

OFF TRACK AND FALLING BEHIND

Tracking progress on 2030 forest goals

The Forest Declaration Assessment
October 2023



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ABOUT

The Forest Declaration Assessment is a continual and collaborative process achieved collectively by civil society organizations and researchers, known as the Forest Declaration Assessment Partners. Previously the NYDF Progress Assessment, the Forest Declaration Assessment has since 2015 published annual updates on progress toward global forest goals. All assessment findings undergo a rigorous peer review process conducted by experts across the globe. To learn more about the Forest Declaration Assessment, please visit www.forestdeclaration.org/about/assessment.

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The Forest Declaration Assessment and Systems Change Lab will launch a Glasgow Leaders' Declaration Dashboard to track the collective progress countries have made toward the Declaration's goals to halt and reverse forest loss and land degradation by 2030, while delivering sustainable development and promoting an inclusive rural transformation. This report will contribute to the Dashboard.



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EXECUTIVE SUMMARY

WE ARE IN A CRISIS: The forest ecosystems that support a liveable climate, invaluable biodiversity, thriving economies, and intangible cultural importance remain under massive pressure. Standing forests are essential for limiting global warming to 1.5°C. Yet, the world remains off track to reach the goals of halting and reversing deforestation and forest degradation by 2030.

In 2022, global gross deforestation reached 6.6 million hectares worldwide and was 21 percent higher than needed to eliminate deforestation by 2030. The loss of primary tropical forests reached 4.1 million hectares and is even further off track—the loss was 33 percent higher than the needed trajectory to halt primary forest loss by the end of the decade. This backslide puts forest goals even farther out of reach after the small but insufficient progress made in 2021.

Forest regrowth in tropical deforested areas has increased steadily over the past four years, demonstrating the great capability of forests to recover from disturbances. Regrowth is certainly positive, but the ecological conditions characterizing mature forests may take decades to be reestablished. While there is evidence that restoration is scaling up globally, tracking progress is hindered by the glaring lack of transparency on public and private efforts to restore forests across the world.

Several regions continue to lose high integrity forests at alarming rates. These include non-tropical and tropical Latin America, non-tropical Africa, as well as boreal and temperate forests in North America and Europe. Comprehensive data on forest degradation, especially in many northern forests, remains insufficient to adequately assess progress and inform needed action.

HOPE IS NOT LOST: Well over 50 countries are on track to eliminate deforestation within their borders by 2030. For instance, in tropical Asia, the only region that is close to the pathway for achieving zero gross deforestation, Indonesia and Malaysia have achieved sustained reductions in deforestation. Both developed and developing countries have demonstrated the transformative power of political will and dedicated action. Their efforts have led to dramatic and, in some cases, sustained reductions in deforestation rates.

PROFOUND CHALLENGES REMAIN: Unfortunately, these individual successes cannot outweigh the massive forest loss and degradation underway across critical forest ecosystems. Further, one country's progress cannot be disentangled from another country's ecological crisis. Reduced deforestation in one geography may be due to the outsourcing of forest-risk commodity production and subsequent leakage of deforestation to other countries and ecosystems. In a globalized economy, all countries bear the responsibility of addressing continued forest loss.

WE MUST FACE A STARK REALITY: The world simply cannot sustain its “business-as-usual” exploitation and destruction of forests. Economic systems that rely on natural resource extraction and consumption have already destabilized six of the nine planetary boundaries that comprise the Earth's life support system, including the boundary for land use.¹

Leading countries and companies have set the pace; the rest of the world must follow their example. Without a widespread, transformative embrace of alternative development models, the world will not meet its ambitious goals for sustainable development, climate, and forests.

Governments must re-define “business-as-usual” for forests:

They must build a regulatory and fiscal environment that mandates corporate action, disclosure, and accountability for forests; that incentivizes the protection, sustainable management, and restoration of forests; and that encourages voluntary efforts to pioneer alternative economic approaches that recognize the true value of standing forests.

MONEY TALKS: Following the money makes it painfully clear that forest goals are still given low priority. Globally, only USD 2.2 billion in public funds are channeled to forests every year—a negligible fraction compared to other global investments. In fact, it would not even cover the cost of two football stadiums: Tottenham Hotspur Stadium in London cost about USD 1.1 billion to complete;² and the budget for the ongoing renovation of Camp Nou stadium in Barcelona comes to USD 1.6 billion.³

Developed countries have announced dozens of initiatives to support ending tropical deforestation—yet the incentives provided by these programs are not nearly enough to overcome the challenges of reaching forest goals. Most developing countries still need significant support to initiate the bold reforms required to reconcile their development pathways with forest goals.

At the same time, many developed countries also struggle to adequately protect their forests at home. Subsidies and regulations allow, and even encourage, forest management and extraction that degrades forest quality, even in irreplaceable primary and old-growth forests.

And the sad fact remains that many commitments to protect the rights of Indigenous Peoples (IPs) and local communities (LCs), including land tenure and free, prior, and informed consent, are still just lip service. IPs and LCs receive a mere fraction of the finance they need to secure their rights and effectively steward their territories. Meanwhile, these communities are consistently subject to violence and criminalization when protecting their lands, even as they are most directly harmed by forest destruction.

THERE IS A YAWNING GAP BETWEEN CURRENT AND NEEDED FINANCE FOR FORESTS.

Financial institutions, companies, and governments must put their money where their mouth is: Invest in activities that nurture forests, not destroy them. And invest directly in the most effective forest stewards: Indigenous Peoples and local communities.

RESPONSIBILITY MUST BE SHARED: All countries share the responsibility to turn the tide on the unfolding tragedy of lost and degraded forests. Some geographies have demonstrated what it takes to make a difference: Brazil's turn to increased enforcement and the rapid shift on Amazon deforestation in 2023, for example, or the European Union's striking advancements in both domestic and international forest policy.

Within the private sector, a small group of company leaders have, with the support of civil society, pioneered best practices like supply chain monitoring and traceability and supplier engagement to mitigate and reduce their exposure to deforestation and ecosystem conversion in their supply chains. It is possible for the private sector to change its business-as-usual practices at a meaningful scale.

Financial institutions are increasingly recognizing and acting on the risks of exposure to deforestation, degradation, and ecosystem conversion through their investments - both the risks to their business, and the negative impact they can have on people and the environment.

And yet, the overall impact of all of these leaders remains extremely limited. They only control a small share of the global market and resources. The majority of major companies in forest-risk commodity supply chains assessed by Forest 500 have no clear, comprehensive, or ambitious policy to eliminate deforestation from their supply chains. The majority of financial institutions have no forest risk policy covering their lending and investments. In 2022 alone, Forest 500 estimates that private financial institutions provided USD 6.1 trillion to companies most at risk of driving tropical deforestation through agricultural commodity production. Despite many ambitious pledges, many companies and governments have made limited efforts to advance forest goals.

The majority of governments, companies, and financial institutions who have done little or nothing have also, so far, escaped accountability. There is a systemic lack of data and transparent reporting on forests, from data on forest degradation in temperate and boreal forests and restoration progress globally, to proactive reporting on activities and outcomes by actors who have made forest pledges.

WITHOUT DATA AND TRANSPARENCY, PROGRESS WILL REMAIN DIFFICULT—AND ACTORS WILL NOT BE HELD ACCOUNTABLE FOR THEIR PROMISES.

Governments, companies, and financial institutions must shine the spotlight on themselves: They must invest in data collection, active monitoring, and transparent, proactive reporting on the state of forests and ecosystems, on their plans and strategies to align their economic and development priorities with forests, and on their progress in implementing forest pledges.

THE FOREST DECLARATION ASSESSMENT PARTNERS HAVE SAID IT BEFORE: Nothing less than a radical transformation of development pathways, finance flows, and governance effectiveness and enforcement is required to shift the world's trajectory to achieve the 2030 forest goals.

Our economic models must be re-structured to value forests for the benefits that they provide over the long term, rather than for the superficial and short-term gain that comes with clearing them.

IPs and LCs have consistently demonstrated the effectiveness of alternative models of development and forest management. Leading countries, companies, and financial institutions have shown that change in policies and practices is possible.

THE WHOLE WORLD MUST FOLLOW THEIR LEAD TO REDEFINE “BUSINESS-AS-USUAL” AND SHIFT THE GLOBAL TRAJECTORY TO 2030.

¹Richardson, K., et al. (2023). Earth beyond six of nine planetary boundaries. *Science Advances*, 9(37), eadh2458. <https://doi.org/10.1126/sciadv.adh2458>.

²StadiumDB: Tottenham Hotspur Stadium.

³Mallick, A. (2023, September 13) "Barcelona's Estimated Stadium Revenue from the new Camp Nou." *TechnoSports*.

INTRODUCTION

Climate change and the destruction of nature are among the most pressing challenges facing humanity and are inextricably interlinked. Forests are essential for fighting these challenges (Box I.1), yet they face widespread and persistent destruction in many parts of the world. International forest pledges, adopted by nearly all countries as well as hundreds of companies, civil society organizations, and Indigenous Peoples' organizations, have set an ambitious goal to halt and reverse deforestation and land degradation by 2030. These goals are expressed in multiple forest declarations like the Bonn Challenge (2011), the New York Declaration on Forests (NYDF, 2014), and the Glasgow Leaders' Declaration on Forests and Land Use (2021). For the purposes of the Forest Declaration Assessment, these overarching forest goals are expressed as:

- Ending the loss and degradation of natural forests by 2030
- Restoring 350 million hectares of degraded landscapes and forestlands by 2030

The [Forest Declaration Assessment](#) is a civil society effort to assess collective progress towards these global forest goals. Started in 2015 as an independent initiative to track the New York Declaration on Forests, this effort now engages a strong and diverse group of over two dozen research organizations, think tanks, NGOs, and advocacy groups from around the world. We, the Forest Declaration Assessment Partners, draw on our collective expertise to provide scientific and independent analysis that, combined, provides a comprehensive and robust picture of global progress.

BOX I.1. THE ESSENTIAL ROLE OF FORESTS

Forests sustain the livelihoods of millions of people worldwide,¹ making their conservation and sustainable management central to the achievement of the UN Sustainable Development Goals (SDGs). Forests are also the home of nearly 70 thousand vertebrate species and 80 percent of terrestrial plants and animals² and are crucial for tackling the global biodiversity crisis.³ Well-managed forests are also essential for mitigating and adapting to climate change.³ Forests regulate and stabilize the global climate, and standing forests are a key component for limiting global warming to 1.5°C.⁴

Deforestation and forest degradation are significant sources of greenhouse gas emissions. In 2022, deforestation alone accounted for approximately 7 percent⁴ of global emissions,⁵ and from 2010 to 2018, emissions from deforestation and forest fires in some areas of the Amazon exceeded the amount of carbon sequestered by the forests, making them a source – rather than a sink – of carbon emissions.⁶

Forest restoration – whether through natural regeneration or active interventions – can remove and store significant amounts of carbon. But forest restoration is not a panacea: primary forest is irreplaceable.⁶ Degraded and deforested land can be restored, but its original quality of carbon storage, biodiversity, and associated ecosystem services may never fully recover.⁷ Forest protection provides the most efficient, substantial mitigation opportunity.

We form a coordinated front for research, outreach, and advocacy for global forests, and annually publish rigorously researched and peer-reviewed progress assessment reports on the state of global forests.

This report focuses primarily on forests rather than other terrestrial ecosystems. This stems from the Forest Declaration Assessment's history and mandate as an initiative to track the NYDF, a mandate that has since expanded to tracking other global forest goals. It does not intend to imply that other ecosystems are less impacted by conversion-risk sectors (e.g., the Cerrado's savannahs and the Great Plains' old-growth grasslands are the largest conversion fronts outside of the Amazon⁸), nor that the protection

^a The mission of the Global Biodiversity Framework for the period up to 2030, towards the 2050 vision is: To take urgent action to halt and reverse biodiversity loss to put nature on a path to recovery for the benefit of people and planet by conserving and sustainably using biodiversity and by ensuring the fair and equitable sharing of benefits from the use of genetic resources, while providing the necessary means of implementation.

^b Gross yearly carbon removals by forests are estimated at 15.6 billion metric tons of carbon dioxide equivalent (GtCO₂e) between the years 2001 and 2019. See Harris, N. L., Gibbs, D. A., Baccini, A., Birdsey, R. A., de Bruin, S., Farina, M., et al. (2021). Global maps of twenty-first century forest carbon fluxes. *Nature Climate Change*, 11(3), 234–240; IPCC, 2019: Summary for Policymakers. In: *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems* [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.-O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.)]. In press.

^c Primary tropical moist forests are defined as mature natural humid tropical forest cover that has not been completely cleared and regrown in recent history.

and restoration of other ecosystems is less crucial to reducing the impacts of climate change and safeguarding biodiversity. While the most comprehensive datasets usually focus on forests, data on the conversion of non-forest ecosystems (e.g., grasslands, savannahs) is included where available. Thus, when we discuss ending deforestation and forest degradation in this report, it should also be understood that ending conversion of other ecosystems is an equally important goal.

The 2023 report is divided into four chapters that broadly cover the articles outlined in the Glasgow Leaders' Declaration with a focus on forest ecosystems:

Chapter 1. Overarching forest goals

Chapter 2. Sustainable production & development

Chapter 3. Finance for forests

Chapter 4. Forest rights & governance

¹Chao, S. (2012). [Forest Peoples: Numbers across the world](#). Moreton-in-Marsh, United Kingdom: Forest Peoples Programme.

²FAO and UNEP. (2020). "[The State of the World's Forests 2020: Forests, biodiversity and people](#)." In *The State of the World's Forests (SOFO)*: Vol. 2020.

³Intergovernmental Panel on Climate Change (IPCC). (2022). [Cross-Chapter Paper 7: Tropical Forests](#). Cambridge University Press, Cambridge, UK and New York, NY, USA: Intergovernmental Panel on Climate Change. 611.

⁴Harris, N. L. et al. (2021).

⁵World Data Lab. (2023). [World Emissions Clock](#).

⁶Gatti, L. V., et al. (2021). Amazonia as a carbon source linked to deforestation and climate change. *Nature*, 595(7867), 388–393. <https://pubmed.ncbi.nlm.nih.gov/34262208/>.

⁷Wilson, S. J., Schelhas, J., Grau, R., Nanni, A. S., & Sloan, S. (2017). Forest ecosystem-service transitions: the ecological dimensions of the forest transition. *Ecology and Society*, 22(4), art38. <https://doi.org/10.5751/ES-09615-220438>.

⁸WWF. (2022). [Plowprint Report](#). Gland, Switzerland: Worldwide Fund for Nature.

Chapter 1

OVERARCHING FOREST GOALS

Theme 1 Assessment

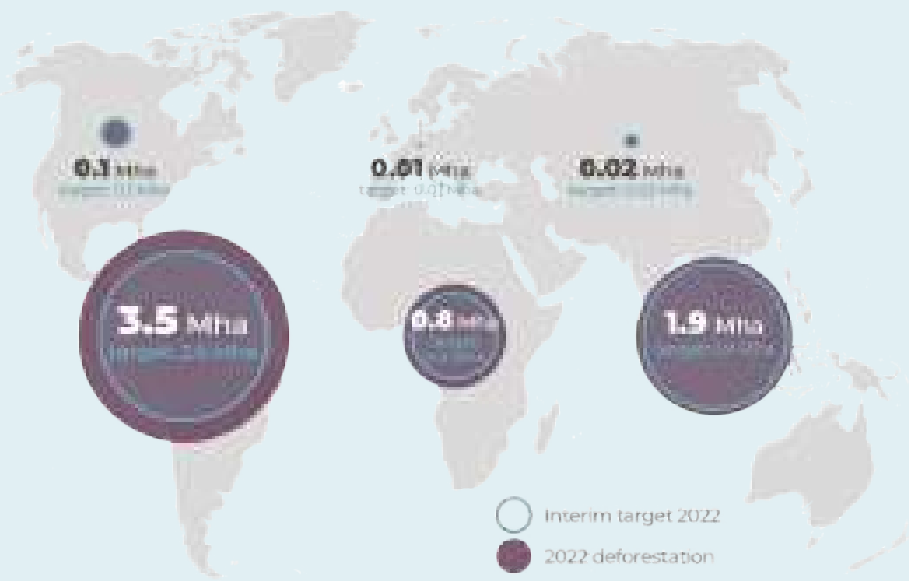
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THE WORLD IS OFF TRACK TO HALT DEFORESTATION BY 2030

6.6 Million hectares deforested in 2022

While the majority (96%) of deforestation occurs in tropical regions, that doesn't mean non-tropical regions are in the clear: forest degradation is ongoing, significant threat in both tropical and non-tropical regions.



DEGRADATION POSES A SIGNIFICANT AND ONGOING THREAT TO FORESTS IN ALL REGIONS

Half of all regions experienced a decline in forest integrity compared to baseline levels.

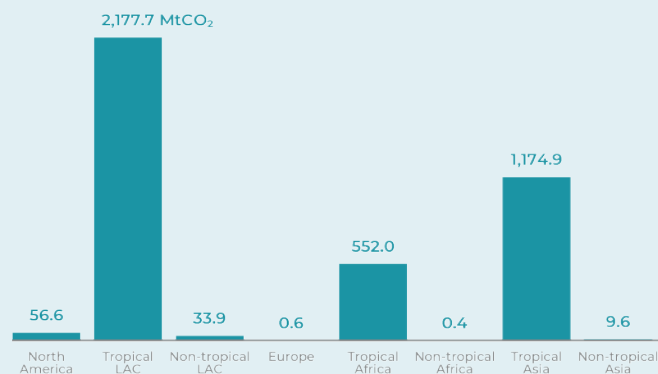


EMISSIONS FROM FORESTS CLIMBED IN 2022

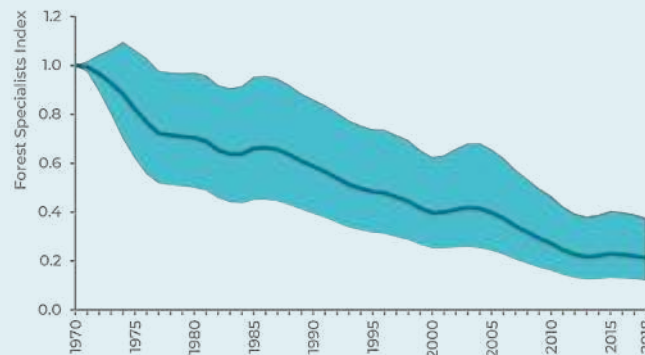


Gross emissions from deforestation increased by 6% compared to 2021 – totalling **4 billion metric tons of CO₂e** in 2022.

Deforestation in both tropical and non-tropical regions produced significant emissions.



FOREST BIODIVERSITY DECLINING AT ALARMING RATE



The Forest Specialists Index shows a **79% decline** in the monitored populations of forest specialist species between 1970 and 2018.

Habitat loss, habitat degradation, overexploitation, and climate change are the most pressing threats to these species.

Only 18 COUNTRIES REPORT ON THEIR RESTORATION EFFORTS UNDER THE BONN CHALLENGE

While restoration is scaling up globally, tracking progress is hindered by the glaring lack of transparency on public and private efforts to restore forests across the world.

4.1 MILLION HECTARES OF TROPICAL PRIMARY FORESTS WERE LOST IN 2022

The 2022 target was missed by 33%.

The world's progress on halting the loss of these irreplaceable forests is vastly insufficient.

KEY MESSAGES

This report's overall finding is unmistakable: the world is off track to eliminate deforestation and forest degradation by 2030.

In 2022, global progress on protecting and restoring forests moved too slowly and, in some cases, progress was reverted. Global deforestation increased by 4 percent in 2022 compared to 2021. Each year that passes without sufficient progress, it becomes more and more challenging to meet global forest goals by 2030. Progress in 2021 was already insufficient, and the world needed to make up that lost ground (and more) in 2022.

The following key findings stand out from this year's Assessment:

- **In 2022, 6.6 million hectares of deforestation occurred worldwide.** That means that not only did the world miss its 2022 target for eliminating deforestation by the end of the decade, but there was a 4 percent increase in deforestation compared to 2021.
- **Regional deforestation targets were missed in all tropical regions, though not to the same degree.** Tropical Asia fared better than other tropical regions; it saw a 16 percent lower rate of deforestation in 2022 compared to baseline levels. While this progress is still slightly too slow (as deforestation in the region was still 1 percent higher than the Assessment-identified target), it shines in comparison to Tropical Latin America and the Caribbean (LAC), which saw a 9 percent increase in deforestation compared to baseline. That means tropical LAC is the tropical region farthest off track from the pathway to 2030 (with 35 percent higher deforestation than the Assessment-identified target for 2022).
- **Progress on reducing deforestation was mixed in the world's non-tropical regions,** with three out of five non-tropical regions (non-tropical Asia, and non-tropical Africa, North America) meeting their respective deforestation targets in 2022.
- **Global progress on eliminating primary forest loss was off track.** Not only did the world miss its 2022 target for eliminating primary forest loss, but there was a 10 percent increase in pantropical humid primary forest loss in 2022 compared to 2021. Though available data is limited to humid

tropical forest loss (rather than all primary forests), it is clear that the world's progress on stopping the loss of these irreplaceable forests is vastly insufficient.

