and development.

"This appointment marks a new era for CIFOR-ICRAF," said Nasi. "As the potential of trees and forests in addressing the climate, food and biodiversity crises becomes increasingly apparent, the new leadership team stands ready to take

CIFOR-ICRAF into an ambitious era of growth to provide much-needed solutions to some of the greatest challenges of our time."

CIFOR-ICRAF is the world's leader on harnessing the power of trees, forests and agroforestry landscapes to address the most pressing global challenges of our time – biodiversity loss, climate change, food security, livelihoods and inequity.

It has partnerships in 64 countries, 159 funding partners and 192 active projects, alongside more than 2,200 completed projects across 92 nations. The organisation has an annual budget of USD 100 million,, and a combined legacy investment of USD 2 billion in research and technology, policy and development. On average, CIFOR-ICRAF research is cited nearly 137 times a day, and appears in global media more than 3,000 times per year.

"CIFOR-ICRAF has never been better equipped than now, with the combination of Dr Ubalijoro's wealth of experience in agricultural research, digital innovation and transformational leadership, and Dr Nasi's deep knowledge of tropical forestry and exemplary success in guiding both organisations through the merger," said CIFOR-ICRAF Board Chair Doris Capistrano. "We look forward to the new heights CIFOR-ICRAF will reach in its mission to address interconnected global challenges through the power of forests, trees and agroforestry."

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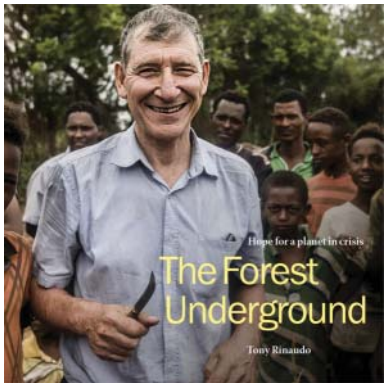
Publications

The Forest Underground

Tony Rinaudo

ISCAST



I once worked with a slightly cantankerous development official who was fond of reminding everyone around him to "unleash the power of common sense!" While simple, this straightforward mantra was incredibly effective in guiding my astute friend, and those working with him, through the pitfalls and frustrations of intractable bureaucracies, incompetent supervisors, deceitful competition for resources, and petty power games of politicians and shady officials.

The Forest Underground is Tony Rinaudo's account of his development work to better the lives of poor African farmers and enhance environmental conditions. As I read about the years of frustrations, struggles, and failures that came before Tony achieved his hard-won eventual successes, my mind kept returning to the words of my former colleague. I had the sense that "unleashing the power of common sense" was a concept Tony truly discovered for himself as he toiled in Africa.

The book tracks back to Rinaudo's roots in rural Australia and provides deep personal insights into the "calling" that took him to Africa as part of a faith-based mission. When Rinaudo arrived in Niger in the early 1980s, the stark landscape he encountered shocked him to the core. Decades earlier, acting on the advice of extension agents, farmers had stripped their fields of trees to accommodate mechanized cultivation and increase crop yields. The destruction of the tree cover precipitated a devastating downward spiral of drought, strong winds and high temperatures, depleted soils, and frequent outbreaks of pests and diseases. Recognizing that many of the region's problems

stemmed from the loss of tree cover, Rinaudo reasoned that reforestation had to be part of the solution to bettering local people's lives.

Following the well-beaten path of most foresters and restoration practitioners worldwide, Rinaudo initially focused on growing seedlings in nurseries and outplanting the young trees. The results were dismal. Growing seedlings in nurseries proved prohibitively costly and unreliable. Survival of outplanted seedlings was often next to zero. In Rinaudo's own words, "to many [locals], I was the 'mad white farmer' and my ideas were just silly."

Rinaudo's eureka moment came one day when he recognized that one of the many scraggly "bushes" that dotted the barren terrain was actually a beleaguered forest tree that had been repeatedly grazed, burned and hacked by local farmers to the point of being almost unrecognizable as a tree species. Rinaudo soon realized that most of the millions of "bushes" scattered across the landscape were, in fact, long-suffering forest trees struggling to survive.