- **Gross emissions from deforestation increased.** Gross emissions from deforestation increased by 6 percent compared to 2021—totaling 4 billion metric tons of carbon dioxide equivalent in 2022.
- **Forest degradation (data available only to 2021) fell somewhat below baseline overall.** Degradation was higher than the baseline in tropical and non-tropical regions of Latin America and Africa, whilst rates decreased in tropical and non-tropical Asia, Europe, and North America.
- **Forest regrowth in tropical deforested areas has increased exponentially over the past four years,** demonstrating the great capability of forests to recover from disturbances, but also signaling that at least a portion of deforested areas are abandoned after logging. Regrowth is certainly positive, but the ecological conditions characterizing mature forests may take decades to be reestablished.
- **While there is evidence that restoration is scaling up globally, tracking progress is hindered by the glaring lack of transparency on public and private efforts to restore forests across the world.** It is essential that both public and private sector actors step up to report their restoration data with a focus on quality, validation, and transparency.
- **Forested KBAs saw significant loss in tree cover in 2022, and forest degradation continues, while slightly slowing down between 2020 and 2021.** There was 1.2 million hectares of tree cover loss within KBAs – with only two regions meeting the Assessment-identified target needed to be on schedule to eliminate tree cover loss in forested KBAs by 2030.
- **Biodiversity in forests is declining at an alarming rate.** According to 2022 updated data from the Forest Specialists Index, monitored populations of forest specialists (i.e., species dependent on forest habitats for their survival or reproduction) declined in abundance by 79 percent on average between 1970 and 2018 with habitat loss, habitat degradation, overexploitation, and climate change as the most pressing threats.

INTRODUCTION

How do we assess progress?

This chapter provides a summary of global progress on halting deforestation and degradation and advancing forest restoration. We estimate progress using several quantitative indicators. The Theme 1 Annex provides the full list of indicators, which are divided among core and supplemental indicators. Core indicators pertain to the overarching targets on protecting and restoring forests. Supplemental indicators provide additional context on the state of forests through an estimate of forest carbon stocks and biodiversity within forests.

Core indicators:

- **Deforestation**, which uses estimates of global and regional deforestation,^{a1} humid tropical primary forest loss,² and emissions from deforestation;³
- **Forest degradation**, estimated as Forest Landscape Integrity Index (FLII) units lost per year;⁴
- **Forest regrowth and restoration**, including estimates of tropical moist forest regrowth⁵ and areas under restoration from multiple sources;

Supplemental indicators:

- **Forests' carbon storage**, both regionally and globally;⁶ and
- **Biodiversity within forests**, assessed through tree cover loss within key biodiversity areas (KBAs),⁶ forest degradation within KBAs, and the Forest Specialists Index.⁷

Box 1.1 on Key terms and methodological explanations provides an explanation of our methodology for assessing progress on each of these indicators, as well as essential terms. Most forest change indicators fluctuate significantly from one year to the next, meaning that clearer assessments of progress—or lack thereof—will emerge as more annual data becomes available. Thus, the trends presented in this report will be further honed and validated with subsequent years of data. Additional methodological notes and analysis are available in the Theme 1 Annex.

Importantly, this chapter provides a snapshot of progress as of 2022 on protecting and restoring forests but does not endeavor to explain the causes of identified trends. The other chapters of this report (Chapter 2 on sustainable production & development, Chapter 3 on finance for forests, and Chapter 4 on forest rights & governance), as well as country case studies, assess stakeholder efforts and enabling conditions that, together, seek to explain the outcomes reported in this chapter.

^a Global spatial data on forest change (Hansen et al. 2013, updated through 2022) and primary forests (Turubanova et al. 2018) differ in their definitions and methods from official national forest statistics. Moreover, the deforestation statistics used in this Assessment are derived from a map of drivers of tree cover loss (Curtis et al. 2018, updated through 2022) that attributes all tree cover loss to the same driver over the entire assessment period, even if changes in drivers do occur over time in regions or countries. In places where commodity-driven deforestation has declined significantly in recent years, current deforestation rates may be overestimated due to the large amounts of commodity-driven deforestation earlier in the period. Primary forest loss statistics may likewise be different from official national statistics.

^b Key Biodiversity Areas (KBAs) are sites that contribute significantly to the global persistence of biodiversity. KBAs are identified and designated using globally standardized criteria, and they extend the Important Bird Area (Crosby, M. J. et al. [1994]) concept to other taxonomic groups (Source: <https://portals.iucn.org/library/node/49979>).

BOX 1.1. KEY TERMS AND METHODOLOGICAL EXPLANATIONS

This report **tracks progress** toward **2030 forest goals** and indicates whether the world, regions, and individual countries are **on track** or **off track** towards these goals. It does this by reporting the latest estimates for multiple forest **indicators** and compares those values to an Assessment-identified **target** for the same year, where possible. This report uses the **baseline period** 2018-20 for creating these annual targets on the **pathway to 2030**.

DEFINITIONS OF ABOVE KEY TERMS:

2030 forest goals refer to the goals of globally eliminating gross deforestation and forest degradation and restoring 350 million hectares of forests by 2030. These goals are established by pledges like the New York Declaration on Forests, the Glasgow Leaders' Declaration, and the Bonn Challenge. Overall, this report aims to answer the question, "Is the world on track to reaching 2030 forest goals?" using the most up-to-date yearly estimates, which are from 2022.

Indicators refer to an observable, quantitative forest characteristic or process. This report uses several indicators to assess progress, including both "core" and "supplemental" indicators:

- **"Core" indicators** refer to deforestation, forest degradation, and forest regrowth and restoration. These are considered "core" indicators because their estimates relate to the subjects of the 2030 forest goals in question.
- **"Supplemental" indicators** refer to forests' carbon storage and biodiversity within forests. Estimating these indicators provides valuable information about the state of the world's forests. In the context of this report, they are considered "supplemental" because they provide additional information that (while important) does not directly relate to the subjects covered by 2030 forest goals.

A **baseline** estimate for each indicator is used as the "starting point" on the pathway towards 2030 forest goals. Baseline estimates are the averages of each indicator from 2018 to 2020. For example, gross deforestation in tropical Asia is averaged across 2018, 2019, 2020 and the resulting figure is used as a baseline for that indicator and region. The baseline period (2018-20) is illustrated in grey on charts.

This report **tracks progress** on forest goals using Assessment-identified **targets** along the **pathway to 2030** for each indicator (see **Theme 1 Annex** for more on how the Assessment created these targets). The pathway is defined as a straightforward linear trajectory, requiring a 10 percent reduction in the deforestation (or degradation) rate each year from 2021 to 2030, compared to a baseline of the average rate from 2018-2020. To assess progress, each indicator's progress in 2022 is compared to its corresponding target for the same year. This demonstrates whether the world, region, or country is "on track" or "off track" for that indicator:

- **"On track"** refers to when the world, region, or individual country meets its 2022 target for any given indicator.
- **"Off track"** refers to when the world, region, or individual country misses its 2022 target for any given indicator. This is illustrated by showing how much the observed indicator deviated from the target (expressed in a percentage). For instance, in a hypothetical example, if a country saw 2 million hectares of deforestation in 2022 and its target for that year had been 1.5 million hectares of deforestation, then that country would have missed its target by (or was "off track by") 33 percent.

FINDINGS

1.1 Is the world on track to eliminate deforestation by 2030?

In 2022, 6.6 million hectares of deforestation occurred worldwide, meaning the world remained off track on the pathway to no deforestation by 2030.

By the end of 2022, the world needed to meet the Assessment-identified target of 5.4 million hectares of global deforestation to be on track to eliminate gross deforestation by 2030. However, global deforestation in 2022 was 6.6 million hectares, which is 21 percent off track to eliminate deforestation by 2030 (Figure 1.1).

Further, compared to 2021, deforestation in 2022 increased by 4 percent. The world's collective actions to reduce deforestation globally have not resulted in sustained and sufficient results on the ground.

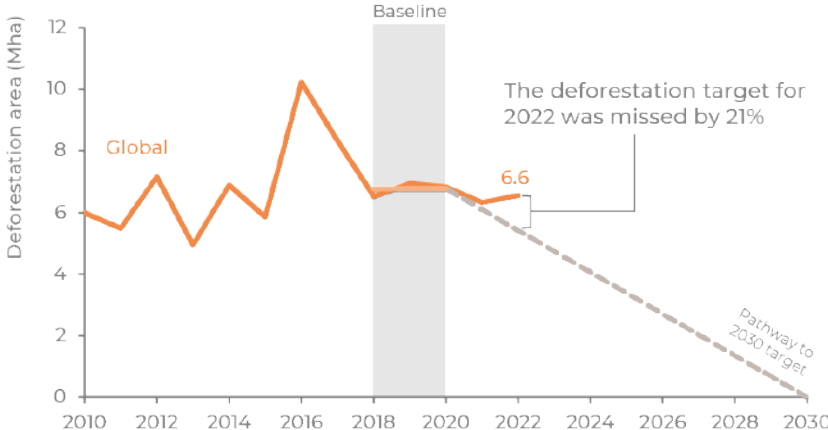
In 2021, the world was also off track on the pathway to 2030 goals; the world needed to make up that lost ground—and more—in 2022. Insufficient progress makes the challenge of reducing deforestation increasingly difficult in each remaining year leading up to 2030. The next interim target is to reduce global deforestation to 4.8 million hectares (or less) in 2023, meaning the world will need to reduce deforestation by 27.8 percent from 2022 levels to get on track. This will be a significant challenge.

HOW DO WE ASSESS PROGRESS ON HALTING DEFORESTATION?

Several global pledges have set the goal of “halting deforestation” by 2030. “Halting deforestation” is defined as reaching zero gross deforestation by 2030. In this report, “zero gross deforestation” refers to a state of no permanent land use change from forests to non-forests and no additional clearing of primary forests—irrespective of any forest gains (see Theme 1 Annex for list of definitions). Assuming linear progress towards this goal, the world needs to see a 10 percent reduction in the deforestation rate each year from 2020 to 2030, compared to a baseline of the average deforestation rate from 2018-20 (see Theme 1 Annex for more on methodology).

There are many different definitions of deforestation, and no method perfectly captures deforestation, therefore this report uses a set of proxy indicators to estimate global deforestation in 2022. The first indicator estimates global deforestation as the permanent conversion of forests to a new land use. The methodology adopted in the Assessment considers drivers of forest loss⁸ to evaluate whether the conversion from forest to a new land use is permanent or not. The second estimates the loss of primary humid tropical forests.⁹ The third estimates the emissions from deforestation,¹⁰ given forests' significant contribution to meeting the Paris Agreement goals.

Figure 1.1. Global deforestation between 2010 and 2022, in million hectares (Mha)



Note: The baseline is calculated as the average deforestation between 2018 and 2020. The annual global deforestation targets are the points on the linear trajectory going from the baseline 2018-20 and the 2030 target of zero deforestation. In 2022, global deforestation was 6.56 Mha, which is 21 percent above the Assessment-defined target.

Source: Figure based on original analysis for this report using data from Hansen et al. 2013, updated through 2022. Only tree cover loss that is deemed permanent (Curtis et al., 2018) or that occurs within humid tropical primary forests is considered here.

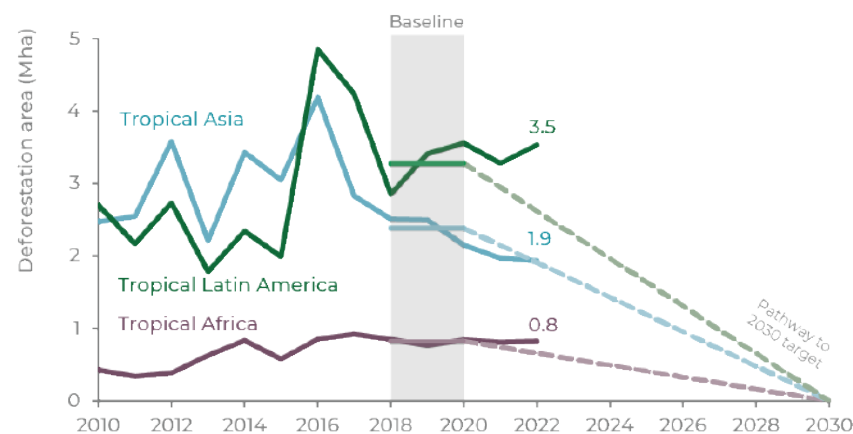
Regional deforestation targets were missed in all tropical regions, though not to the same degree. Deforestation in tropical Asia was only 1 percent higher than the Assessment-identified 2022 target, faring much better than other regions that missed their regional interim targets by a much greater margin.

Because the vast majority of global deforestation takes place in tropical regions (nearly 96 percent in 2022), reducing deforestation in the tropics is essential for meeting global forest goals.

In 2022, tropical Asia fared significantly better than other tropical regions; it saw 1.9 million hectares of gross deforestation, which is a 16 percent reduction from baseline levels. This is a positive trend that places tropical Asia off track by only 1 percent when compared to the interim target for 2022 (Figure 1.2, Table 1.1).

In contrast, tropical Latin America and the Caribbean (LAC) saw 3.5 million hectares of deforestation in 2022—an 8 percent increase compared to baseline. This means that tropical LAC experienced a level of deforestation that was 35 percent higher than the Assessment-identified target for 2022—the farthest off track of any tropical region (see Figure 1.2, Table 1.1).

Figure 1.2. Tropical regional deforestation between 2010 and 2022, in million hectares (Mha)



Note: The baseline is calculated as the average deforestation between 2018 and 2020. The annual deforestation targets are the points on the linear trajectory from the 2018-20 baseline to the 2030 target of zero deforestation. In 2022, deforestation in tropical Latin America, tropical Africa, and tropical Asia exceeded the Assessment-defined regional targets by 34, 26, and 2 percent respectively.

Source: Figure based on original analysis for this report using data from Hansen et al. 2013, updated through 2022. Only tree cover loss that is deemed permanent (Curtis et al., 2018) or that occurs within humid tropical primary forests is considered here.

Table 1.1. Tropical, non-tropical, and global deforestation, in million hectares (Mha)

| | Baseline 2018-20 (Mha) | Target for 2022 (Mha) | Deforestation 2022 (Mha) | Relative change from baseline | Deviation from target |
|---------------------|------------------------|-----------------------|--------------------------|-------------------------------|-----------------------|
| Tropical Africa | 0.82 | 0.65 | 0.82 | 1% | 26% |
| Tropical Asia | 2.39 | 1.90 | 1.93 | -19% | 1% |
| Tropical LAC | 3.27 | 2.62 | 3.53 | 8% | 35% |
| Europe | 0.0013 | 0.0010 | 0.0013 | 1% | 26% |
| Non-tropical Africa | 0.0015 | 0.0012 | 0.0009 | -38% | -22% |
| Non-tropical Asia | 0.0261 | 0.0209 | 0.0183 | -30% | -13% |
| Non-tropical LAC | 0.0904 | 0.0723 | 0.1189 | 31% | 64% |
| North America | 0.1683 | 0.1346 | 0.1268 | -25% | -6% |
| Global | 6.77 | 5.51 | 6.56 | -3% | 21% |

Source: Based on original analysis for this report using data from Hansen et al. 2013, updated through 2022. Only tree cover loss that is deemed permanent (Curtis et al., 2018) or that occurs within humid tropical primary forests is considered here. See footnote a for information on data limitations.

Progress on reducing deforestation was mixed in the world's non-tropical regions, with three out of five non-tropical regions meeting their respective interim deforestation targets for 2022.

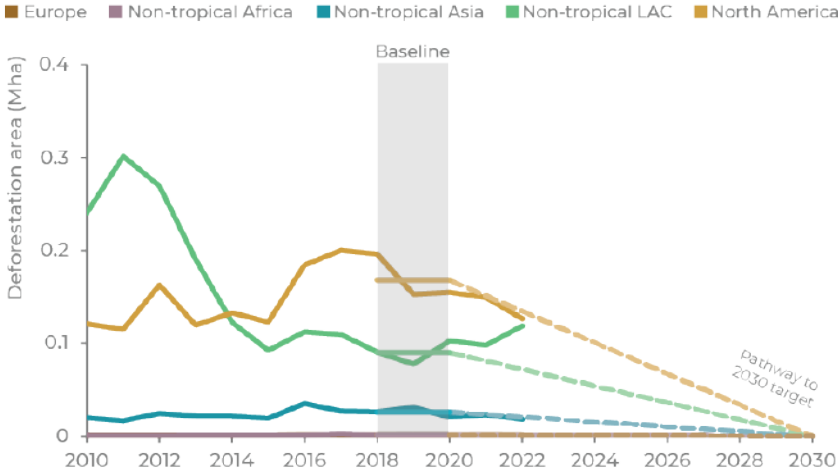
Three out of five non-tropical regions (North America, non-tropical Asia, and non-tropical Africa) met their respective deforestation targets in 2022 (Figure 1.3).

Globally, deforestation is heavily concentrated in tropical regions; deforestation in all non-tropical regions, combined, accounts for approximately 4 percent of global deforestation, or 8 percent of the deforestation observed in Latin America in 2022 (see Table 1.1).

Still, the importance of halting deforestation in non-tropical regions cannot be overlooked. The act of removing forest canopy and replacing it with roads, parking lots, homes, or cultivation areas has an immediate impact on the land's ability to absorb water and mitigate the destructive effects of floods,¹¹ which are occurring at increasing frequency and intensity also in non-tropical regions.¹²

Furthermore, forests in non-tropical regions play a crucial role in regulating temperatures both on a global and local scale. The removal of forests in North America, Europe, and non-tropical Asia is estimated to lead to an increase in global temperatures of approximately 0.49 degrees Celsius,¹³ further exacerbating climate change and making it increasingly challenging to meet the climate targets outlined in the Paris Agreement.

Figure 1.3. Non-tropical regional deforestation between 2010 and 2022, in million hectares (Mha)



Note: The baseline is calculated as the average deforestation between 2018 and 2020. The annual deforestation targets are the points on the linear trajectory going from the baseline 2018-20 and the 2030 target of zero deforestation. Source: Figure based on original analysis for this report using data from Hansen et al. 2013, updated through 2022. Only tree cover loss that is deemed permanent (Curtis et al., 2018) or that occurs within humid tropical primary forests is considered here.

In 2022, only three of the ten countries with the greatest absolute areas of deforestation met their respective interim target to be on track for meeting 2030 forest goals.

The ten countries that had the greatest absolute areas of deforestation in 2022 displayed mixed progress in 2022 (**Table 1.2**). On track progress by some countries—like Malaysia, Paraguay, and Indonesia—was exceeded by failure to sufficiently reduce deforestation in other countries—like Brazil and Bolivia (see **Bolivia case study** for more on drivers of deforestation in this country). Of the three countries with the greatest absolute areas of deforestation, only Indonesia met the Assessment-identified target for 2022, with a 21 percent decrease from 2018-20 baseline levels.

Major forest countries continue to see an increase in deforestation—or see reductions, but at too slow a pace—to meet 2030 forest goals. If these trends continue, it will be very difficult for the world to achieve the 2030 global goal of eliminating gross deforestation, regardless of other countries’ positive progress. Additional country data is available in the **Theme 1 Annex**.

In 2022, the countries with the greatest decreases in deforestation from baseline levels were Venezuela, Guatemala, and Nicaragua, followed by Malaysia and Vietnam.

These countries have had the greatest success in the fight against deforestation by achieving the most drastic decreases in deforestation in 2022 compared to the baseline 2018-20 (**Table 1.3**). These countries demonstrate that the 2030 goals are still within reach if the world steps up to the challenge.

Table 1.2. The ten countries with the largest absolute area of deforestation in 2022, in million hectares (Mha)

| | Baseline 2018-20 (Mha) | Target for 2022 (Mha) | Deforestation 2022 (Mha) | Relative change from baseline | Deviation from target |
|-----------|------------------------|-----------------------|--------------------------|-------------------------------|-----------------------|
| Brazil | 1.93 | 1.55 | 2.34 | 21% | 51% |
| Indonesia | 1.05 | 0.84 | 0.83 | -21% | -2% |
| Bolivia | 0.47 | 0.38 | 0.53 | 12% | 40% |
| DRC | 0.48 | 0.39 | 0.51 | 6% | 32% |
| Laos | 0.28 | 0.22 | 0.26 | -6% | 18% |
| Malaysia | 0.35 | 0.28 | 0.24 | -32% | -15% |
| Myanmar | 0.22 | 0.18 | 0.19 | -15% | 7% |
| Peru | 0.17 | 0.14 | 0.17 | -2% | 23% |
| Paraguay | 0.23 | 0.19 | 0.16 | -29% | -12% |
| Colombia | 0.17 | 0.13 | 0.14 | -17% | 4% |

Note: Additional country data is available in the **Theme 1 Annex**. Source: Figure based on original analysis for this report using data from Hansen et al. 2013, updated through 2022. Only tree cover loss that is deemed permanent (Curtis et al., 2018) or that occurs within humid tropical primary forests is considered here. See footnote a for information on data limitations.

Table 1.3. The ten countries that most drastically decreased deforestation in 2022 compared to baseline, in million hectares (Mha)

| | Baseline 2018-20 (Mha) | Target for 2022 (Mha) | Deforestation 2022 (Mha) | Relative change from baseline | Deviation from target |
|--------------------------------|------------------------|-----------------------|--------------------------|-------------------------------|-----------------------|
| Venezuela | 0.06 | 0.04 | 0.02 | -61% | -52% |
| Guatemala | 0.03 | 0.03 | 0.01 | -59% | -48% |
| Nicaragua | 0.04 | 0.03 | 0.02 | -43% | -29% |
| Vietnam | 0.16 | 0.13 | 0.1 | -35% | -19% |
| Malaysia | 0.35 | 0.28 | 0.24 | -32% | -15% |
| Madagascar | 0.08 | 0.06 | 0.05 | -31% | -14% |
| Paraguay | 0.23 | 0.19 | 0.16 | -29% | -12% |
| Mexico | 0.07 | 0.06 | 0.05 | -28% | -9% |
| United States of America (the) | 0.16 | 0.13 | 0.12 | -26% | -8% |
| Cambodia | 0.12 | 0.1 | 0.09 | -24% | -5% |

Source: Figure based on original analysis for this report using data from Hansen et al. 2013, updated through 2022. Only tree cover loss that is deemed permanent (Curtis et al., 2018) or that occurs within humid tropical primary forests is considered here. See footnote a for information on data limitations.

In 2022, 4.1 million hectares of primary tropical forest were lost. That's 33 percent higher than the target of 3 million hectares to be on track with the goal of zero primary forest loss by 2030.

Though available data is limited to humid tropical primary forest loss (rather than all primary forests), it is clear that the world is off track on halting primary forest loss. Primary tropical forest loss increased by 6 percent in comparison to baseline levels.

Because primary forests have only been mapped extensively in the humid tropics, this report looks at data on humid tropical primary forest loss (a subset of all primary forests) in the absence of a wider dataset.

BOX 1.3. CONTEXT FOR PRIMARY FOREST LOSS

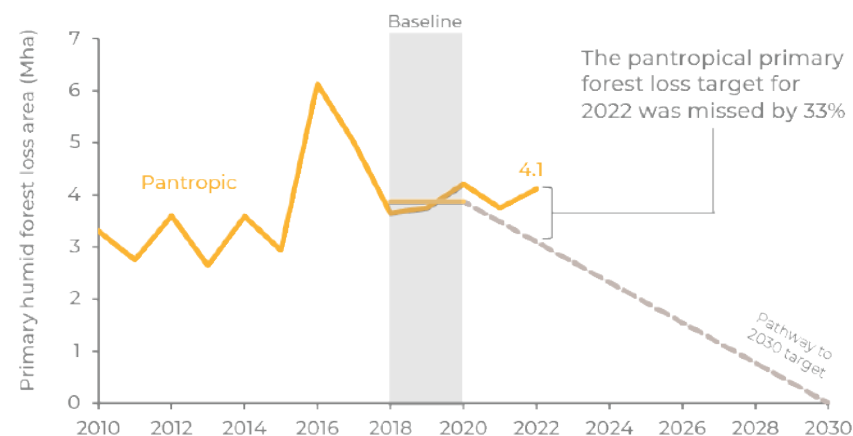
So far, this chapter has assessed overall deforestation, which is defined as 1) permanent tree cover loss event or 2) tree cover loss in primary humid tropical forest boundaries.

It is essential to focus on primary forest loss because the loss of the carbon stored in primary forests is irreversible in relevant time scales,¹⁴ and their biodiversity resources are irreplaceable.¹⁵

Forest loss that occurs in primary forests (i.e., ancient, intact forest ecosystems) is considered "deforestation". This is because it can take hundreds or even thousands of years to re-establish the structures and the ecological functions that characterize a primary forest. That means that if a primary forest is cut down and replaced by a new regrowth forest (i.e., a secondary forest), that loss is not fully compensated because the new forest will not host the great variety of species lost in the primary forest, nor will it store the same volumes of carbon.

It's essential to track progress specifically on avoiding loss of primary forest ecosystems. In the absence of data on global primary forest loss, this report looks at pantropic data on humid tropical primary forests.¹⁶ This is not a perfect proxy for all primary forest loss because it overlooks dry tropical primary forests and primary forests outside the tropics.

Figure 1.4. Pantropic humid primary forest loss between 2010 and 2022, in million hectares (Mha)



Note: The baseline is calculated as the average pantropic humid primary forest loss between 2018 and 2020. The annual targets are the points on the linear trajectory going from the baseline 2018-20 and the 2030 target of zero deforestation.

Source: Figure based on original analysis for this report using data from Hansen et al. 2013. Only tree cover loss occurring within primary forest boundaries is considered (Turubanova et al., 2018).

Table 1.4. Regional and global humid primary forest loss, in million hectares (Mha)

| | Baseline 2018-20 (Mha) | Target reduction in 2022 (Mha) | Primary forest loss in 2022 (Mha) | Relative change from baseline | Deviation from target |
|----------------------|------------------------|--------------------------------|-----------------------------------|-------------------------------|-----------------------|
| Tropical Africa | 0.78 | 0.66 | 0.80 | 2% | 28% |
| Tropical Asia | 0.72 | 0.58 | 0.64 | -12% | 10% |
| Tropical LAC | 2.35 | 0.19 | 2.66 | 13% | 42% |
| Non-tropical regions | 0.015 | 0.012 | 0.023 | 51% | 47% |
| Global | 3.86 | 3.09 | 4.12 | 6% | 33% |

Note: Primary tropical forests occur primarily in countries designated as "tropical" and grouped in "tropical" regions. However, a fraction of primary tropical forests also occurs in countries assigned to "non-tropical" regions (e.g., North America). Thus, the cumulated loss of primary tropical forests in non-tropical regions is also included in the table.

Source: Figure based on original analysis for this report using data from Hansen et al. 2013. Only tree cover loss occurring within primary forest boundaries is considered (Turubanova et al., 2018). See footnote a for information on data limitations.

Tropical regions are off track to eliminate primary forest loss by 2030.

Tropical regions continue to struggle to stop the destruction of primary forests. Tropical Asia experienced 0.6 million hectares of primary forest loss in 2022. This means the region failed to meet its 2022 Assessment-identified target. However, the direction of the trend is even more concerning: tropical Asia saw an increase in the rate of primary forest loss between 2021 and 2022.

This is noteworthy given the improvements the region had seen in 2021, when tropical Asia was on track with its Assessment-identified target.

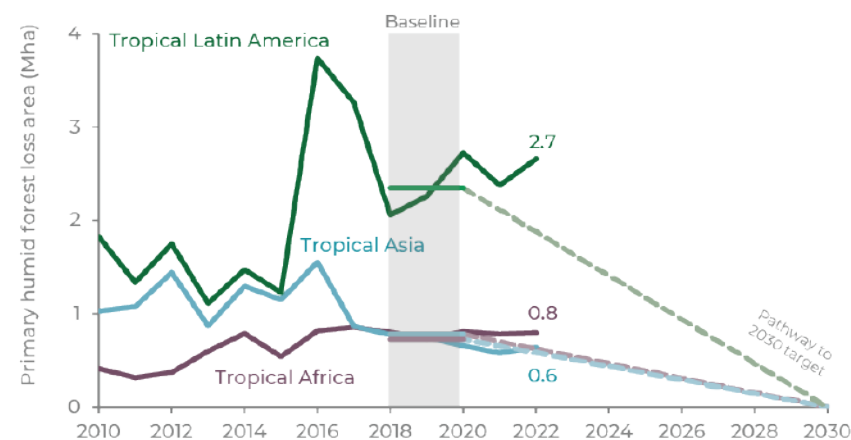
Other tropical regions also underperformed on reducing primary forest loss. Tropical Latin America experienced 2.7 million hectares of primary forest loss in 2022, which means the region experienced an increase in primary forest loss and missed its regional 2022 target by 42 percent. Tropical Africa also missed its 2022 target (by 28%) needed to stay on track to eliminate primary forest loss by 2030.

In 2022, the countries with the greatest absolute areas of tropical primary forest loss were Brazil, the Democratic Republic of the Congo, and Bolivia. None of these countries met their 2022 primary forest loss targets, with Bolivia even experiencing twice the level of primary forest loss than the 2022 target required to be on track.

The ten countries with the largest absolute areas of humid tropical primary forest loss in 2022 (**Table 1.5**) have varied in their progress on eliminating the destruction of irreplaceable ecosystems for their species composition, carbon storage, and the provision of life-sustaining ecosystem services.

Of this group, Brazil had the largest absolute area of humid primary tropical forest loss in 2022 (1.77 million hectares)—constituting a greater area than the primary forests losses in the other nine countries combined (1.72 million hectares). This means Brazil missed the interim target for 2022 by a wide margin (with 51 percent higher primary forest loss than needed to be on track).

Figure 1.5. Regional humid primary forest loss between 2010 and 2022, in million hectares (Mha)



Note: The baseline is calculated as the average humid primary forest loss between 2018 and 2020. The annual targets are the points on the linear trajectory going from the baseline 2018-20 and the 2030 target of zero deforestation.

Source: Figure based on original analysis for this report using data from Hansen et al. 2013. Only tree cover loss occurring within primary forest boundaries is considered (Turubanova et al., 2018).

Table 1.5. The ten countries that recorded the largest areas of primary forest loss in 2022, in million hectares (Mha)

| | Baseline 2018-20 (Mha) | Target in 2022 (Mha) | Primary forest loss in 2022 (Mha) | Relative change from baseline | Deviation from target |
|------------------|------------------------|----------------------|-----------------------------------|-------------------------------|-----------------------|
| Brazil | 1.47 | 1.18 | 1.77 | 21% | 51% |
| DRC | 0.48 | 0.39 | 0.51 | 6% | 33% |
| Bolivia | 0.24 | 0.19 | 0.38 | 60% | 100% |
| Indonesia | 0.31 | 0.25 | 0.23 | -26% | -8% |
| Peru | 0.16 | 0.13 | 0.16 | -2% | 23% |
| Colombia | 0.15 | 0.12 | 0.13 | -16% | 5% |
| Laos | 0.07 | 0.06 | 0.09 | 34% | 67% |
| Cameroon | 0.07 | 0.06 | 0.08 | 8% | 35% |
| Papua New Guinea | 0.06 | 0.05 | 0.07 | 25% | 56% |
| Malaysia | 0.11 | 0.09 | 0.07 | -36% | -20% |

Source: Based on original analysis for this report using data from Hansen et al. 2013. Only tree cover loss occurring within primary forest boundaries is considered (Turubanova et al., 2018). See footnote a for information on data limitations.

Bolivia also stands out as a country with particularly poor performance: humid tropic primary forest loss increased in Bolivia by 60 percent from the baseline (0.38 million hectares). This level of primary forest loss is twice the rate of the country's 2022 target for primary forest loss (see **Table 1.5**). Two countries met their 2022 targets for reducing primary forest loss: Indonesia and Malaysia.

In 2022, the countries with the greatest decreases in primary forest loss from baseline levels were Guatemala, Venezuela, and Côte d'Ivoire.

These countries achieved the 10 most drastic decreases in primary forest loss in 2022 compared to baseline 2018-20 (**Table 1.6**). Guatemala and Venezuela top this list, with both countries seeing a 58 percent decline in primary forest loss in 2022 compared to baseline levels.

Table 1.6. The ten countries that achieved the most drastic decreases in primary forest loss in 2022 compared to baseline, in million hectares (Mha)

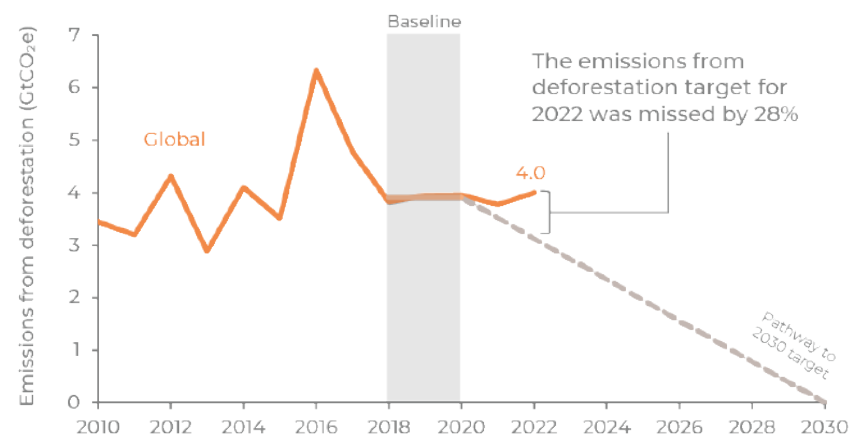
| | Baseline 2018-20 (Mha) | Target in 2022 (Mha) | Primary forest loss in 2022 (Mha) | Relative change from baseline | Deviation from target |
|---------------|------------------------|----------------------|-----------------------------------|-------------------------------|-----------------------|
| Guatemala | 0.03 | 0.02 | 0.01 | -58% | -48% |
| Venezuela | 0.05 | 0.04 | 0.02 | -58% | -48% |
| Côte d'Ivoire | 0.02 | 0.01 | 0.01 | -49% | -36% |
| Nicaragua | 0.04 | 0.03 | 0.02 | -43% | -28% |
| Malaysia | 0.11 | 0.09 | 0.07 | -36% | -20% |
| Mexico | 0.06 | 0.05 | 0.04 | -36% | -20% |
| Vietnam | 0.03 | 0.03 | 0.02 | -33% | -16% |
| Madagascar | 0.07 | 0.06 | 0.05 | -32% | -16% |
| Paraguay | 0.04 | 0.04 | 0.03 | -27% | -9% |
| Indonesia | 0.31 | 0.25 | 0.23 | -26% | -8% |

Source: Based on original analysis for this report using data from Hansen et al. 2013. Only tree cover loss occurring within primary forest boundaries is considered (Turubanova et al., 2018). See footnote a for information on data limitations.

In 2022, gross emissions from deforestation increased by 2 percent compared to baseline levels—totaling 4 billion metric tons of carbon dioxide equivalent.⁷

Gross emissions from deforestation (i.e., all emissions, not accounting for any removals) totaled 4 billion metric tons of carbon dioxide equivalent in 2022 (**Figure 1.6**). This is a 2 percent increase compared to the 2018-20 baseline. To put the scale of these emissions in perspective, if deforestation in 2022 was its own country, it would be the third-highest emitter after China and the United States.^c

Figure 1.6. Global emissions from deforestation from 2010 to 2022 in billion metric tons of carbon dioxide equivalent (GtCO₂e)



Note: The baseline is calculated as the average deforestation between 2018 and 2020. The annual targets are the points on the linear trajectory going from the baseline 2018-20 and the 2030 target of zero emissions from deforestation.

Source: Figure based on original analysis for this report using data from Harris et al., 2021, Hansen et al. 2013, and Curtis et al. 2018, updated through 2022.

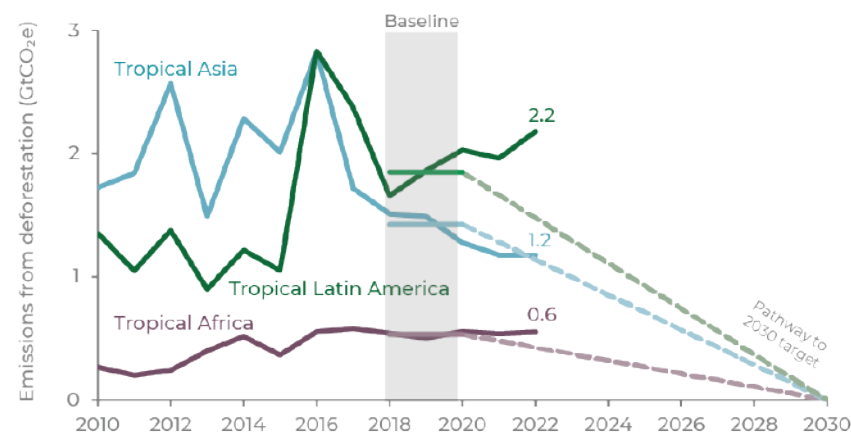
^c As reported by the World Emissions Clock by the World Data Lab, China's 2022 emissions amount to 14.7 GtCO₂e and the United States amount to 6.2 GtCO₂e. The next highest emitter is India, listed at 3.9 GtCO₂e.

In 2022, deforestation in the tropics caused the emission of 3.90 billion metric tons of carbon dioxide equivalent. Tropical Latin America alone produced 2.18 billion metric tons of carbon dioxide equivalent, nearly as much as the energy sector in the United States in the same year (2.5 GtCO₂e).¹⁸

At the regional level, emissions from deforestation in the tropics were in the order of billions of metric tons of carbon dioxide equivalents (Figure 1.7, Table 1.7), while emissions in non-tropical regions amounted to tens of millions of metric tons (Figure 1.8, Table 1.8). In addition to their role in the global carbon cycle, tropical forests also play a critical role in the hydrological cycle and influence local and regional precipitation¹⁹ (Box 1.4).

None of the tropical regions met the regional interim target for 2022, with tropical Latin America missing by 47 percent. Tropical Asia is the only tropical region showing a decrease in emissions from deforestation in comparison to baseline levels. However, the region missed the regional interim target of 1.14 billion metric tons of carbon dioxide equivalent by 3 percent. Additionally, the region's emissions from deforestation increased in 2022 compared to 2021. Emissions from deforestation remain lower in tropical Africa than in other regions, while showing an increase of 4 percent from the regional baseline level (see Figure 1.7, Table 1.7).

Figure 1.7. Tropical regional emissions from deforestation, in billion metric tons of carbon dioxide equivalent (GtCO₂e)



Note: The baseline is calculated as the average deforestation between 2018 and 2020. The annual targets are the points on the linear trajectory going from the baseline 2018-20 and the 2030 target of zero emissions from deforestation.

Source: Figure based on original analysis for this report using data from Harris et al., 2021, Hansen et al. 2013, and Curtis et al. 2018, updated through 2022

Table 1.7. Tropical regions' emissions from deforestation in 2022, in billion tons of carbon dioxide equivalent (GtCO₂e)

| | Baseline 2018-2020 (GtCO ₂ e) | Target in 2022 (GtCO ₂ e) | Emission from deforestation in 2022 (GtCO ₂ e) | Relative change from baseline | Deviation from target |
|-----------------|--|--------------------------------------|---|-------------------------------|-----------------------|
| Tropical Africa | 0.53 | 0.43 | 0.55 | 4% | 29% |
| Tropical Asia | 1.42 | 1.14 | 1.17 | -18% | 3% |
| Tropical LAC | 1.84 | 1.48 | 2.18 | 18% | 47% |

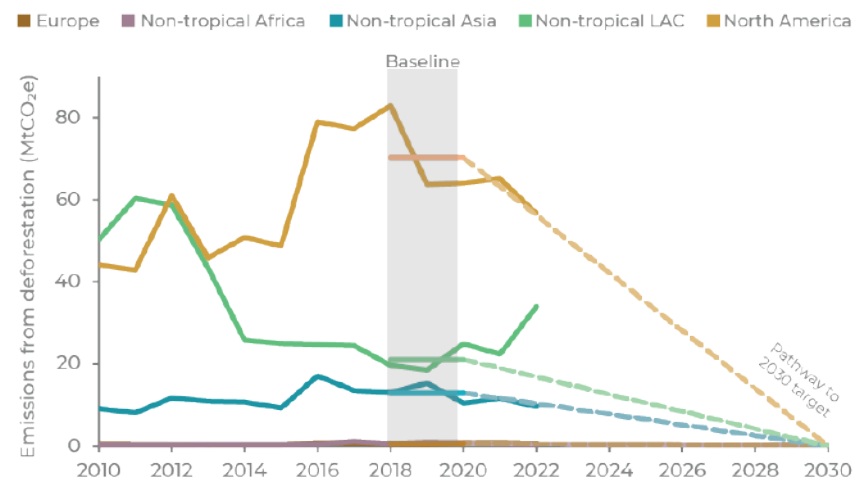
Source: Figure based on original analysis for this report using data from Harris et al., 2021, Hansen et al. 2013, and Curtis et al. 2018, updated through 2022

In 2022, emissions from deforestation in non-tropical regions reached 101.20 million metric tons of carbon dioxide equivalent, which is in the same scale of the emissions caused by the energy sector in Italy during the same period (107.6 MtCO_{2e}).²⁰

The cumulative emissions from deforestation in non-tropical regions represent about 2.5 percent of the global emissions from deforestation. The non-tropical region with highest gross emissions from deforestation is North America (70.23 MtCO_{2e}). Even though North America has the highest gross emissions, the region experienced a 19 percent decrease from the baseline level and missed the regional interim target for 2022 by only 1 percent. Two non-tropical regions met their 2022 targets: non-tropical Africa and non-tropical Asia (Figure 1.8, Table 1.8).