Basic experiments revealed that simple selection and pruning of these "bushes," coupled with culling of surplus sprouts and basic protection, led to rapid growth and superior form of the rejuvenated trees. Drawing from the extensive root systems hidden underground for decades, the released stems shot up and rapidly reasserted their true natural forms as forest trees. Survival of released stems proved to be nearly 100% and the cost of the technique was minimal. Common sense suggested this was the way to bring tree cover back into the landscape.

Much of *The Forest Underground* describes Rinaudo's subsequent efforts to convince farmers of the benefits of growing and retaining trees on their farms and the ease with which natural regeneration could be accomplished. Despite its promise for regenerating the land, adoption was initially slow and many farmers remained skeptical.

Serendipity, however, delivered the opportunity to use food aid – provided to combat famine in the mid-1980s – to leverage farmers through food-for-work programs to regenerate and maintain trees on their land. The broad geographic scope of the food-for-work programs resulted in a massive expansion in the number of farmers who were introduced to the new strategy for regenerating trees on farms.

Rinaudo's common-sense approach recognized that regeneration efforts had to be farmer-managed if they were to succeed. Although guidelines were provided, farmers were empowered to decide which species to manage, how many stumps per hectare to tend, the number of shoots per stump left to grow, the method of pruning, and eventual harvesting regimes. It was several years later – with farmer innovators leading the way – that the approach was eventually dubbed "Farmer Managed Natural Regeneration" (FMNR).

Farmers-learning-from-farmers proved once again to be the most effective form of extension. FMNR began to spread organically among farmers and by 2004, high-resolution satellite imagery revealed that FMNR was being practiced on more than half of Niger's farmland. Today, it is estimated that the approach has spread to more than 7 million hectares in Niger and approximately 21 million hectares across the Sahelian countries (Garrity and Bayala, 2019)

Still, one has to ask why such proven low-cost, effective natural regeneration practices have not been even more widely adopted. While Rinaudo's efforts catalyzed impressive expansion of FMNR, particularly in Niger, the vast majority of restoration projects and programs around the world remain fixated on costly (and all-too-often unsuccessful) tree-planting approaches. Policymakers, in particular, seem to be unwilling to recognize any approaches to restoration other than seedlings planted in straight rows.

The slow pace in recognizing the potential of FMNR in Africa is mirrored in Asia, where champions of "assisted natural regeneration" (ANR) have struggled to convince policymakers and investors of the merits of natural forest regeneration. While recent restoration programs increasingly pay lip service to the potential of natural regeneration, most still focus on tree planting, despite evidence that natural regeneration generally costs only a fraction of that for tree planting. It is paradoxical that some 93% of the world's forests exist as a result of natural regeneration, yet more than 90% of formal forest restoration efforts and investment involves the planting of seedlings.

Ever the optimist, Rinaudo believes there is a growing global movement that is changing the perceptions toward natural forest regeneration and championing this cause is his latest passion. *The Forest Underground* reflects his enthusiasm and the book is peppered with maxims like, "where people are the problem, people are the solution," and "we can only change landscapes by changing mindscapes." These adages are distilled from Rinaudo's extensive experience and common-sense approaches, and he isn't afraid to employ a bit of irony to hit home his point: "Countries are still trying to break the record for the greatest number of trees planted; if only they would set the record for the greatest number of trees surviving!"

The Forest Underground is entertaining and easy to digest, even by non-technical readers. I would have appreciated, however, if Rinaudo had presented a bit more of the emerging science underpinning restoration based on natural regeneration. I'm also curious to know how well the FMNR approaches fare outside of dryland ecosystems and with a wider range of crops. Considering that adding trees into agricultural systems invariably raises the bugaboo of reduced crop yields due to shading and competition, it is important to document FMNR experience from more areas and wider ecological conditions. Finally, the book would have increased value if it included a more extensive bibliography of the growing body of literature on FMNR – perhaps a task for a revised edition.