Non-tropical Latin America, on the other hand, experienced a significant jump in emissions from deforestation. The region saw a 61 percent increase in emissions from the baseline, with 33.92 million metric tons of carbon dioxide equivalent caused from deforestation in 2022.

Figure 1.8. Non-tropical regional emissions from deforestation, in million metric tons of carbon dioxide equivalent (MtCO_{2e})



Note: The baseline is calculated as the average deforestation between 2018 and 2020. The annual targets are the points on the linear trajectory going from the baseline 2018-20 and the 2030 target of zero emissions from deforestation.

Source: Figure based on original analysis for this report using data from Harris et al., 2021, Hansen et al. 2013, and Curtis et al. 2018, updated through 2022

Table 1.8. Non-tropical regions' emissions from deforestation in 2022, in million metric tons of carbon dioxide equivalent (MtCO_{2e})

| | Baseline 2018-2020 (MtCO _{2e}) | Target in 2022 (MtCO _{2e}) | Emission from deforestation in 2022 (MtCO _{2e}) | Relative change from baseline | Deviation from target |
|---------------------|--|--------------------------------------|---|-------------------------------|-----------------------|
| Europe | 0.62 | 0.49 | 0.63 | 2% | 28% |
| Non-tropical Africa | 0.75 | 0.60 | 0.40 | -47% | -34% |
| Non-tropical Asia | 12.93 | 10.34 | 9.62 | -26% | -7% |
| Non-tropical LAC | 21.04 | 16.83 | 33.92 | 61% | 102% |
| North America | 70.23 | 56.18 | 56.61 | -19% | 1% |

Source: Based on original analysis for this report using data from Harris et al., 2021, Hansen et al. 2013, and Curtis et al. 2018, updated through 2022

BOX 1.4. CASE STUDY: TREE COVER LOSS AND PRECIPITATION IN THE TROPICS

Not only do tropical forests have a crucial role in the global carbon cycle, but they also play a critical function for the hydrological cycle and influence local and regional precipitation.²¹ A new pan-tropical study²² investigates the influence of tropical forest loss on precipitation patterns across different spatial scales—ranging from 5 km to 200 km—using various precipitation datasets. Satellite-based data reveal that deforestation leads to statistically significant decreases in annual mean precipitation across all examined scales. The larger the forest area being lost, the more pronounced the decline in precipitation. Losses on the scale of millions of hectares corresponded to a reduction of approximately 0.25 millimeters per month in annual precipitation for each percentage point of forest cover loss. The study estimates that deforestation in the Congo Basin could reduce regional-level precipitation by 8-10 percent by 2100. Future deforestation and associated reduction in precipitation can still be avoided, highlighting the close link between forest conservation and climate change resilience.

Figure Box 1.4. Changes in seasonal precipitation due to forest loss



1.2 Is the world making progress on ending forest degradation by 2030?

Extensive forest degradation has occurred both globally and in each region. As reported in the 2022 Assessment, the rate of degradation appears to have decreased between 2020 and 2021, compared to the baseline period 2018-20.

During the baseline period degradation was indicated by an average loss of 0.13 FLII units per year, whilst during 2020-21 the loss was only 0.09 FLII units, a reduction greater than that required to be on track to halt degradation by 2030 (Figure 1.9). However, as the figures below show, the degradation being detected by the FLII indicator shows substantial year-to-year fluctuations, demanding further years of data before a clear trend can emerge. Moreover, since observed rates increased in four out of the eight global regions, it cannot yet be concluded that the world is consistently on track for this target.

BOX 1.5. CONTEXT ON ASSESSING FOREST DEGRADATION

Forest degradation is the result of a progressive decline in the structure, species composition and ecological functions upon which the existence and resilience of a forest is based.²³ Drivers of forest degradation include logging activities, livestock grazing, and roads construction.²⁴ Long-term studies (1992-2014) in the Brazilian Amazon revealed that the total area of degraded forests exceeded the extent of deforestation in the region.²⁵

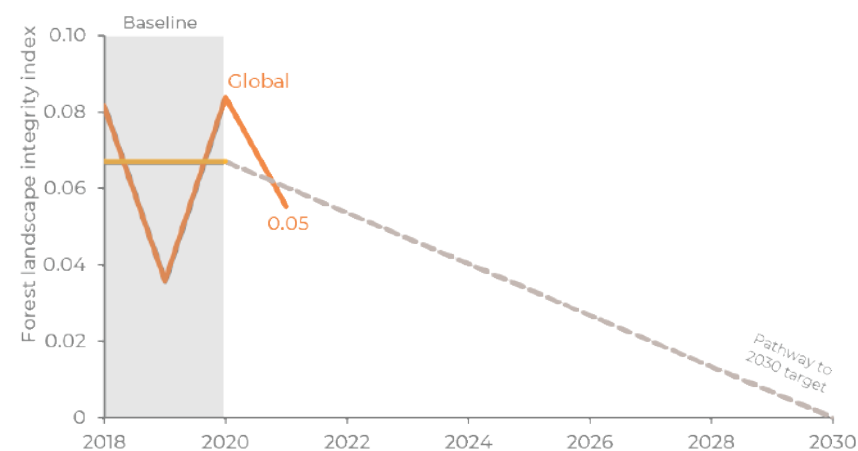
Degradation dynamics result in forest fragmentation and increased access by humans to areas that were previously covered by dense forests. This often anticipates deforestation²⁶ that, in turn, creates new forest edges, increasing the exposure of forests to human-made disturbances, as well as to biotic and abiotic factors that further exacerbate degradation.²⁷ Besides the effects of degradation on forest structure and functions, carbon emissions caused by forest degradation in the Amazon are estimated to exceed those caused by forests loss.²⁸

HOW DO WE ASSESS PROGRESS ON HALTING FOREST DEGRADATION?

Despite the importance of monitoring forest degradation worldwide, the Forest Landscape Integrity Index (FLII)²⁹ remains the only available source of yearly estimates of forest degradation globally. The FLII methodology accounts for multiple parameters such as forest extent, forest connectivity, direct pressure from human activities and inferred pressure from edge effects to estimate forest integrity through a FLII score, with higher scores corresponding to higher levels of forest integrity.³⁰ Thus, a decrease in the FLII score corresponds to an increase in forest degradation.

The Assessment uses the yearly change in FLII score to track progress towards the 2030 goal of halting and reversing forest degradation. In numerical terms, halting and reversing forest degradation translate into no reduction or an increase of the FLII score at global and at regional level. Due to temporary delays in producing 2022 estimates of the FLII score, this chapter presents FLII trends from 2017 to 2021, which are the latest available data at the time of this study.

Figure 1.9. Loss of forest integrity at global level, expressed as yearly change in Forest Landscape Integrity Index



Note: Reaching zero loss of forest integrity by 2030 equates to halting forest degradation.

Source: Figure based on original analysis for this report using data from Grantham et al., 2020 updated through 2021.

In 2021, forest degradation—as measured by the FLII—increased sharply from baseline levels in three regions: tropical and non-tropical Latin America, and non-tropical Africa. Conversely, forest degradation substantially decreased in non-tropical Asia the same year.

Forest degradation also increased marginally in tropical Africa (Table 1.9). In contrast, tropical and non-tropical Asia, Europe, and North America, show decreases from baseline levels, and may be on track to halt forest degradation by 2030. Data for the three tropical regions are shown in Figure 1.10. A longer time series is needed before firm conclusions can be drawn, since year-to-year fluctuations can obscure longer-term trends.

Forest degradation is a global phenomenon with diverse dynamics and impacts varying across countries and regions. Notably, local hotspots for forest degradation are observed both in tropical regions³¹ and in the boreal forests of Europe³² and North America (see **Canada case study**).³³ In boreal regions, forest management poses significant threats to forest habitats, leading to the erosion of local biodiversity resources,³⁴ and forest carbon storage.³⁵ It is also important to notice that, unlike forest loss, forest degradation does not imply the conversion of large forest patches to a new land use. Degraded forests remain forests, but their structure and ecological functions are weakened or reduced, with short- and long-term effects on forests' resilience and delivery of ecosystem services.³⁶

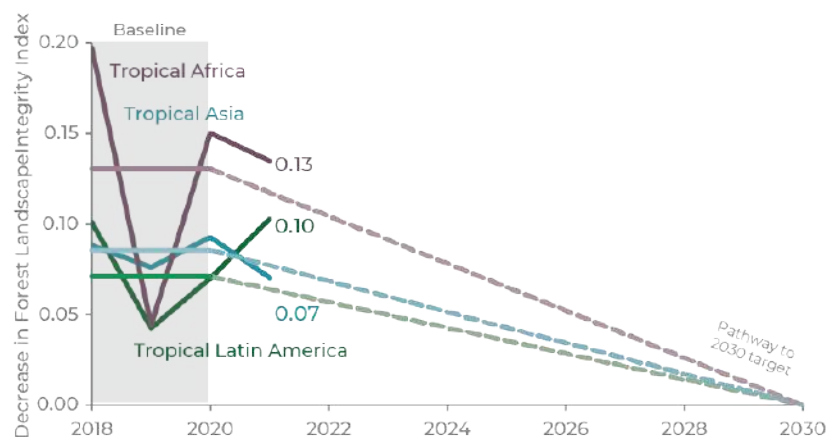
Given the complexities of forest degradation, the authors of this report acknowledge that the grouping of temperate and boreal regions as “non-tropical,” cannot capture the nuances of forest degradation dynamics occurring at the local level. Furthermore, the FLII is not designed to detect certain categories of human impact such as those related to climate change or distortion of natural fire regimes. It is anticipated that updated data and refinements to the methodology employed in this section will offer deeper insights into degradation dynamics in the future.

Table 1.9. Regional and global change in forest integrity as estimated by the Forest Landscape Integrity Index

| | Baseline rate of degradation 2018-2020 (decline in FLII units per year) | Target rate of degradation in 2020-21 (FLII units per year) | Observed rate of degradation in 2020-21 (FLII units per year) | Change in rate of degradation relative to baseline | Difference between observed and target rate of degradation in 2020-21 |
|---------------------|---|---|---|--|---|
| Tropical Africa | 0.130 | 0.117 | 0.135 | 3% | 15% |
| Tropical Asia | 0.086 | 0.077 | 0.070 | -18% | -9% |
| Tropical LAC | 0.071 | 0.064 | 0.103 | 45% | 61% |
| Europe | 0.181 | 0.163 | 0.120 | -34% | -27% |
| Non-tropical Africa | 0.168 | 0.151 | 0.342 | 103% | 126% |
| Non-tropical Asia | 0.043 | 0.039 | 0.011 | -76% | -73% |
| Non-tropical LAC | 0.044 | 0.040 | 0.097 | 119% | 143% |
| North America | 0.025 | 0.022 | 0.015 | -40% | -33% |
| Global | 0.067 | 0.060 | 0.055 | -18% | -8% |

Source: Based on original analysis for this report using data from Grantham et al., 2020 updated through 2021

Figure 1.10. Loss of forest integrity at regional level, expressed as yearly change in Forest Landscape Integrity Index



Note: Reaching zero loss of forest integrity by 2030 equates to halting forest degradation.

Source: Figure based on original analysis for this report using data from Grantham et al., 2020 updated through 2021

1.3 Where are global forests' stock carbon located?

Forests function as Earth's natural carbon sinks, sequestering carbon and storing it in different places. Through photosynthesis, trees assimilate carbon dioxide, incorporating it into their organic structures. Aboveground biomass (AGB) refers to the collective mass of tree components such as trunks, branches, leaves, and roots visible above the soil surface. Conversely, belowground biomass (BGB) encompasses the hidden reserves within the forest soil, comprising decomposed organic matter, intricate root systems, and microbial communities. These subterranean carbon reservoirs play a crucial role in maintaining overall carbon equilibrium.³⁷ Understanding the distribution of carbon stocks is crucial for making informed land management decisions, and significant advancements have been made over the years to enhance this understanding (**Box 1.2**).

Forests act as formidable agents in climate change mitigation, regardless of geographical location or climatic conditions, retaining substantial carbon stocks. However, carbon stocks are not uniformly distributed across forests at different latitude. According to latest estimates, 157.37 billion metric tons of carbon (AGB) is stocked in tropical forests. This corresponds to over 60 percent of the global forest carbon stock (AGB), which is estimated to 250.24 billion metric tons of carbon.³⁸

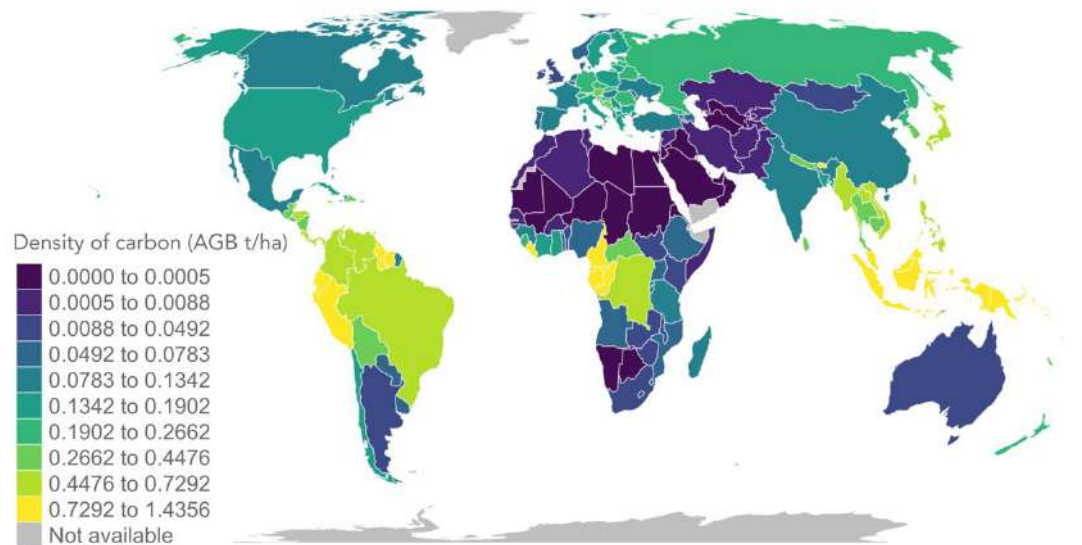
Accounting for the inhomogeneous distribution of carbon stocks across regions, with the tropics displaying the highest densities (see **Table 1.10**), is crucial for devising effective climate mitigation strategies. However, it is imperative to recognize that the ecological and economic value of forests goes beyond the carbon they store. Therefore, while formulating forest conservation strategies, it is essential to consider not only carbon densities but also the positive central role of forests for conserving biodiversity resources and supporting human livelihoods.³⁹

Table 1.10. Density of carbon in aboveground biomass (AGB) by region, in metric tons per hectare (t/ha)

| | Density of Carbon (t/ha) | Standard Deviation |
|---------------------|--------------------------|--------------------|
| Tropical Africa | 17.13 | 40.42 |
| Tropical Asia | 50.58 | 64.09 |
| Tropical LAC | 49.97 | 60.86 |
| Europe | 13.98 | 18.13 |
| Non-tropical Africa | 14.78 | 23.15 |
| Non-tropical Asia | 9.14 | 14.18 |
| Non-tropical LAC | 6.01 | 16.24 |

Source: Figure based on original analysis for this report using data from Ma et al., 2023

Figure 1.11. Average density of carbon in aboveground biomass (AGB) by country, in metric tons per hectare (t/ha)



Note: Details on the query are provided in the Theme 1 Annex.

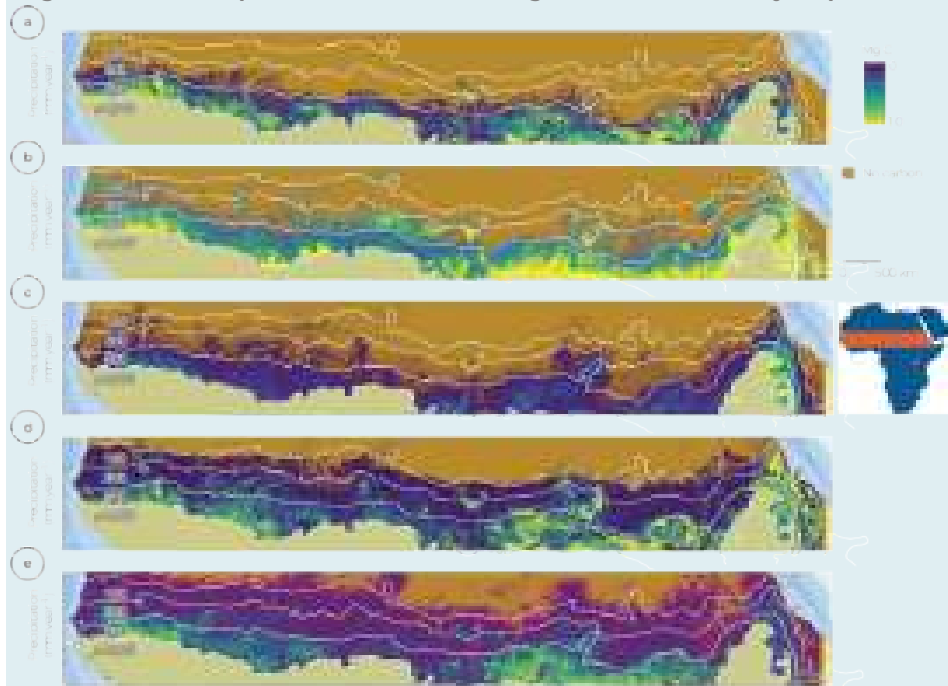
Source: Figure based on original analysis for this report using data from Ma et al., 2023

BOX 1.6. CASE STUDY: CARBON STOCKS IN ISOLATED TREES OF AFRICA DRYLANDS

Understanding the distribution and features of dryland trees on a large scale is a crucial but often overlooked area of research. This knowledge is vital for ecological conservation, accurate carbon calculations, effective climate strategies, and restoring dryland ecosystems. Despite their significance, there has been limited comprehensive insights into dryland trees, which has limited informed decisions for land management.

In a recent study,⁴⁰ researchers used satellite images and advanced machine learning to examine over 9.9 billion trees in sub-Saharan Africa's semi-arid regions. This thorough analysis unveiled new aspects of these ecosystems. The study revealed a range of average carbon stocks per tree, from 0.6 to 4 tons of carbon per hectare, varying across rainfall zones.

Figure Box 1.6. Comparison of different aboveground carbon-density maps



Note: Tucker et al. (2023) show the aboveground carbon density for our study area compared with different sources. Areas beyond 1,000-millimeter rainfall per year are masked out.

Source: Data are from a) Santoro et al. (2021); b) Baccini et al. (2012); c) Hanan et al. (2020); d) Bouvet et al. (2018); e) Tucker et al. (2023).

These findings have practical implications. The study estimated that isolated trees in Africa drylands hold a carbon stock of 0.9 ($\pm 19.8\%$) billion metric tons of carbon and offers a more accurate measure than previous simulations. This understanding of tree density and carbon stocks rectifies past estimates, providing a solid foundation for developing policies and climate mitigation strategies. In fact, the database of tree traits and carbon stocks are a useful resource for scientists, policymakers, and restoration practitioners, empowering effective measures to protect and rehabilitate these important landscapes.

1.4 Is the world on track to restore 350 million hectares of forest by 2030?

In 2022, data on global restoration efforts remain fragmented and inconsistent. A global overview of natural forest recovery is also missing.

Deforested and degraded forests have the ability to grow back naturally over time. Surprisingly, not all deforested land is put to immediate use; around half of deforested areas in the tropics are eventually left abandoned.⁴¹ In these areas, nature takes its course and forests can regrow on their own.

Starting from 2015, forest regrowth gradually increased in tropical moist forests (**Figure 1.12**). Based on the definition of regrowth adopted in this study,⁴² the increase in forests' regrowth results from a combination of factors, such as the increase in deforestation in tropical regions, and the abandonment of deforested areas following logging.

These regrowing forests are considered a positive force in the fight against climate change. They act like sponges, soaking up carbon dioxide from the atmosphere as they rebuild their woody structure.⁴² However, it's important to note that when tropical forests are cut down, they release more carbon into the atmosphere from the soil and deadwood than what they capture during regrowth. This makes logged tropical forests a net source of carbon emissions for at least 10 years after logging.⁴³

HOW DO WE ASSESS PROGRESS ON RESTORING DEGRADED FORESTLANDS?

Neither up-to-date data (i.e., as of 2022) on forest cover gain at global scale nor a global dataset of the area under restoration are currently available. In the absence of such datasets, this report estimates forest restoration by looking at two metrics. Tropical moist forest regrowth⁴⁴ indicates the area of deforestation that recovered after logging. Area under restoration—as reported by Restor and the 2022 Restoration Barometer Report—provides an indication of forest restoration efforts at global scale.

The lack of available data on forest restoration highlights a major data gap for forests. While available data provides an approximate, “best-guess” estimate on global restoration progress, these figures are almost certainly insufficient to support decision making.

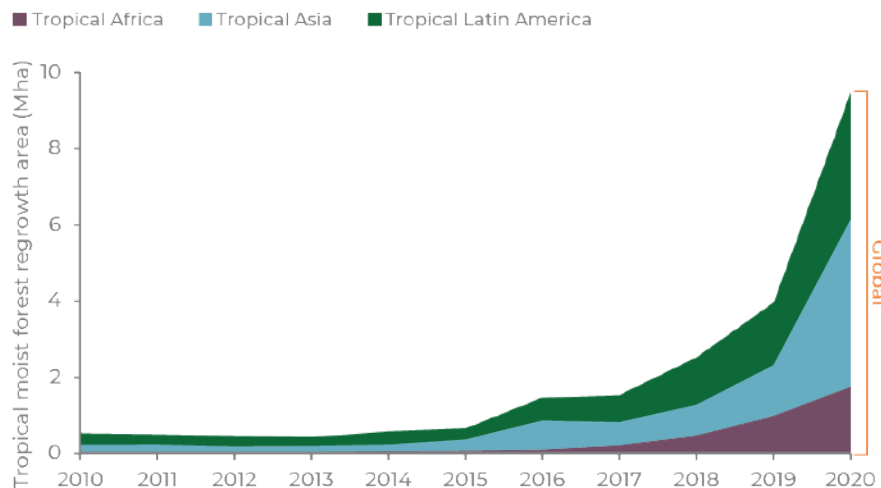
BOX 1.7. CONTEXT FOR ASSESSING PROGRESS ON FOREST RESTORATION

The Bonn Challenge enshrined the global goal to restore 350 million hectares of degraded and deforested landscapes by 2030, a goal which was affirmed by the New York Declaration on Forests. Through the Glasgow Leaders' Declaration on Forest and Land Use, over 140 countries have committed to accelerate forest restoration and, in the Kunming-Montreal Global Biodiversity Framework, the Parties to the Convention on Biological Diversity agreed to the ambitious target to restore at least 30 percent of degraded land by 2030.

Over the previous two decades (2000-20), global tree cover increased by roughly 130.9 million hectares⁴⁵—an area slightly larger than Peru. Three quarters of the global gain was concentrated in 13 countries. However, these gains were offset by 231.4 million hectares of tree cover loss in the same countries during that period.

⁴¹Forest regrowth is a two-phase transition from moist forest to (i) deforested land and then (ii) vegetative regrowth. A minimum of 3-year duration of permanent moist forest cover presence is needed to classify a pixel as forest regrowth (to avoid confusion with agriculture). (Vancutsem et al. 2021).

Figure 1.12. Global tropical moist forest regrowth after deforestation



Source: Based on original analysis for this report using data from Vancutsem et al., 2021

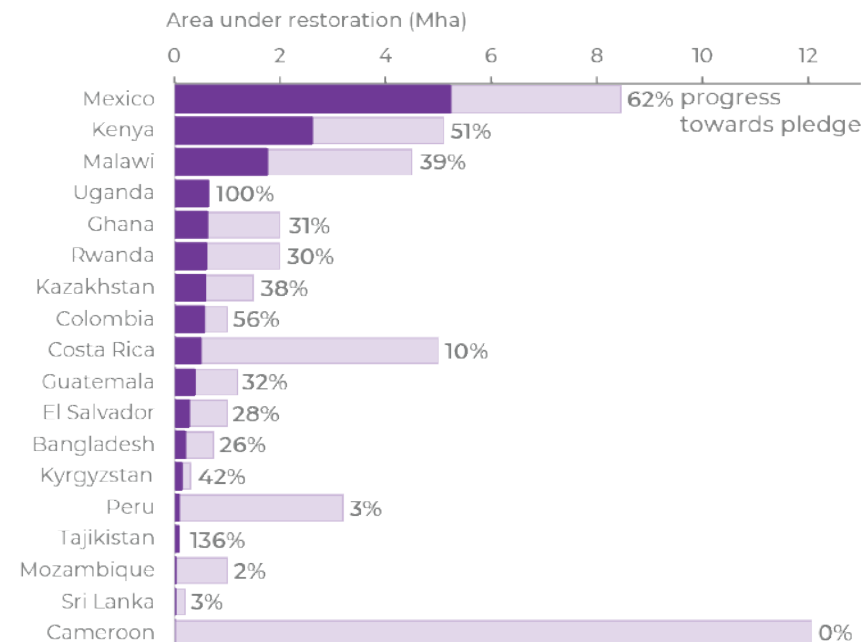
According to country disclosures through the Restoration Barometer in 2022, only 18 countries have disclosed progress towards their ecosystem restoration pledges.⁴⁶

The total area under forest restoration in those 18 countries is about 4 million hectares, which is 28 percent of the area under restoration across all ecosystems.^e The area under forest landscape restoration reported by the 18 countries corresponds to 2.6 percent of the Bonn Challenge’s 2020 target (150 million hectares). It is likely that the information from these countries is only a small portion of the area under restoration at the global level.

Progress toward national pledges varies greatly across countries, with one exceeding the pledge by 36 percent by restoring 90 thousand hectares across all ecosystems—as in the case of Tajikistan—and others making minimal progress towards ambitious pledges, as in the case of Cameroon,

which reported restoring 100 thousand hectares over the 12 million pledged (Figure 1.13).

Figure 1.13. Country pledged on ecosystems restoration and progress reported up to 2022 through the Restoration Barometer, in million hectares (Mha)



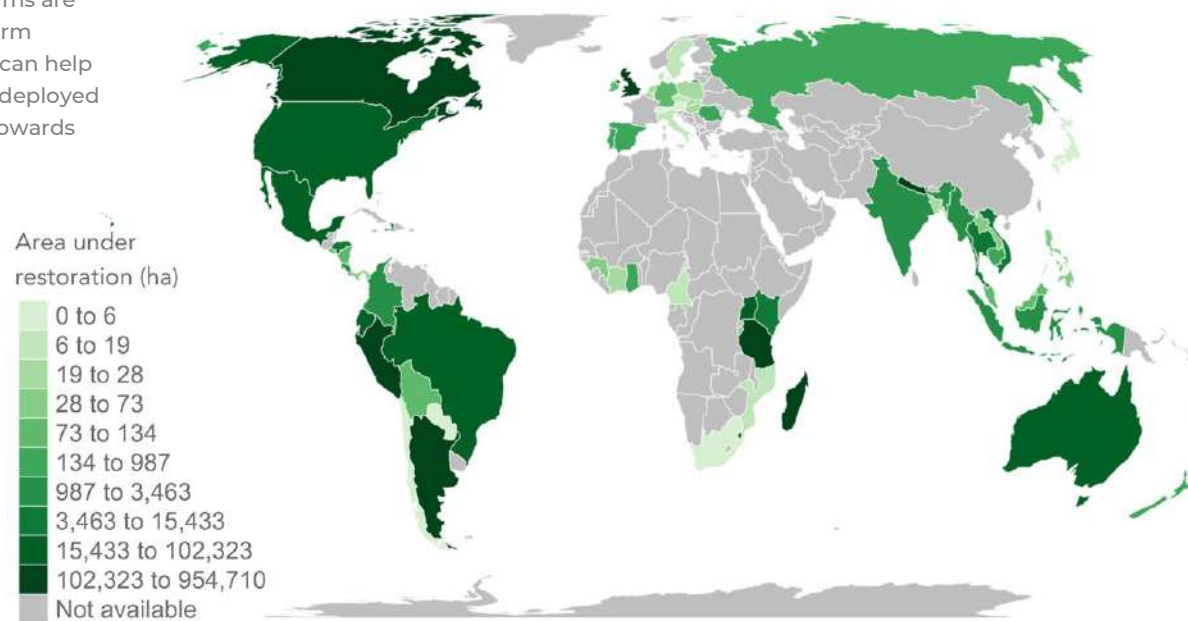
Source: Based on data retrieved from the IUCN Barometer 2022 Report

^e Coasts and mangroves (15% of total progress). Deserts and semi-deserts (8%). Farmlands and mixed-use areas (17%). Forests and woodlands (28%). Grasslands, shrublands and savannahs (10%). Peatlands (3%). Rivers, streams and lakes (wetlands) (13%). Urban areas (5%).

Project-level data provided by Restor¹—one of the largest data platforms cataloguing ecosystem restoration projects—reveals that forests' restoration projects are taking place both in those countries that are and are not reporting progress through the Restoration Barometer, as well as in countries that have not made restoration data public (**Figure 1.14**). Based on project-level data, the total area under restoration in forests' ecosystems is approximately 3 million hectares, which constitutes approximately 2 percent of the 2020 target outlined in the Bonn Challenge.

It is important to note, however, that the geographic distribution of project-level data featured on restoration platforms like Restor is likely to be limited by the capacity of platform curators to engage with projects across broad geographical regions. Furthermore, the data stored on these platforms are often not subject to any external validation—including by the platform curators. The snapshot of restoration provided in project databases can help us understand the attributes and activities that are currently being deployed across the globe. However, their contribution to tracking progress towards global or regional restoration targets is limited.

Figure 1.14. Area under restoration at national level, per data retrieved by the RESTOR database



Note: Details on the query are provided in the technical notes.
 Source: Based on data retrieved from the Restor database (Crowther et al, 2020)

¹The sites included in this analysis are those which have been made publicly viewable on the Restor platform—and this subset of sites is generally of higher quality than the full suite of locations in the full database (which includes sites uploaded for private use). However, Restor makes no guarantee that the summaries provided are accurate or complete. For further details on Restor database please refer to Crowther et al. (2020). Available at: <https://doi.org/10.1016/j.oneear.2022.04.003>

1.5 Is the world making progress on protecting biodiversity in forests?

In 2022, 1.2 million hectares of forests were lost within forested KBAs. While this remains a significant loss, it represents a 30 percent decrease from the baseline period of 2018-20. This progress indicates that the world is making strides towards eliminating tree cover loss in these critical sites of global biodiversity importance.

Halting tree cover loss in forested KBAs is crucial for preserving species that depend on forest habitats for their survival or reproduction (Figure 1.15). Looking at the regional level, the analysis of tree cover loss in forested KBAs shows that nearly all regions have seen a reduction in tree cover loss compared to the baseline period 2018-20, although only two regions are on track for halting tree cover loss in forested KBAs by 2030 (Table 1.11). Particularly notable is non-tropical Asia, which has experienced a remarkable 81 percent decrease from the baseline period.

While this positive trend is encouraging, there is still room for improvement. Tropical forests, despite covering less than 10 percent of Earth's land surface, support at least two-thirds of the world's biodiversity.⁴⁷ In tropical regions, however, the rate of decrease in tree cover loss was not sufficient to be on track for halting forest loss in forested KBAs by 2030 (Figure 1.16; see non-tropical regions in Figure 1.17).

BOX 1.5. CONTEXT ON FORESTED KBAS

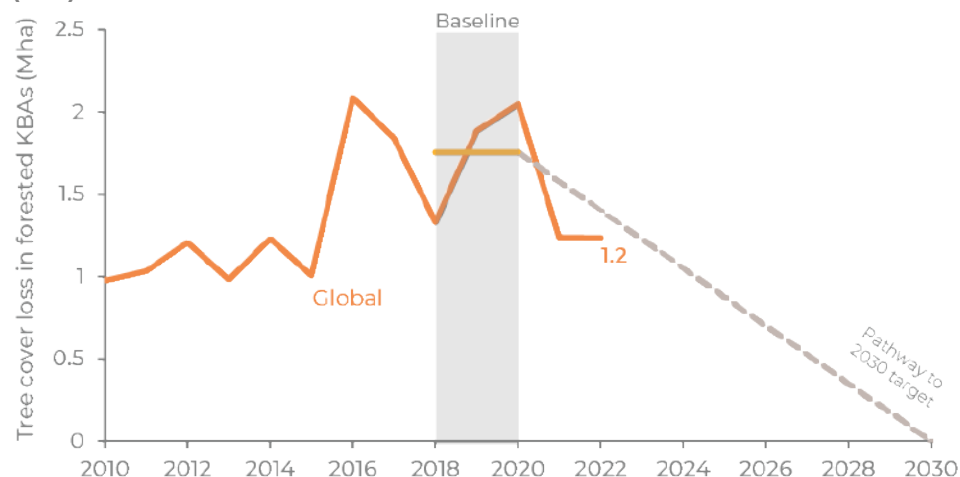
Key Biodiversity Areas (KBAs) are sites that contribute significantly to the global persistence of biodiversity. They are identified based on a set of criteria relating to threatened or geographically restricted species or ecosystems, biological processes, ecological integrity, and irreplaceability.⁴⁸ Globally, 16,337 KBAs cover over 2 billion hectares encompassing seas, subterranean and freshwater ecosystems, as well as grasslands, deserts and, of course, forests. Currently, there are no formal commitments in place to stop the loss of tree cover in KBAs, nor are there targets to halt forest loss in KBAs by 2030. KBAs are useful for setting national priorities for establishing or expanding protected areas and other effective area-based conservation measures, such as community-managed areas.⁴⁹

Recognizing the great value of KBAs for biodiversity conservation and management, the Assessment extends to forested KBAs the overarching goals of halting forest loss and degradation by 2030.

Forested KBAs represent a subset of KBAs selected according to three criteria:⁵⁰

1. Spatial overlap with the data layer defining global tree cover in 2000⁵¹
2. Spatial overlap with the Forest Landscape Integrity Index,⁵² and
3. Presence of at least one forest specialist that triggered KBA criteria at the site. Forest specialists are defined as species that depend on forest habitats for their survival or reproduction. While evaluating this aspect, season was considered for migratory species that are not forest-dependent throughout their annual life cycle.

Figure 1.15. Global tree cover loss in forested KBAs, in million hectares (Mha)



Source: Based on original analysis for this report using data from Hansen et al. 2013. Only tree cover loss occurring within forested KBAs is considered (Crowe et al., In Review).

Globally, degradation in forested KBAs decreased by 17 percent from baseline levels to 2021.

The degradation of forest ecosystems is among the most significant drivers of biodiversity loss and ecosystem service decline globally.⁵³ According to the FLII indicator, between 2017 and 2021 forest integrity inside KBA's declined by 8 percent (~2% per year), which means that degradation of forested KBAs is ongoing both globally, with an average loss of 0.12 FLII units per year, and in all individual regions. Yet, the global rate of degradation appears to show a small decline from 2020-21 compared to the baseline, with a loss of 0.10 FLII units, thus roughly aligning itself with the annual degradation rate target (Figure 1.18, Table 1.12). Since annual losses show substantial year-to-year fluctuations, further years of data are required before a clear trend can be identified.

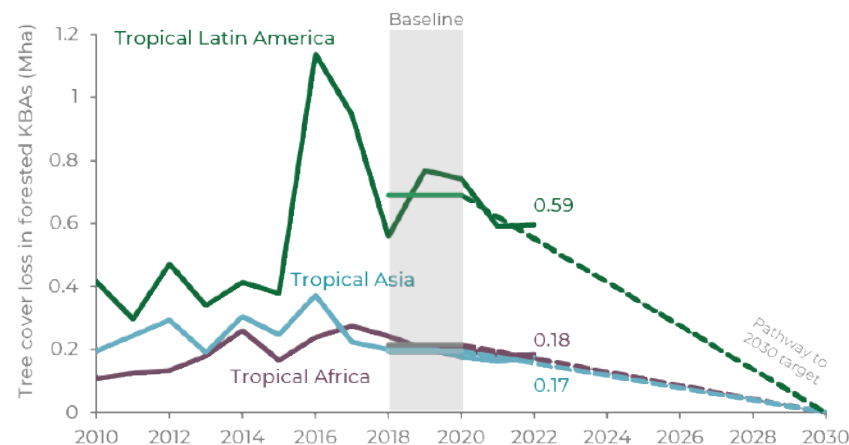
Drivers of degradation in the forested KBAs analyzed in this assessment are region and country specific, but with most factors aligning to those described at national scales, including logging, road and infrastructure construction, agriculture expansion, and fires.

Table 1.11. Regional and global tree cover loss in forested KBAs, in hectares

| | Baseline 2018-2020 (ha) | Target in 2022 (ha) | Tree cover loss in forested KBAs (ha) | Relative change from baseline | Deviation from target |
|---------------------|-------------------------|---------------------|---------------------------------------|-------------------------------|-----------------------|
| Tropical Africa | 215,221 | 172,177 | 184,141 | -14% | 7% |
| Tropical Asia | 194,742 | 155,794 | 172,945 | -11% | 11% |
| Tropical LAC | 690,067 | 552,054 | 595,253 | -14% | 8% |
| Europe | 129,419 | 103,535 | 110,705 | -14% | 7% |
| Non-tropical Africa | 14,673 | 11,738 | 12,190 | -17% | 4% |
| Non-tropical Asia | 446,274 | 357,019 | 85,585 | -81% | -76% |
| Non-tropical LAC | 14,634 | 11,708 | 35,340 | 141% | 202% |
| North America | 50,000 | 40,000 | 38,764 | -22% | -3% |
| Global | 1,755,031 | 1,404,024 | 1,234,923 | -30% | -12% |

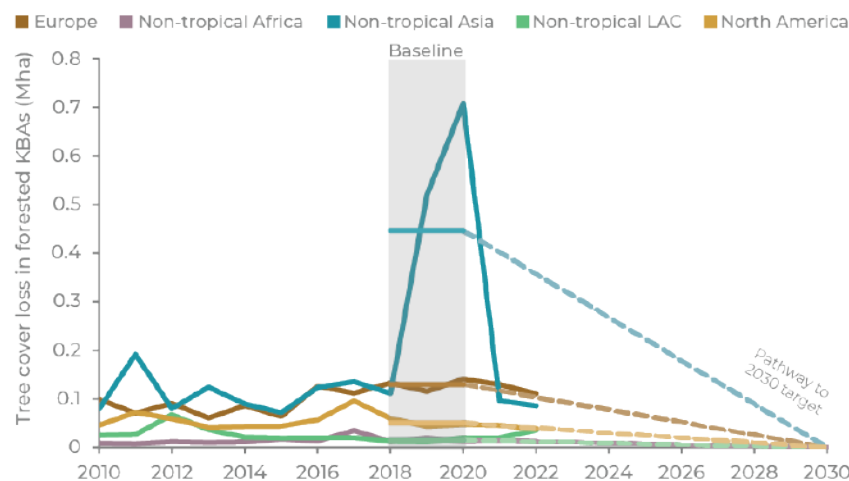
Source: Based on original analysis for this report using data from Hansen et al. 2013. Only tree cover loss occurring within forested KBAs is considered (Crowe et al., In Review).

Figure 1.16. Tree cover loss (TCL) in forested KBAs in tropical regions, in million hectares (Mha)



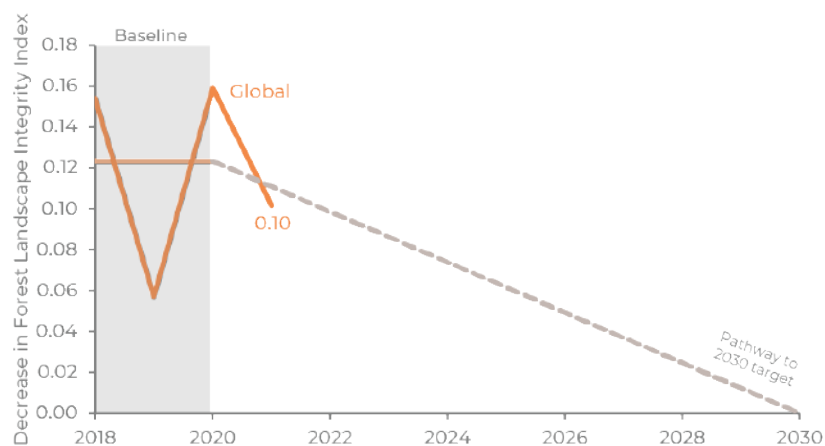
Source: Based on original analysis for this report using data from Hansen et al. 2013. Only tree cover loss occurring within forested KBAs is considered (Crowe et al., In Review).

Figure 1.17. Tree cover loss in forested KBAs in non-tropical regions, in million hectares (Mha)



Source: Based on original analysis for this report using data from Hansen et al. 2013. Only tree cover loss occurring within forested KBAs is considered (Crowe et al., In Review).