The Forest Underground should be read by all restoration planners, policymakers, and practitioners – in fact, by everyone interested in forest regeneration. With the world embarking on billions of dollars of investment in restoration – particularly during the current United Nations Decade on Ecosystem Restoration – sound, effective, low-cost restoration methods are needed more than ever. *The Forest Underground* provides a wealth of wisdom and inspiration to guide regeneration approaches – and serves as an important reminder to unleash the power of common sense in forest and agroforestry restoration.

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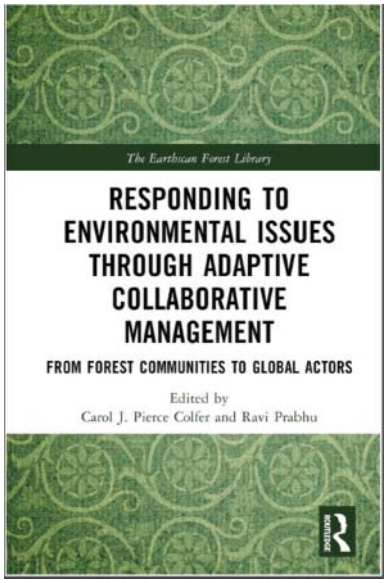
Garrity DP and Bayala J. 2019. Zinder: farmer-managed natural regeneration of Sahelian parklands in Niger. In: van Noordwijk M, ed. Sustainable development through trees on farms: agroforestry in its fifth decade. Bogor, Indonesia: World Agroforestry (ICRAF) Southeast Asia Regional Program. pp 153–174.

Responding to Environmental Issues through Adaptive Collaborative Management

From Forest Communities to Global Actors

Edited by **Carol J. Pierce Colfer** and **Ravi Prabhu**
Series: The Earthscan Forest Library



With a particular focus on forest management and governance, this book examines how the Adaptive Collaborative Management approach can be utilised to address global environmental issues by complementing global and national policies with community-based action and commitment. This book will be of great interest to students, scholars and practitioners working in the fields of conservation, forest management, community development, natural resource management and development studies more broadly.

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How to Harness the Ancient Partnership between Forests and Fungi

Colin Averill

TED talk

If we want to better understand the environment and combat climate change, we need to look deep underground, where diverse microscopic fungal networks mingle with tree roots to form symbiotic partnerships, says microbiologist Colin Averill. As we learn more about which of these fungi are most beneficial to forest health, we can reintroduce them into the soil – potentially enhancing the growth and resilience of carbon-trapping trees and plants. Hear more about the emerging science aiming to supercharge forest ecosystems, one handful of soil at a time.

Around the World

Bangladesh: Forests are vanishing acre by acre

Why are the authorities so negligent in protecting forests?

To say Bangladesh has a weak forest policy would be an understatement. The legal and institutional safeguards that are there do have loopholes, which are often exploited, but so much of what's happening today has more to do with how the state approaches the very idea of forests. Forests, to it, are valuable until they're not. They should be protected until they cannot be, when more "practical" or parochial interests override that need. This secondary status makes forests expendable, leading to frequent encroachment attempts, sometimes even from within the government.

The latest case that came to our notice involves a tea company that dug a lake right in the middle of a reserved forest in Fatikchhari, Chattogram. According to a report by this daily, the company, Halda Valley, also felled hundreds of trees in the Ramgarh-Sitakunda forest, despite a court order to maintain status quo on the land. Apparently, the 135 acres of land where the lake was dug are part of a stretch of land that it had leased from the Chattogram district administration, which considers it a khas land. But as per the forest department, it belongs to the reserved forest, and was mistakenly recorded as khas. The department has also filed at least 21 cases accusing Halda employees of encroachment, land grabbing, felling trees and assaulting its officials.

While it is easy to be distracted by the criminal activities of the tea company, and thereby forget about the responsibility of the bickering government parties, the truth is, the latter are no less responsible. Their dispute over the nature of the land has continued for two decades, allowing for the defilement of one of the oldest and richest forests in the country. It's not just a question of legality. It's a question of intent, and whether they have it. Clearly, they don't. The sense of urgency that the transformation of this forestland – from a natural habitat for wildlife into a man-made abomination – warranted was nowhere to be found.

It may be recalled that the cabinet on October 31, 2022 approved the extension of a ban on cutting trees in reserved and natural forests until 2030. The authorities in Chattogram should have known that khas or not, no one can cut trees on land belonging to forests. They should have been able to stop this madness. Unfortunately, over the years, we have frequently seen how responsible government departments either allowed for encroachment of forestland by other government institutions or leased them out to private entities – which, while legal, inevitably made way for illegal activities such as felling of trees and levelling of forestland.

Once you ignore the excuses and circumstances leading to such developments, you begin to see a pattern of institutional neglect when it comes to protecting what little forest coverage we still have left in Bangladesh. This is deeply worrying, not to mention in direct contravention of Bangladesh's deforestation pledge at the COP26 summit. We urge the relevant authorities to shed this laissez-faire approach to forest protection. They need to show strong leadership and better coordination. The forest grabbers must be punished.

thedailystar.net

Morocco: Ghabati, Hayati Project – promoting the forestry sector

The project aims to raise awareness of nature conservation and gender equality in Morocco's forestry sector

Morocco is encouraging sustainable production while preserving natural resources, said Minister of Agriculture, Maritime Fisheries, Rural Development, and Water and Forests, Mohammed Sadiki in a parliament session on January 2.

The minister also highlighted adopting new measures to reduce climate change impacts and build resilient agriculture.

In support of Morocco's national forest 2020–2030 strategy, the French Development Agency (AFD) is launching the first international cooperation program for forestry sector management in partnership with the National Agency for Water and Forests (ANEF), the French Global Environment Facility (FFEM), and Expertise France (EF).

The new program aims to reforest 50,000 hectares of forest per year, promoting participatory management by local populations, and strengthening tools for preserving Morocco's biodiversity and natural heritage.

In addition, the program focuses on deepening scientific research on forest governance, strengthening the fight against climate change, and reducing gender inequalities in Morocco's forestry sector.

ANEF, AFD, and EF have signed a memorandum of understanding (MoU) for 100 million euros and a 3 million euro grant for the project.

In parallel to this agreement, Morocco and the FFEM are co-financing pilot projects in Ifrane's National Park for 5.9 million euros and 1.8 million euros.

The pilot projects aim to preserve biodiversity and create employment related to outdoor sports.

Director of French Development Agency (AFD) in Morocco, Quiterie Pincent, told Morocco World News (MWN), "The program aims to reform forestry's sector jobs, train and recruit local animators."

Pincent also noted that training ANEF's agents is necessary to raise awareness among inhabitants on forest management and nature conservation.

Morocco's forest area covers more than 9 million hectares, with an overall afforestation rate of 8%. The Rif and Middle Atlas regions have the highest afforestation rate of 40% while the southern provinces have the lowest rate of 4%.

Statistics show that Morocco's forestry sector represents 0.4% of the national GDP and 2% of the agricultural GDP. Moreover, it also contributes to timber's needs and industry by 30%, employment creation, and national energy balance by 18%.

Since the 1990s, Morocco has developed an institutional and legal framework to face threats, including 30 legislative and regulatory texts, programs, and actions of governmental and civil society actors.

The country also plans to reduce greenhouse gas emissions by 4% through the Nationally Determined Contribution (NDC), a climate action plan to have full effect by 2030.

The program has facilitated several advances, including reforestation, financial support, and gender equality.