Figure 1.18. Loss of forest integrity at in KBAs at global level, expressed as yearly change in Forest Landscape Integrity Index



Note: Reaching zero loss of forest integrity by 2030 equals to halting forest degradation.
 Source: Based on original analysis for this report using data from Graham et al. 2020. Only changes in FLII occurring within forested KBAs is considered (Crowe et al., In Review).

Table 1.12. Regional and global change in forest integrity within forested KBAs, as estimated by the Forest Landscape Integrity Index

| | Baseline 2018-2020 | Target 2021 | Change FLII 2021 | Relative change from baseline | Deviation from target |
|------------------------|-----------------------|--------------|---------------------|-------------------------------------|--------------------------|
| Tropical Africa | 0.127 | 0.114 | 0.104 | -18% | -9% |
| Tropical LAC | 0.133 | 0.119 | 0.127 | -4% | 7% |
| Tropical Asia | 0.126 | 0.113 | 0.092 | -27% | -19% |
| Europe | 0.121 | 0.109 | 0.099 | -18% | -9% |
| Non-tropical Africa | 0.163 | 0.147 | 0.164 | 0% | 12% |
| Non-tropical Asia | 0.115 | 0.104 | 0.082 | -29% | -22% |
| Non-tropical LAC | 0.111 | 0.100 | 0.139 | 25% | 38% |
| North America | 0.101 | 0.091 | 0.082 | -19% | -10% |
| Global | 0.123 | 0.111 | 0.102 | -17% | -8% |

Source: Based on original analysis for this report using data from Graham et al. 2020. Only changes in FLII occurring within forested KBAs is considered (Crowe et al., In Review).

According to latest data, the Forest Specialists Index—based on species that depend on forest habitats—declined by 79 percent between 1970 and 2018.

The world’s biodiversity crisis involves all ecosystems. and forests represent a crucial component of this global emergency.⁵⁴ Biodiversity in forests—as represented by the Forest Specialists Index – declined drastically over the past 50 years (Figure 1.19), with habitat loss and habitat degradation as the most frequently reported drivers of such decline, followed by overexploitation (Figure 1.20). Forest specialists (the many species of birds, mammals, reptiles, and amphibians, that only live in forest habitats) are fundamental for maintaining the intricate web of life that characterizes and sustains forests ecosystems.

Forest specialists provide irreplaceable ecosystem services. A major decline in forest biodiversity – such as the one measured by FSI—will likely have negative effects on forest health and resilience, hindering forests’ ability to mitigate climate change and to deliver life-sustaining ecosystems services.⁵⁵

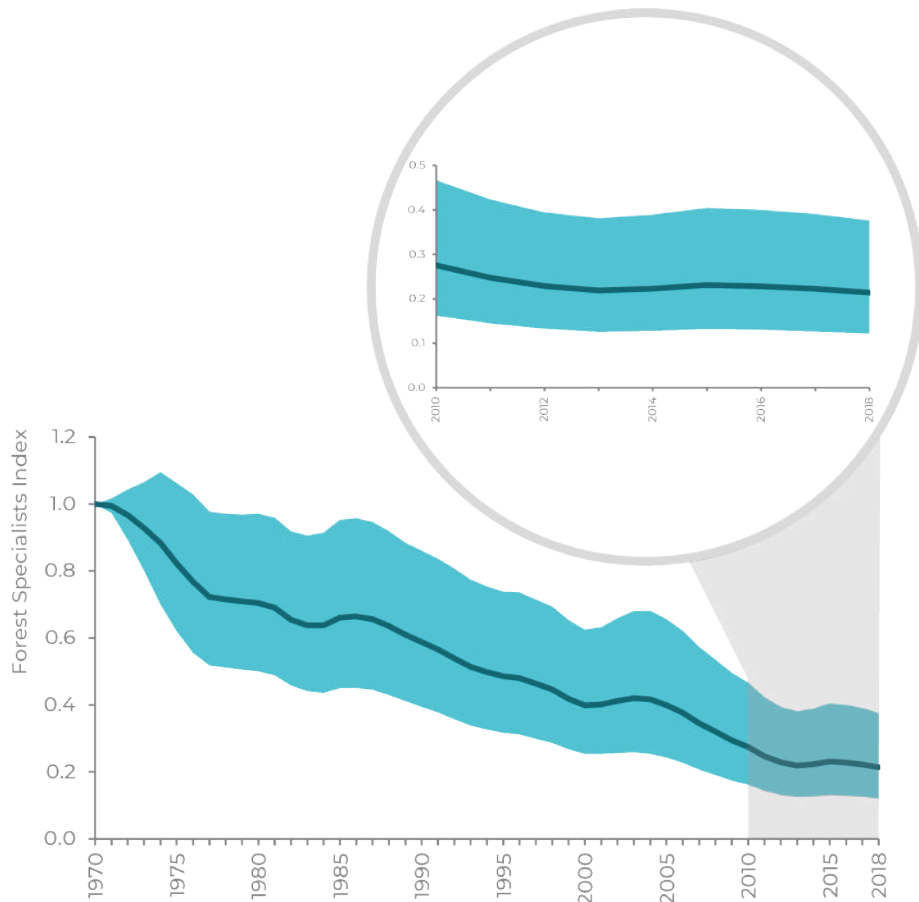
BOX 1.6. CONTEXT FOR USING THE FORESTS SPECIALISTS INDEX AS AN INDICATOR OF BIODIVERSITY WITHIN FORESTS

Forest ecosystems—and particularly tropical forests—are among the areas at highest conservation value worldwide.⁵⁶ When forests are deforested or degraded, the species inhabiting them are also threatened. In turn, the erosion of biodiversity resources threatens the health and resilience of forests. For example, trees that rely on animals to disperse their seeds may struggle to reproduce if animal populations decline. Addressing the global biodiversity crisis, climate change, and protecting global forests are inseparable causes.

This report uses the Forest Specialists Index (FSI) to evaluate the status of biodiversity within forests, which is especially important given the ongoing and escalating global biodiversity crisis. The FSI is a derivative of the Living Planet Index developed by World Wildlife Fund and the Zoological Society of London as an indicator for forest biodiversity. The FSI is based on population trend data from vertebrate species that only occur in forest habitats (per the IUCN Red List). The fluctuations of the FSI reflect the average change in relative abundance recorded in 1428 vertebrate populations worldwide.

The FSI is updated every two years by including population data newly available or collected and published after the last update. This study features the latest FSI values, which were published in 2022, covering the period 1970-2018.

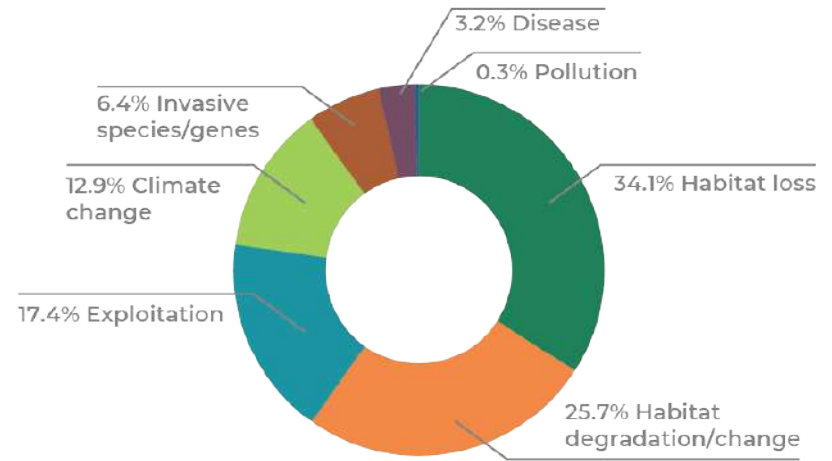
Figure 1.19. The Forest Specialists Index: 1970 to 2018



Note: The reference year for the Forest Specialists Index (FSI) is 1970, which takes value equal to 1. Values below the 1970 value indicate a decline in the monitored populations in comparison to the reference year. According to the latest update, in 2022, the FSI declined by 79% from 1970 to 2018. This is based on the average change in relative abundance of 1,428 populations of 343 forest specialist species monitored across the globe. The cyan line shows the index values, and the shaded areas represent the statistical certainty surrounding the trend (range -88% to -61%). The FSI is not calculated for more recent years due to the publication time lag—the time taken for data to be collected, analysed, and published.

Source: Figure based on data from the 2022 update of Green et al. 2020.

Figure 1.20. Types of threats as a percentage of all threats faced by forest specialist species, based on population-level information in the Living Planet Index database



Source: Figure based on data retrieved from the Living Planet Index Database.

CHAPTER 1 ENDNOTES

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Country case study

BOLIVIA

Agricultural expansion is fueling deforestation

Soaring deforestation

Deforestation rates in Bolivia are at alarming levels. In the last eight years, deforestation rates more than doubled, and in 2022 alone, almost 429,000 hectares of forest were lost.¹ Considering that the area authorized for deforestation in 2022 was 215,676 hectares, about half of the deforestation was illegal.² The country had one of the highest rates of primary forest loss in the world, mainly driven by the expansion of mechanized agriculture—particularly for soy, rice, sunflower oil, and corn—cattle ranching, and small-scale agriculture.³ Other drivers of deforestation include fires and road expansion that have facilitated increased land occupation.⁴

The Bolivian government supports the expansion of the agriculture frontier,⁵ aiming to reduce imports, obtain fiscal earnings from exports, and reduce social pressures on land. Another approach would be to increase the productivity in already converted agricultural lands, including the nearly one million hectares of deforestation caused by soy expansion since 2000.⁶ Bolivia produces 2-2.3 tons of soy per hectare compared to 2.7-3.5 tons in neighboring countries.⁷ The government has established in its agenda a target of passing from a national herd of 10.1 million to 18.3 million by 2025.⁸ Beef production is primarily aimed at the domestic market. Currently, less than five percent of the total beef production⁹ is exported.¹⁰ However, meat exports to China have been increasing since 2019.¹¹ The likelihood of expanding markets for beef may place additional pressures on forest. A 2020 survey revealed, for example, that 60 percent of the cattle ranchers thought they would benefit from opening export markets.¹²

Mennonites and smallholders directly linked to deforestation

Since the 1990s, Mennonite communities have been expanding in Bolivia and legally acquiring titles of land.¹³ The number of Mennonite communities in Bolivia increased from 63 in 2015¹⁴ to 99 in 2021.¹⁵ It is estimated that in the Santa Cruz Department alone the population of Mennonites will reach 100,000 by 2025.¹⁶ Mennonite communities converted large areas of land for agriculture and were responsible for nearly a quarter of the soy deforestation in the Bolivian Amazon over the past 20 years, with activities increasing in the past five years.¹⁷ Smallholder settlements are also advancing into forests, facilitated by government land allocation policies and regulatory frameworks that support small-scale deforestation and expansion of smallholders into non-occupied forestlands.¹⁸ Settlers of Andean origin are found especially in northern Santa Cruz, northern La Paz and Chapare, and northern Amazon in Pando.¹⁹

Low commitment to reducing deforestation

The government has not done enough to end deforestation and seems to prioritize economic expansion at the cost of environmental conservation. Besides that, law enforcement is weak, and when illegal deforestation is penalized, the fines are usually low. Furthermore, the government has repeatedly retrospectively approved land clearing that occurred without a permit.²⁰

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Country case study

CANADA

The unaccounted-for degradation of Canada's forests

Little attention and action are directed to protect Canada's forests

While global attention has focused predominantly on tropical deforestation, Canada ranks third globally—even excluding wildfires—for loss of intact forest landscapes (just behind Russia and Brazil) and fourth for tree cover loss.¹ The government claims the country has near-zero deforestation, on the basis that forests that have been clearcut are expected to grow back eventually and that they are not permanently converted to another land use.²

A number of indicators show, however, that logging in Canada is not sustainable and is exacerbating climate change-related risks, such as drought and fire.³ Logging activities are causing widespread, irreversible damage to one of the world's most ecologically vital ecosystems, as forest composition is altered upon replanting, driving avian habitat and population declines.⁴

The government does not report publicly on forest degradation. However, government data indirectly reflects the degree to which industrial logging has degraded its forests. For example, Canada's assessment of the status of boreal caribou populations indicates that only 15 of Canada's 51 herds currently have sufficient habitat to survive long term, largely due to logging.⁵ As a barometer for overall forest intactness, the dire state of these herds signals the significant levels of degradation that logging has caused across the boreal region. The logging industry is responsible for 10 percent of the country's overall carbon footprint,⁶ and each year, the Canadian logging industry clearcuts more than half a million hectares of forests,⁷ much of which are irrecoverable primary and old-growth forests.

The government asserts that its forest management laws and regulations are rigorous and comprehensive, and that third-party forest management certifications cover three-quarters of managed forests in the country.⁸ Canada is currently investing in a process to create a degradation definition in line with emerging FAO guidance and to strengthen its forest condition monitoring capacity.

However, some of the criteria within the current regulatory process do not align with global forest goals of zero deforestation. For example, many provinces allow the cutting of primary forests,⁹ which is not aligned with the goal of halting the loss of natural forests by 2030.¹⁰ Government policymaking does not appear to factor in the unique value of primary forests for the climate, biodiversity, and Indigenous Peoples (IPs), nor industrial logging's true ecological cost. Meanwhile, although the government invested in Indigenous-led protection,¹¹ most provinces do not guarantee the rights of IPs in the face of industrial development on their territories. For example, First Nations in Ontario¹² and Manitoba¹³ launched lawsuits against the government, alleging they have not been properly consulted on decisions involving their land. The unique value of primary forests for the climate, biodiversity, and IPs does not appear to meaningfully factor into government policymaking¹⁴—nor does industrial logging's true ecological cost.¹⁵

Contradictory messages on the global stage?

Internationally, Canada has demonstrated leadership for forests, including its commitments under the Global Biodiversity Framework and the Glasgow Leaders' Declaration on Forests and Land Use. These commitments expose the duality between Canada's global representations and its political will to address the significant degradation within its own borders, especially when juxtaposed against the Government of Canada's efforts to obstruct policies establishing new standards around forest degradation and the protection of Indigenous rights. Most recently, Canada lobbied against the inclusion of standards around forest degradation in the EU Deforestation Regulation,¹⁶ prohibiting trade in products tied to the conversion of primary forests to planted forests. Canada was also the sole country to oppose state bills in California and New York that would have set standards addressing state purchases tied to tropical and boreal deforestation, and forest degradation and Indigenous rights violations.¹⁷

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¹³ Stranger, D. (2022, February 27). [First Nations in Manitoba suing province, company over logging on traditional lands](#). APTN News.

¹⁴ Tasker, J.P. (2018, October 11). [Supreme Court rules Ottawa has no duty to consult with Indigenous people before drafting laws](#). CBC News.

¹⁵ Natural Resources Defense Council (NRDC). (2022). Letter from Scientists to Prime Minister Justin Trudeau Regarding the Protection of Canada's Primary Forests. New York, New York: Natural Resources Defense Council. https://www.nrdc.org/sites/default/files/media-uploads/primary_forest_scientist_letter-final.pdf.

¹⁶ Yousif, N. (2022, December 2). [Canada: Ambassador Tells EU That Deforestation Rules 'Burdensome'](#). BBC News.

¹⁷ Fortune, L., & Matteis, S. (2023, March 10). [Canada, Home to Massive Boreal Forest, Lobbied to Limit U.S., EU Anti-Deforestation Bills](#). CBC News.

Chapter 2

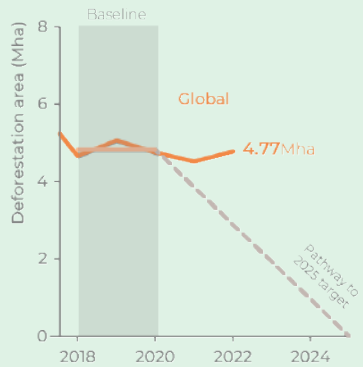
SUSTAINABLE PRODUCTION & DEVELOPMENT

Theme 2 Assessment

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IN 2022, THERE WAS A STAGGERING 4.77 MILLION HECTARES OF COMMODITY-DRIVEN DEFORESTATION



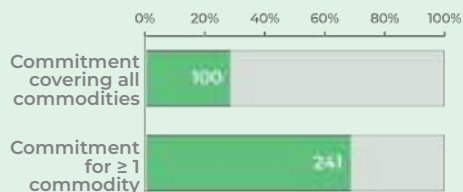
That's a **5.6%** increase in commodity-driven deforestation in 2022 compared to 2021.

With only two years left to meet the 2025 target date to eliminate commodity-driven deforestation, the world is not on track.

Leading agricultural companies are taking action on forest protection, but global impact remains limited

Only **29%**

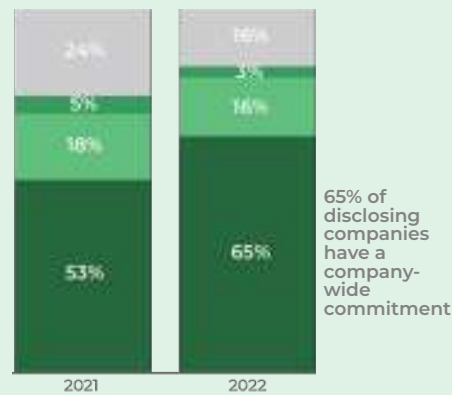
of companies in forest-risk commodity supply chains assessed by Forest 500 have a deforestation commitment in place for all commodities to which they are exposed.



Only 12% of companies disclosing to CDP claim to be close to eradicating deforestation from their supply chains.

Limited progress in mining and extractives sectors on addressing forest risks

In 2022, more mining and coal extractive companies reported through CDP that they had made a public commitment to reduce or avoid impacts on biodiversity than in 2021.



Few downstream companies conduct environmental due diligence for forest-risk commodities.

FORESTS GIVEN LOW PRIORITY BY GOVERNMENTS

Governments fail to recognize the long term loss of value that comes from deprioritizing forests compared to other economic and development objectives.

Limited progress on REDD+ in most participating countries



Investments into harmful forest activities dwarfs investments into protecting & restoring forests



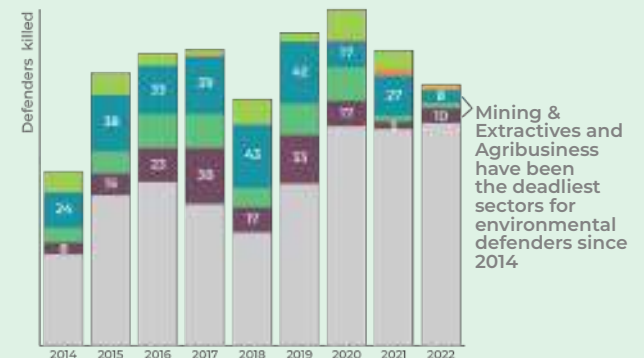
Some countries demonstrate strong political will to protect forests - but it may not be enough



Grassroots actors champion forest protection despite risks of violence

Grassroots movements - with Indigenous Peoples and local communities at the forefront - have led international and place-based resistance to unsustainable development.

But this has come at a significant cost.



At least 80 multistakeholder and multisector initiatives have been established

Collaborative jurisdictional and landscape approaches are still in their early stages, but more companies are engaging:

25 out of 100. The number of palm oil sector companies implementing jurisdictional or landscape approaches, per ZSL SPOTT

2x The increase from 2021 to 2022 in palm oil companies disclosing landscape engagement through CDP

62 The total number of midstream and downstream companies invested in jurisdictional or landscape approaches in 2022, per CDP

>90 The number of additional companies who plan to engage in jurisdictional or landscape approaches in the next two years

KEY MESSAGES

With only seven years left to achieve the 2030 forest goals, and two years left to achieve the private sector goal to eliminate deforestation from commodity supply chains by 2025, recent deforestation and degradation rates show that the world is off track. With insufficient progress, the world risks approaching irreversible tipping points in some areas like the Amazon.¹ Global action towards these goals can't wait any longer. Additionally, while tree cover loss from forestry is intended to be temporary, degradation indicators show that many forestry practices are unsustainable, particularly logging in primary and old-growth forests.

Governments

- Following the money, it becomes clear governments give forests low priority, failing to recognize the long-term loss of value. Most developing countries face enormous challenges initiating the bold reforms needed to reconcile their development pathways with forest goals. While the number of countries that have received payments for emission reductions under REDD+ has grown slowly, this incentive offered by donor countries is not commensurate with the challenge of reaching forest goals. However, strong political will has led to (some) alignment in a few geographies, notably in the European Union (EU).
- Governments have a range of regulatory and fiscal policy tools available to protect forests, several of which are employed widely or are increasing in implementation. However, policies can vary widely in their effectiveness, while others may have unintended consequences, underscoring the need for well-designed forest protection measures.
- Governments also have many policy measures at their disposal to simultaneously promote sustainable livelihoods while addressing deforestation and degradation, or promoting sustainable land use. Such policies have achieved mixed levels of success. Examples show that policy implementation can succeed with strong governance and several other enabling conditions in place.