Pincent highlighted that despite the COVID-19 crisis and drought, 27,000 hectares of land were reforested in 2021, 188 pastoral associations were financially supported, and more than 7,000 improved ovens were distributed to women in the most vulnerable forest communities.

She also stressed that they will pursue forest management's efforts by increasing sensitive wetlands' protection.

Ghabati, Hayati highlights the strengthening of the strategic partnership between France and Morocco. The two countries are driving forces in the fight against global warming and declining biodiversity at an international level.

In an interview, Pincent told MWN that Morocco and France face comparable global warming threats. "Last summer, the two countries experienced dramatic forest fires needing a high-level dialogue and experiences sharing to find key solutions," she noted.

Participatory Forestry Governance

While Morocco has made a progress in forest management, the sector has still posed major challenges, including a lack of community participation, insufficient coordination between actors, full gender integration, and climate change and natural disasters.

Even though Morocco has introduced a participatory forestry policy in 2002, local communities' involvement ranges from symbolic participation (information and consultation) to an actual policy(managing forestry issues).

The policy also depends on several factors**;** organizing users by territory such as grazing rights by territory, establishing partnership contracts on land rights and duties, and autonomizing local associations.

Secondly, Morocco's forest governance requires long-term multidimensional cooperation, aligned goals, and a sustainable vision in order to meet Morocco's climate commitments on the international stage.

Finally, Morocco adopted several measures empowering women in forestry management. The country implemented a program in 2014 promoting gender equality in the forestry sector.

Morocco's Water and Forests Department also launched a project including 45% women in local cooperatives in partnership with the UN's Industrial Development Organization and Swiss Cooperation.

Integrating gender equality depends on projects' sustainability, long-term financing (gender budgeting), and social and economic empowerment of rural women and girls.

Pincent outlined key steps to promote gender equality in forestry management, including a detailed analysis of gender issues and deploying training programs to local actors. "A study by UN Women will be released in the upcoming months to formulate a diagnosis on the forestry sector's gender issues," she highlighted.

Pincent also indicated that it is necessary to involve women and youth in planning and animation tools in order to promote inclusive forest governance in Morocco. "Raising awareness among women and young people is essential to preserve our common good (forest)," she said.

In summary, participatory governance is a pre-condition to ensure exchanges between experts, foresters, local populations, and public institutions. "Morocco's forests and local populations will be well supported to preserve our exceptional natural heritage," she concluded.

moroccoworldnews.com

Global: Indigenous communities with legal rights to their lands can further protect forests

Study looks at forest trends in Brazil in indigenous communities lands

Indigenous communities hold rights to more than half of the world's land, but only a measly 10% is officially recognized and protected. Despite their persistent struggle for justice, political will has been lacking in many countries. According to a new study, we should all care about this struggle.

A team of researchers showed that indigenous communities are good stewards of nature and whenever they are given the right to manage land, they tend to make it better for the natural environment.

Researchers at the University of Colorado, Boulder have found that indigenous communities in Brazil's Atlantic Forest who have formal recognition of their land rights reduce deforestation and increase forest cover. This supports previous studies suggesting that land rights can mitigate climate change and reduce biodiversity loss and suggests that granting native populations stewardship could be an important tool for environmental protection.

"Our study adds an important piece to the growing body of evidence that tenure in Indigenous lands has often improved forest outcomes – including now in the Atlantic Forest, which has experienced high deforestation pressures over a long period of time," Rayna Benzeev, lead author of the study and researcher, said in a statement.

Forests and indigenous rights

The study is the first one to look at the impacts of land rights for indigenous peoples in the Atlantic Forest – a fragmented and

vulnerable rainforest on the eastern coast of Brazil. It covers about 34.750 square miles and includes 17 states of Brazil. After decades of deforestation, the remaining forest is found mainly on indigenous lands.

Analyzing satellite data from 129 indigenous territories in Brazil, the researchers discovered that between 1985 and 2019, areas where indigenous communities held legal land rights experienced more effective reduction of deforestation and an increase in reforestation, compared to areas where these rights were lacking.

"Protecting forests is not only important for the trees and the biodiversity. It's also critical for the people that live within them and depend on them – and accounting for humans is an integral part of the sustainable future of forests," Peter Newton, author of the study and associate professor in Environmental Studies, said in a statement.

While forest cover change doesn't indicate levels of biodiversity by itself, it's still a useful metric for evaluating land use dynamics over large spatial scales, according to Newton. The study showed that each year after land rights were formalized there was a 0.77% increase on average in forest cover, which means a lot if taken over decades.

The study provides support for more political efforts that could be done in Brazil by the newly appointed President Lula da Silva, the researchers said. In his first weeks in office, Lula, as he's usually referred to, issued six decrees that revoke measures taken by former president Jair Bolsonaro and created the Ministry of Indigenous Peoples.

Land tenure in Brazil is guaranteed by the Constitution created in 1988. However, the process is usually very complicated and can take a long time, which has meant a lack of progress in indigenous communities accessing their land rights. Since 2012, only one community in the study sample had been granted legal land rights – the last step in the tenure process.

"Much of the stagnation in the land tenure process has taken place in recent years and mainly for political reasons," Benzeev said in a statement. "This is exactly what makes the legal component of tenure important: when tenure is legally granted, Indigenous peoples are able to gain territorial autonomy irrespective of political shifts over time."

zmescience.com

India: Why Delhi forests are going bald – felling, poor transplantation, slow afforestation

Though Delhi high court recently observed that the capital was fast losing its forest cover and asked the additional solicitor general to personally look into the matter, any remedial step has to take into account two factors: that there is, according to forest officials, not enough space in the city for planting trees and the Delhi government assertion that the capital has a higher per capita green cover than other mega cities.

In the high court, the bench of chief justice Satish Chandra Sharma and justice Subramonium Prasad noted the problem about construction and encroachment in the Ridge. Around 319 hectares of Delhi's reserve forest area were under encroachment till September last year.

According to the Forest Survey of India (FSI) report of January 2022, for the first time in a decade, Delhi lost forest cover by less than half a square kilometre. The report, published every alternate year, said that Delhi lost 0.44 sq km of forest cover between 2019 and 2022.

Despite this loss, Delhi, with 9.6 sq m of forest cover per citizen, has the highest per capita forest cover among India's mega cities, claims the state government. The forest department also said that while a part of the reserve forest was indeed lost, mainly due to infra and development projects, there has been an increase in the tree cover outside the forest areas.

"While the felled tree cover or canopy density is lost overnight for construction of highways, government buildings, metro lines, etc, and this loss is recorded by the satellites, the compensatory afforestation takes four-five years to reflected in the green cover," the official, adding, "Since a lot of trees were felled in the last few years, the compensatory afforestation will take time to show on satellite images. It is likely, therefore, that the next FSI report, which will consider green cover in 2023, will also show a drop in Delhi's forest area. In 2025, however, there might be an increase."

The official also explained that forest cover comprises very dense, dense or open forests, part of which could be a planted area of more than one hectare. Tree cover outside of the forest area could be groups of trees, avenue plantations, even a single tree.

According to a report filed in Delhi High Court in 2022, the forest department permitted the felling of 77,000 trees for developmental work between 2019 and 2022. Afforestation aside, many trees were also transplanted, but state government data showed that only 41% of over 8,500 trees transplanted between April and September in 2022 survived, while only 33.3% of trees transplanted in the last three years continued to live.

If a stand of trees came in the way of a development project, the forest official said, they were felled and afforestation or transplantation done elsewhere but the success of transplantation was subject to several factors.

In 2022–23, the city targeted planting over 31 lakh saplings, of which only seven lakhs were trees or canopy trees, the rest being shrubs. "Delhi doesn't have enough land to plant more canopy trees, barring on land meant for afforestation," claimed a forest official.

timesofindia.indiatimes.com