Companies

- A small group of leading companies in agricultural commodity supply chains continue to prioritize eliminating deforestation and conversion of natural ecosystems. However, their overall impact remains limited, as they control only a small share of the global market, while the majority of companies are either behind on their forest commitments or have yet to make them.
- Corporate transparency related to forest risks remains very limited in the mining and extractives sectors. While companies reporting in 2022 showed small signs of improvement in adopting biodiversity-related commitments and policies, these policies' quality and effectiveness remains unclear due to a lack of specificity.

Grassroots sector

- Indigenous Peoples (IPs) and local communities (LCs) have made astounding headway in raising awareness at the international level of the critical role they play in safeguarding the world's forests and other natural ecosystems. Grassroots movements and resistance led by IPs, LCs, and other stakeholders have elevated conversations about the environmental and social impacts of large-scale development projects and the potential for alternative development pathways.
- Yet, evidence from ground level tells a story of woefully insufficient funding, legal recognition and respect for rights, and protection for environmental defenders.

Collaborative efforts

- Over the last decades, at least 80 multistakeholder and multisector initiatives have emerged with varying degrees of formalization.
- Many are still in their early stages, making it difficult to attribute any recent reductions in deforestation to improved collaboration.



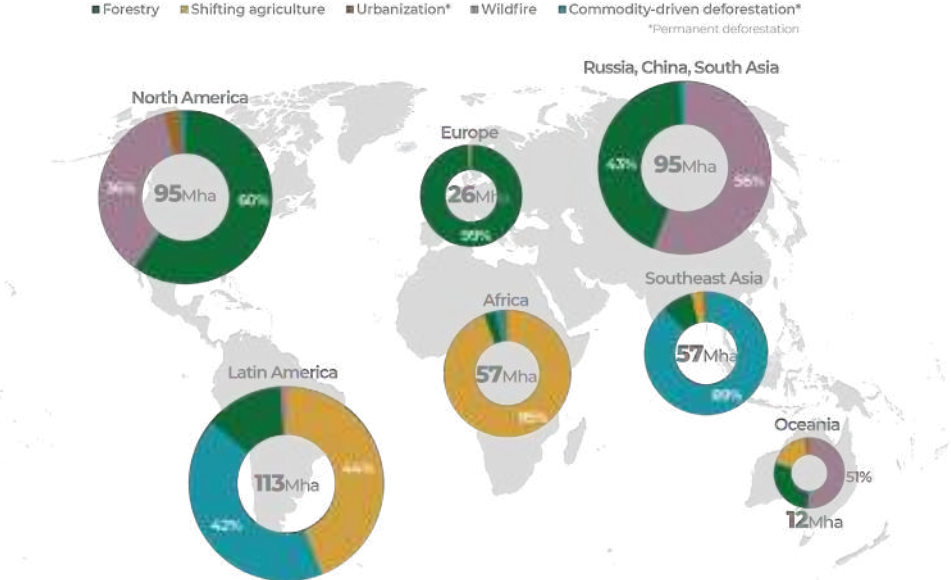
INTRODUCTION

Why look at sustainable production and development?

Sustainable production and development^a are essential for global forest goals. Forests and other natural ecosystems are being destroyed and degraded at rates far higher than they can be regenerated. Global market demand for soft commodities like food and timber, and for mined commodities like fossil fuels, metals, and minerals drives the expansion of forest risk activities like agriculture, extractive industries, forestry, and infrastructure.

Since 2000, the area of annual tree cover loss^b has grown. Tree cover loss peaked in 2016 and 2017 at almost 30 million hectares, and in subsequent years has remained relatively stable at around 24 million hectares annually.² The largest direct driver of tree cover loss is forestry,^c followed by shifting agriculture and commodity production—mostly for agriculture (Figure 2.1). In the tropics, forests and other natural ecosystems are often converted for commodity production, with soy, beef and palm oil as the dominant commodities or cleared for shifting agriculture. In boreal and temperate regions, trees are lost mainly due to forestry and wildfires. The loss to forestry, wildfires, and shifting agriculture is categorized as temporary since trees are typically replanted or can regenerate; however, tree regrowth is not itself an indicator of full ecosystem recovery, as original forest values, particularly in primary and old-growth forests, may be permanently lost.

Figure 2.1. Drivers of tree cover loss by region, in million hectares, 2001-2022



Source: World Resources Institute (WRI) (2023). [Indicators of Forest Extent: Forest Loss](#).

- Agricultural commodity production is by far the largest driver of deforestation and ecosystem conversion globally**, particularly in the tropics. Forests and other ecosystems are converted by large-scale enterprises as well as smallholder farmers that produce commodities like soy, cocoa, and palm oil. International export demand for commodities is responsible for 20 to 25 percent of tropical deforestation associated with agricultural production, while the remainder is driven by domestic demand in developing countries.³

^a In the context of this report, sustainable development means that forests and other natural ecosystems are sufficiently valued for their contribution to human well-being and ecosystem services as countries also pursue economic growth and social inclusion (building on the UN definition that sustainable development “meets the needs of the present without compromising the ability of future generations to meet their own needs”). Similarly, sustainable production denotes production practices and approaches that maintain and regenerate forests’ and other natural ecosystems’ contributions and services for current and future generations.

^b Tree cover loss refers to a loss event that may or not be permanent. Non-permanent tree cover loss routinely occurs in the context of logging, fire, or swidden agriculture.

^c Forestry encompasses several activities, like low intensity logging, tree plantations, and clear cutting. It is defined by Curtis et al. (2018)—the source for data in Figure 2.1—as the “large-scale forestry operations occurring within managed forests and tree plantations with evidence of forest regrowth in subsequent years.”

- **Billions of people, particularly IPs and LCs, rely on forests and other natural ecosystems for their livelihoods.**⁴ These groups are also the most affected by the damage to natural ecosystems. Forest loss due to smallholders and LCs (e.g., shifting cultivation or fuelwood collection) is usually temporary, but can lead to degradation or permanent deforestation when demand exceeds the rate of regeneration.
- **Infrastructure development and extractive activities are the frontline activities that expose forests to other drivers of deforestation.** Some of the gravest forest risks to forests and natural ecosystems come from so-called “megaprojects,” which combine multiple types of transportation and energy infrastructure with sites for agricultural commodity production, natural resource extraction, and planned urbanization. Such projects are currently underway or planned in all major tropical forest regions, including the Amazon, the Congo Basin, Indonesian Borneo and Papua, and the Mekong Delta.⁵ Currently only responsible for a minor share of deforestation, risks from the extractives and mining sectors are expected to grow in the coming decades. Around 20 percent of intact forest landscapes (IFLs) in tropical areas overlap with extractive concessions.⁶ Further, 7.8 percent and 11.3 percent of tropical IFLs overlap with oil and gas concessions and mining concessions, respectively.⁷
- **Forestry drives forest degradation.**⁸ Intensive forestry practices like clear-cutting, short harvesting cycles, and the logging of primary or old-growth forests or other biodiversity-rich forests are major drivers of degradation.

Despite the large risks to forests, there is no question that these industries are essential for economic development. Certain infrastructure, for example, is essential to reduce poverty while providing economic opportunities (i.e., through job creation) and access to schools, hospitals, and other basic services. Extractive industries provide essential fuels, metals, and minerals that underpin the global economy, and certain minerals will increasingly be required for a low carbon economy. Yet, there are ways to mitigate risks to forests by creating more sustainable models of forest and resource use, which may even be economically beneficial than less sustainable models.

At their core, all policies to achieve forest goals fall into three pillars that broadly categorize the protection and sustainable use of forests (**Box 2.1**). Decision makers need to carefully balance competing goals and avoid the primacy of short-term benefits for a few over sustainable development for all.

BOX 2.1. PILLARS OF FOREST GOALS

1. Set aside and protect primary and old-growth forests. Even the best restoration will never replace these ecosystems and their unique and potentially irrecoverable value.
2. Mitigate forest risks when considering the development of forest areas and other ecosystems, in order of priority: avoid or minimize, and as a last resort, restore or offset forest loss and degradation.
3. Embrace better practices such as sustainable or “closer to nature” forest management, forest landscape restoration, integrated forestry systems such as agroforestry or reduced impact logging, while also pursuing strategies to promote sustainable livelihoods.

Synergies may exist between competing economic goals. Some sustainable production strategies are more economically viable than current models of land use. For example, investments into silvopastoral systems may require more upfront investment than typical pasture but are more profitable in the long run. Yet, many reforms needed to achieve forest goals will come with costs and foregone revenues. However, if the world wants to reach 2030 goals, solve the biodiversity crisis, and reach the 1.5°C goal of the Paris Agreement, business-as-usual cannot go on.

What has been pledged on sustainable production & development?

Over the last decade, governments and companies have made numerous global commitments and statements indicating their intent to protect and restore forests. Most (193) national governments signed on to the 2030 Agenda for Sustainable Development, which includes the goal of sustainably managing and protecting forests. Another almost-universal pledge is the Glasgow Leaders’ Declaration on Forests and Land Use, endorsed by 145 national governments during COP26 in 2021. Many global companies have joined forces with the Consumer Goods Forum, among other pledges, to promote sustainable commodity production (**Table 2.1**). Many governments and companies have also made individual pledges.

How do we assess progress?

This chapter assesses the following indicators of progress toward sustainable production and development:

- Global trends in commodity-driven deforestation and forest degradation from forest-risk supply chains like mining and agriculture.
- **Governments** and whether they i) align macroeconomic development with forest goals, ii) implement policies that promote sustainable commodity production, and iii) implement policies that promote sustainable livelihoods and forest goals in tandem.
- **Companies'** progress towards i) eliminating deforestation and ecosystem conversion from forest-risk agricultural commodity supply chains and ii) mitigating the forest and land use impacts of extractive industries.
- **Grassroots actors** and their advocacy for forest protection and alternative development pathways, along with barriers to progress.
- **Collaborative efforts'** progress on advancing jurisdictional- and landscape-scale forest initiatives.

This chapter builds on previous Assessment reports and is complemented by available data updates and additional literature review. Data and analysis from CDP, ⁴Global Canopy's Forest 500, Supply Change, and Zoological Society of London's Sustainability Policy Transparency Toolkit (ZSL's SPOTT) are integral to assessing company progress in agriculture and the extractive industries.

Table 2.1. Examples of pledges and initiatives related to sustainable production and forests^a

| Pledge or Initiative | Endorsers | Progress reporting | Final target |
|--|--|---|--|
| Glasgow Leaders' Declaration on Forests and Land Use | 145 countries | Not yet developed. | Halt and reverse forest loss and land degradation by 2030. |
| 2030 Agenda for Sustainable Development | 193 countries | The 2023 report found "modest" progress overall for forests. | Goal 12 (Responsible consumption and production) and Goal 15 (Life on land) apply. Target 15.2 sets the target of, by 2020, promoting the implementation of sustainable management of all types of forests, halting deforestation, restoring degraded forests and substantially increasing afforestation and reforestation globally. |
| United Nations Strategic Plan for Forests 2017–2030 | Almost universal | Countries have voluntarily reported progress in 2019, mostly listing relevant policies. | Six goals to reduce deforestation and degradation, increasing forest restoration, and fostering global collaboration with specific key targets. |
| Consumer Goods Forum's Forest Positive Coalition | 21 of the world's largest manufacturers and retailers ⁹ | Members are annually reporting progress toward KPIs. | Transforming production landscapes, in areas equivalent to our collective production base footprint, to forest positive by 2030. |

⁴CDP expanded its disclosure framework in 2019 to include new sector-specific questions on forests for metals, mining, and coal companies. The resulting disclosures in 2019, 2020, and 2021 provide the first insight of their kind into corporate action on reducing the forest and biodiversity impacts in these sectors in line with expectations of their business partners, financiers and other stakeholders.

⁹Other pledges include the recent [Belem Declaration](#); [SOS Cerrado](#); [Retailers' Commitment on Nature](#); several pledges related to soy in the [UK](#), [France](#), and [Denmark](#); and a pledge related to [salmon](#) by a Norwegian company.

This report aims to assess progress globally. However, due to data and literature availability, this chapter includes relatively more information on i) tropical forests rather than temperate or boreal forests, ii) developing countries rather than developed countries, iii) multinational companies rather than small- and medium-sized companies, and iv) supply-side measures rather than demand-side measures. In addition, efforts to reduce the consumption of forest-risk commodities and products are not addressed in this chapter, despite their importance for achieving sustainable development in line with forest goals. Notably, this year's assessment aims to include more information on developed country progress where data is available. As always, future assessments will aim for a more comprehensive analysis.

Many of the topics covered in this chapter closely relate to **Chapter 4** on forest rights & governance,¹⁰ which assesses progress towards effective legal frameworks, efforts to reduce imported deforestation and degradation and illegal deforestation, protecting the rights of IPs and LCs, and supporting participatory forest decision making. While there is some overlap, this chapter covers topics that are most relevant to the deforestation- and degradation-risk economic sectors and development activities under discussion (rather than issues of legality and forest governance, which has a broader scope).

FINDINGS

2.1 Is the world on track to address forest risks from commodity production?

With only seven years left to achieve the 2030 forest goals, and two years left for companies to meet the 2025 target date to eliminate deforestation from commodity supply chains, recent deforestation rates show that the world is off track. While tree cover loss from forestry is temporary, evidence suggests that current activities are unsustainable. Meeting both these 2030 and 2025 goals are fundamental to keeping global warming below 1.5°C and preventing the world from passing irreversible climate tipping points.

Commodity- and agriculture-driven deforestation not on track

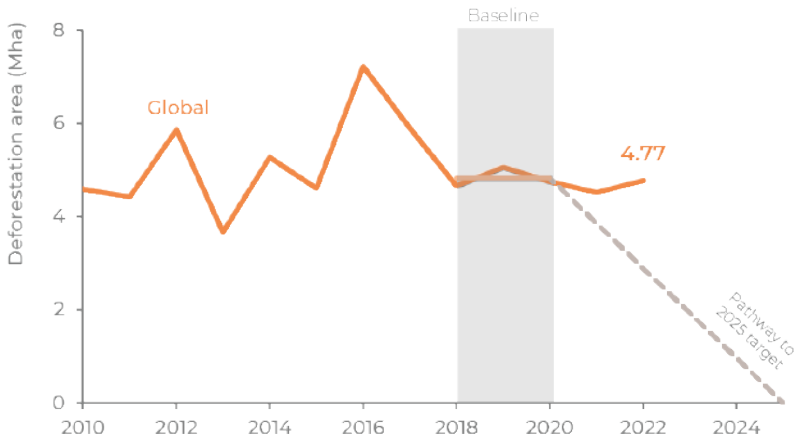
It is important to track progress towards ending commodity-driven deforestation in light of both global forest goals (which aim to stop deforestation and land degradation by 2030) and the private sector goal to eliminate deforestation and ecosystem conversion within supply chains or by 2025 (as recommended by the Accountability Framework initiative (AFI)).^f In 2022, 4.77 million hectares of forests were destroyed permanently to make room for commodity production, mostly agriculture (Figure 2.2).

^fAFI— a coalition of organizations committed to promoting ethical production and trade to safeguard forests, ecosystems, and human rights—has adopted a [consensus recommendation](#) that companies set a target date for eliminating deforestation and ecosystem conversion from their supply chains no later than 2025. The AFI created the Accountability Framework, which offers guidelines to eliminate deforestation, ecosystem conversion, and human rights violations in commodity supply chains.

HOW DO WE ASSESS PROGRESS?

We assess recent trends in deforestation (i.e., permanent tree cover loss) from commodity production, by comparing deforestation in 2022 to a baseline for the period of 2018-20. Drivers of temporary tree cover loss include shifting cultivation and forestry. Since this tree cover loss may be reversible, the Forest Declaration Assessment cannot define a pathway to 2030. Instead, we assess general trends, complemented by indicators of degradation and deforestation in key biodiversity areas. In addition, we present the latest information on forest risks from mining and extractives sectors. Comprehensive information on forest landscape restoration related to commodity production is unavailable, hence we do not assess it (see **Chapter 1** on overarching forest goals for more on the limitations of restoration data).

Figure 2.2. Commodity-driven deforestation, in million hectares, and the pathway toward the 2025 goal



Note: Commodity driven deforestation is defined as permanent tree cover loss due to the production of agriculture, mining, and energy infrastructure.
 Source: GFW, Hansen et al. 2013, and Curtis et al. 2018, and Climate Focus projection of the pathway from 2021 to 2025 based on a target of zero gross deforestation from commodity production by 2025

This is an increase of 5.6 percent compared to 2021 and only a slight decrease compared to 2018-20,⁹ the baseline against which this report measures progress. The world is off track to eliminate commodity-driven deforestation by 2025 or by 2030.¹⁰

Agriculture also leads to permanent loss of vegetation in other ecosystems. While comprehensive data is not yet available to assess whether the world is on track to eliminate ecosystem conversion by 2025 or 2030, regional data show that the scale of conversion is substantial. For example, from 1985 to 2017, pasture expanded by 46 percent in Brazil—mainly in the Amazon and Pantanal biomes. Agriculture in Brazil expanded by 172 percent from 1985 to 2017 and predominantly replaced old pastures in the Atlantic Forest or converted savanna and grasslands in the Cerrado biomes.¹¹

While this chapter focuses on legal commodity production, it's also worth noting the immense challenge that illegal deforestation presents to the world's forests. For instance, a 2014 estimate suggests that half of all tropical deforestation between 2000 and 2012 was the result of illegal clearing for commercial agriculture.¹² Additionally, a more recent 2021 study found that nearly all of the deforestation that occurred in the Legal Amazon and a portion of the Cerrado biome had not been backed by ecosystem clearing permits and was therefore illegal (see **Chapter 4** for more on issues surrounding illegality).¹³

Forestry's contribution to forest degradation

The largest driver of tree cover loss is forestry,¹⁴ which led to temporary tree cover loss of 6.7 million hectares in 2022. This loss can be permanent or lead to degradation where harvesting exceeds regrowth or negatively affects its structure, species composition, function, productivity, or overall ecosystem conditions. Degradation is a more relevant indicator than deforestation in most forestry contexts, given that the industry often intends for the logged area to regenerate tree cover. It encompasses practices such as clearcutting in primary forests or threatened species habitat.¹⁵

For example, in the EU, only 14 percent of forest habitats assessed for the EU Habitats Directive have good conservation status overall, while over 90 percent of boreal forest habitats were found to have an unfavorable conservation status.¹⁶ This poor status is largely attributed to forestry interventions, climate change, and eutrophication.¹⁷

Another recent assessment in Europe found that one third of the forest area was in decline, in particular in north Scandinavia, the Carpathians and the Balkans, the northern Apennines, and in forests throughout the Iberian Peninsula.¹⁸ The authors call for further restoration, improvements in management, and an extended period of recovery to approach natural conditions.

In Canada, industrial logging in primary and old-growth forests is common, and industrial logging is still planned or occurring in areas where boreal caribou populations already have insufficient habitat to survive long term.¹⁹ In Eastern Canada, a recent study found that intensive forest management has substantially reduced old forests and led to degradation, driving widespread avian habitat and population declines.²⁰

When shifting agriculture becomes unsustainable

After forestry, shifting agriculture is the next largest driver of tree cover loss, resulting in 5.87 million hectares of tree cover loss in 2022.²¹ Shifting agriculture refers to the small- to medium-scale conversion of forests and shrublands for agriculture, which is later abandoned and ultimately followed by forest regrowth.²² This is a slight decrease (-1.7%) compared to 2021.

As with forestry, much of the tree cover loss associated with shifting agriculture is likely temporary. Farmers rotate their plots periodically, clearing trees as they go and allowing trees to regrow on old plots. Shifting cultivation can be sustainable over large areas and long periods of time.

However, increased demand for agricultural commodities and restrictions in forest areas or access can drive unsustainable and expanded shifting cultivation. In the Congo Basin, for example, scientists observed an expansion

⁹ Under the Forest Declaration Assessment methodology, the average rate of commodity-driven deforestation from 2018-20 is set as a "baseline" against which to compare future years.

¹⁰ It is important to note that this linear trajectory does not consider the cut-off dates that companies, certification standards, and some regulations (e.g., the Amazon Soy Moratorium and forthcoming EU legislation) set in order to communicate and enforce which land must not have been used for cultivation.

of the area under shifting cultivation from 2000 to 2014, correlating with human population growth.²³ Worryingly, scientists also detected increasing encroachment into primary forests.²⁴

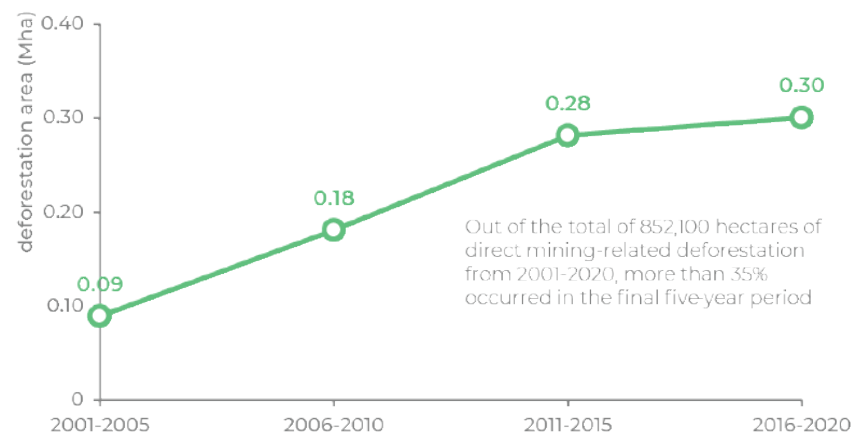
Mining's extensive forest footprint

Mining is a driver of permanent tree cover loss and has increased in tropical rainforests in recent years (**Figure 2.3**).²⁵ While the mining sector may provide important socioeconomic benefits to many regions, it also brings environmental and social burdens like deforestation, pollution, and community displacement.²⁶

At a global scale, direct deforestation from extractive industries is minor, estimated to account for between 1.3 and 3.3 percent of deforestation in tropical forests.²⁷ However, mining-related direct deforestation is concentrated in certain biomes and countries.²⁸ For example, tropical rainforests contain only 29 percent of all mining sites but suffer 62 percent of mining-related direct deforestation. Almost 84 percent of all mining-related direct deforestation in the past 20 years took place in only 10 countries.²⁹

Extractive industries' indirect impacts on forests and other natural ecosystems are estimated to be much larger than their direct impacts.³⁰ For example, the number of deforestation incidents is strongly correlated with proximity to mining sites, even after controlling for other deforestation drivers.³¹ Up to a third of the world's forests may be affected by indirect and cumulative impacts—deforestation and degradation—of mine sites.³²

Figure 2.3. Mining-related direct deforestation in tropical rainforests by 5-year period, in million hectares (Mha)



Note: Mining-related direct deforestation does not include small-scale and artisanal mining.
Source: Adapted from WWF (2023). *Extracted Forests*; and Giljum et al. (2022).

¹"Direct" deforestation refers to permanent forest clearing within a mine site, or to expand mine sites. "Indirect" impacts may include deforestation or forest degradation that is associated with but not directly caused by mine site activities; for example, forest clearing for shifting agriculture facilitated by mine site access roads. "Cumulative" impacts refer to additive disturbances or changes caused by multiple mine sites in proximity with each other; for example, the fragmentation of habitat caused by one mine site may be insignificant on its own, but may contribute to significant disruptions in combination with other mine sites.

²Indonesia, Brazil, Russia, Canada, the United States, Australia, Peru, Ghana, Myanmar, and Suriname.

2.2 Have governments advanced their efforts to achieve forest goals?

2.2.1 Aligning macroeconomic priorities with forest goals

Following the money, it becomes clear governments give forests low priority. Most developing countries face enormous challenges initiating the bold reforms needed to reconcile their development pathways with forest goals. While the number of countries that have received payments for emission reductions under REDD+ has grown slowly, this incentive offered by donor countries is not commensurate with the challenge of reaching forest goals. However, strong political will has led to (some) alignment in a few geographies, notably in the EU.

There is limited systematic information available on how policy makers integrate forest goals into strategic decision making; whether fine print renders such strategies ineffective; if risks are assessed and mitigated; how potential tradeoffs are weighed; and where investments contribute to or are paired with commensurate investments for sustainable development goals.

Low priority of forest goals

Despite the surge in commitments and ambitious forest goals, the low priority of forest goals is evident on a global scale. This is best illustrated by the sheer scale of investments into economic sectors that drive deforestation compared to sustainable investments aligned with forest goals.

^kAs of December 2022.

HOW DO WE ASSESS PROGRESS?

ALIGNMENT WITH FOREST GOALS: While ambitious forest goals are almost universally adopted, in practice, pledges are rarely more than words on a piece of paper. We assess examples of investment priorities and results achieved for REDD+, and highlight recent examples of integration. We also consider the role (and limitations) of political will, taking the examples of Brazil, the EU, and Indonesia.

REGULATORY AND FISCAL POLICIES: A range of policy tools can help governments regulate land use, mitigate forest risks, and facilitate forest restoration. To this extent, we assess the following:

- Regulatory measures that manage, guide, or limit the development of forests and other lands (e.g., protected area regulations)
- Fiscal policy measures that incentivize activities that protect and restore forests, and disincentivize activities that threaten forests (e.g., agricultural subsidy reforms)

POLICIES FOR SUSTAINABLE LIVELIHOODS: To effectively address poverty and deforestation in forest-reliant populations, governments need to implement enabling conditions and targeted incentives which avoid any contrary effects. We assess policies being implemented by governments that help to mitigate forest risks while supporting sustainable livelihoods.

The Belt and Road Initiative (BRI), for example, has mobilized trillions of dollars for investments in infrastructure, energy, industrial capacity, and telecommunications that will cut across forests and other fragile and biodiverse landscapes around the world. The initiative, which is promoted by the Chinese government, currently spans 148 countries.^{k33} Independent analyses have identified major direct and indirect environmental risks from the BRI—particularly for Southeast Asia and tropical Africa.³⁴

In contrast to the trillions of dollars for the BRI alone, global public investments in forest goals amount to roughly USD 1.3 billion per year (see **Chapter 3** on finance for forests). Further, shifting economic priorities against the backdrop of post-pandemic economic recovery efforts present risks to forests in some countries (see the **Philippines case study**).

Even governments that have adopted “green growth” agendas for economic development struggle to make investments that are aligned with environmental or forest goals. For example:

- **Cambodia** and the **Lao People’s Democratic Republic** (Lao PDR) have targeted “green growth” while opening their economies to multinational enterprises and large-scale extractive, energy, and infrastructure projects without reconciling land use tradeoffs or ensuring participatory decision making.³⁵
- **Ecuador** has struggled to balance its commitment to the rights of nature (i.e., the legal right for nature—generally—to “exist, flourish, and evolve”³⁶) established in its 2008 Constitution against its economic reliance on oil revenue. Oil’s contribution to Ecuador’s GDP dropped from 18 percent in 2008 to just 6 percent in 2021.³⁷ The state oil company responded in 2022 by announcing a goal of doubling output in five years, in spite of significant and frequent forest degradation from oil infrastructure development, oil spills, and poor management of toxic wastes.³⁸ In August 2023, the people of Ecuador resoundingly rejected oil drilling in Block 43 of Yasuní National Park (see **Box 2.5**).³⁹
- A 2021 analysis of COVID-19 stimulus spending found that countries targeting “green” investments largely missed the mark on nature.⁴⁰ In the same study, a sample of ten **European** countries’ stimulus plans—totaling EUR 500 billion—was reviewed for predicted impacts in climate and nature. Over half of nature-relevant spending was expected to be harmful for nature.¹

Some, but limited progress for REDD+

For developing countries, progress on REDD+ is one indicator of governments’ integration of forest goals into macroeconomic and development planning. Forty-five governments, mostly in tropical countries, have taken steps to develop REDD+ strategies^m as part of the Forest Carbon Partnership Facility’s (FCPF) REDD+ program.⁴¹ Twenty-eight countries have

completed the “readiness” process, meaning they have assessed the drivers of deforestation and forest degradation, created new institutions for coordination and collaboration, built forest monitoring capacities, and installed systems for environmental and social safeguards. Additionally, REDD+ efforts have been instrumental in driving forest policy changes such as formalizing IPs’ and LCs’ land rights, reforming forest laws and regulations, and creating new participatory mechanisms.⁴²

Though many countries have developed national REDD+ readiness strategies—incentivized by potential finance—results are lagging. Only six countries (Ghana, Mozambique, Costa Rica, Côte d’Ivoire, Indonesia, and Lao PDR) have delivered verified REDD+ emissions reductions under the FCPF program.⁴³ The vast majority of REDD+ countries have not yet produced real, verifiable emissions reductions or are no longer pursuing REDD+ under the FCPF program. The slow progress of REDD+ also reflects the enormous challenge it presents to developing countries. Meaningfully reducing deforestation and protecting and restoring forests requires significant upfront investments—that are often lacking from donors who instead focus on “readiness” support for countries and on financing results—and bold sectoral reforms that often come with major tradeoffs for other economic development priorities. REDD+ also requires a high level of political will and legislative consensus that few countries have achieved (see **Chapter 3** on finance for forests).

There are several REDD+ programs in operation (e.g., FCPF, UN-REDD, REDD+ for Early Movers) and participating countries are often plagued by similar challenges across programs. These can include burdensome and fragmented donor requirements that can overwhelm governments with already limited capacities. ⁿ Pay-for-performance systems for large-scale REDD+ programs range from USD 5-10 per metric ton of carbon dioxide⁴⁴—not enough to compensate for the true price of forest carbon and project implementation costs (see **Chapter 3**). Therefore, while REDD+ may signify

¹Nature-relevant spending includes potential impacts on forests, e.g., through subsidies or waved fees for forest-risk agriculture, waivers of forest conservation mandates, or other environmental deregulation.

^m Forest strategies refer to national plans set out under REDD+ to achieve emissions reductions. Under the FCPF’s Carbon Fund, for instance, these include Emission Reduction Program Documents (ER-PDs) and Emission Reduction Program Idea Notes (ER-PINs).

ⁿAs one example as summarized in a literature review by Morita & Matsumoto (2023), the GCF’s pilot program for REDD+ results-based payments placed a significant burden on countries’ abilities to access results-based finance because it required them to demonstrate compliance with its interim safeguards in REDD+ results-based finance.

some alignment of countries' macroeconomic strategies with forest goals, it has yet to deliver sufficient on-the-ground progress on its stated goals.

Examples of political will and its limitations

Political will has driven important changes in recent years. Its effects are well illustrated by the deforestation trajectory of Brazil, the country with the largest intact rainforest in the world. Under President Bolsonaro (2019-22), the Brazilian government openly encouraged agricultural production and mining in the Amazon,⁴⁵ which likely contributed to the stark rise in deforestation.⁴⁶ In 2023, the new government of President Lula da Silva brought back a rhetoric of conservation, and deforestation fell 34 percent in the first semester, following a similar downward trend of his first time as president (2003-10).⁴⁷ After this initial success, the Lula government is facing stark political realities. Getting support for environmental reforms from the pro-agribusiness Congress is proving to be difficult, as was demonstrated when Congress voted in June 2023 to strip some of the authority of the Ministry of Environment and Climate Change and the Ministry of Indigenous Peoples.⁴⁸

Similar observations about political will can be made in Indonesia. The government has championed substantial reductions in deforestation while at the same time promoting vast infrastructure developments in forest areas. The Senate has also passed a law that might threaten environmental protection (see **Chapter 4**).

Another example where ambitious goals were translated into practice is the European Regulation on deforestation-free products (EUDR) (see **Chapter 4**). The regulation stems from the strong political will of EU institutions and a critical number of member states. Under this regulation, companies must ensure that major forest-risk commodities placed on the European market or exported to international markets are free from deforestation; for wood related products, also free from forest degradation as defined in the law; and legal, i.e. produced in compliance with the producing country's national laws and with international laws regarding human rights and free, prior, and informed consent (FPIC), and more. Several practical questions remain for the EUDR's implementation.

While the EUDR is highly relevant for regulating demand for forest-risk commodities produced in tropical forest countries, it also marks a significant milestone toward addressing the issue of forestry-driven degradation in boreal and temperate forests. Under the EUDR, companies must, for the first

time, prove that timber products are “degradation-free.” However, the narrow definition of “degradation” under the regulation demonstrates how political realities can force compromise, even when there is significant political will to drive change (**Box 2.2**).

Even under the current narrow definition, the EUDR could lead to a reduction in large-scale clear-cutting and conversion of primary forests that is still common in northern forests, including in Northern Europe and Canada. This marks important progress toward fostering greater accountability for degradation from forestry in developed countries.

BOX 2.2. DEGRADATION UNDER THE EUDR: THE POWER AND LIMITATIONS OF POLITICAL WILL

The European Union's (EU) newly adopted Regulation on deforestation-free products (EUDR) applies to all products being placed on the EU market—no matter their origin. The regulation aims to stop products being linked to deforestation, or, for forest products also to forest degradation as defined in the legislation. It therefore can also make strides toward addressing a key issue in northern forests, both within the EU and in other boreal and temperate regions: widespread degradation mainly caused by forestry.

However, under the EUDR, “degradation” is narrowly defined as the conversion of primary or naturally regenerating forests to planted forests or plantations.⁴⁹ Notably, the definition excludes disturbances from unsustainable timber harvesting, the effects of fragmentation or other degradation. It also excludes clear-cutting, where it is followed by natural regeneration rather than planting. A broader degradation definition failed to get agreement from Northern European governments, where it would have required a massive overhaul of forest industry practices.⁵⁰

Forestry practices vary widely between EU member states, as do perspectives on what constitutes “sustainable” forest management. For example, in Northern European countries like Sweden and Finland, forests are mostly harvested by large-scale clear cutting, including in old-growth forests, followed by either planting or natural regeneration. Environmentalists in Sweden stress that this practice has negative consequences on biodiversity, carbon storage, and the resilience of forests, highlighting the alarming situation of forest ecosystem health in the country. The Swedish Forest Vision,⁵¹ an initiative by scientists and civil society organizations, calls for an immediate logging moratorium in all forests with identified conservation value. The EU's forest strategy for 2030 also recommends that clear-cutting should only be used in duly justified cases, noting its detrimental effects on biodiversity and carbon.

Meanwhile—and perhaps as an interim measure—the EU Commission separately published guidelines on “closer-to-nature” forest management that may be voluntarily applied by forest authorities or local practitioners in the EU and guidelines on defining, mapping, and strictly protecting all primary and old-growth forests.⁵² Confirming its commitment to the cause, the EU also makes various funding sources available to support the adoption of improved practices, such as the Common Agricultural Policy.

2.2.2 Adopting policies to protect and restore forests

Governments have a range of regulatory and fiscal policy tools to protect forests, several of which are employed widely or are increasing in implementation. However, policies can vary widely in their effectiveness, while others may have unintended consequences, underscoring the need for well-designed forest protection measures.

A core category of policies is those that regulate, limit, prohibit, or more sustainably plan the development of forests and other lands (i.e., “regulatory” forest policies, see examples in **Table 2.2**). Another group of policy options provide economic incentives and disincentives that motivate—but do not mandate—subnational governments or private sector actors to take actions to protect and restore forests (i.e., “fiscal” forest policies, see examples in **Table 2.3**).^o

Because implementation of a given policy tool does not guarantee that it is effective, it is important to stress that most policy measures have significant caveats (e.g., poor enforcement, spillover effects, mixed evidence on efficacy). The assessment of government policy implementation is broadly split into two parts:

1. **The extent of implementation of a given policy measure.** Are governments often choosing this tool to advance forest goals? Does data exist that shows an increase in uptake of the policy measure over time?
2. **A policy measure’s efficacy and/or quality of implementation.** Is there mixed evidence for a policy’s efficacy in protecting and restoring forests? To what degree do loopholes, spillover effects, or poor enforcement render policies ineffective? What enabling conditions must exist that improve the efficacy of these policies?

While this section predominantly focuses on the first category of assessment, it also highlights some key findings and caveats on policies’ efficacy (see **Chapter 4** for more on governance issues that impede policy implementation). Ultimately, policies won’t be effective without strong,

consistent implementation and enforcement (see **Argentina case study** for an example of how weak governance can impact policies’ efficacies).

Comprehensive global data for both of these assessment categories is often lacking. Still, based on available data, it is clear that several policy options are widely implemented (e.g., protected areas, environmental and social impact assessments or ESIA) or have increased in prevalence in recent years (e.g., environmental fiscal transfers or EFTs). Other policies are projected to have significant impacts on forests (e.g., agricultural subsidy reforms), but real-world data that connects them to forest outcomes is unavailable (**Box 2.3**). Mixed evidence on some policy options—like moratoria—highlights the importance of designing and implementing policies carefully and with consideration to potential spillover effects and proper enforcement.

Examples of regulatory and land use planning tools

- **Environmental and social impact assessments (ESIAs)** are required in most countries before development projects (e.g., for agriculture, mining, or infrastructure) are approved.⁵³ ESIA may be conducted with bias toward their outcome or intentionally manipulated, and they often lack the “teeth” to actually stop harmful development. In most cases, they also suffer from poor coordination between multiple site-level assessments. For example, in Liberia, Guinea, and Brazil, there is evidence of overlapping concessions with varying levels of ESIA implementation and uncoordinated development in areas with high road density and forest fragmentation.⁵⁴
- **Moratoria and protected areas (PAs)**—which are two distinct policy measures that both regulate and limit the use of land—continue to be among the most common legal and policy instruments used by governments to address deforestation. For instance, nearly 17 percent of global land is conserved.⁵⁵ PAs are one of the most studied policies for forest protection, and are shown to be one of the most effective tools for reducing deforestation, per a 2023 meta-analysis,⁵⁶ though with marked differences between continents, notably Africa.⁵⁷ Even when regulatory tools are widely implemented, many come with important caveats on efficacy and unintended spillover effects (see **Table 2.2**). For example, recent studies suggest that Indonesia’s 2011 moratorium on peatland

^o None of these policies present a ‘silver bullet’ for forest protection and restoration, and the list presented below is far from an exhaustive account of available policy measures.

concessions may have spurred unintended deforestation spillovers into surrounding forests,⁵⁸ or reduced deforestation to only a minor degree (0.65 percent compared to non-moratorium areas⁵⁹).

Assessing progress on other regulatory tools is limited by a lack of data. For instance, the most recent global review of legislation to assess environmental impacts is from 2018.⁶⁰ Global and regional analyses on other specific land use planning tools like buffer zones or scenario analyses (and their specific consideration of forests) are not available.

Increased attention on trade regulations

Trade or import regulations that promote deforestation-free supply chains have gained some momentum in recent years. The 2023 implementation of the EUDR is a major milestone. The EUDR is more comprehensive than similar legislative efforts in the UK (i.e., the 2021 Environment Act, which includes a requirement to end deforestation associated with agricultural commodity imports) and the United States (i.e., the 2021 FOREST Act, which has not passed). Though the EUDR is far from perfect (see **Box 2.2** and **Chapter 4**), it represents an unprecedented step towards sustainable supply chains globally. Still, similar developments will be necessary in other regions—especially in China, India, the United States, and Japan (see **Japan case study**), which account for 24 percent, 9 percent, 7 percent, and 5 percent of global imported deforestation, respectively⁶¹—to shift the global trend towards sustainable production.

Increased implementation of some fiscal policy tools

Policymakers also have an array of fiscal tools at their disposal that attempt to incentivize forest protection and restoration or disincentivize negative impacts to forests (**Table 2.3**).

The overall impacts of fiscal policies are immense. Recent analysis suggests that the world is spending at least USD 1.8 trillion per year (equivalent to 2 percent of global gross domestic product) on subsidies that are driving the destruction of ecosystems and species extinction.⁶² Given this scale of financial support that impacts forests, it is crucial that governments carefully design fiscal policies that help prevent deforestation, minimize the costs of forest restoration, and improve sustainable forest management practices. Challenges persist in measuring global progress

Governments employ fiscal tools to ‘nudge’ public and private actors for environmental causes, including to influence forests. Additionally, there is

some strong quantitative evidence on the progress of governments implementing fiscal policy measures for forests, like in the case of ecological fiscal transfers (EFTs):

- **Use of EFTs by governments has accelerated:** The implementation of EFTs has accelerated in recent years, growing from USD 0.35 billion per year in 2007 to USD 23 billion per year in 2020, per a 2021 global review.⁶³ That’s approximately 20 times as much as total official development assistance for forestry. Still, EFTs still account for a tiny minority of global intergovernmental fiscal transfers (which totaled about USD 4.9 trillion in 2020).⁶⁴
- **EFTs are often tied to forest outcomes or protected areas:** The same global review overviewed 23 ETF schemes, 17 of which were tied to the maintenance or implementation of protected areas, and four were tied to specific forest outcomes (e.g., to forest fire control, areas of moderately or highly dense forests, or reductions in deforestation).
- **EFTs can provide significant fiscal incentives for subnational governments:** India’s EFTs have channeled billions of dollars to states based on their forest coverage. This annual funding, averaging about USD 7.4 billion between 2015-16 and 2018-19, surpasses the country’s approximately USD 1 billion in annual funding from REDD+.⁶⁵ It also exceeds the USD 5 billion forest cover grant from India’s 13th Finance Commission, which had conditions and was designated for forest-related expenses.

Table 2.2. Examples of regulatory and/or land use planning measures

Regulatory tools can regulate or limit the use and development of forests and other lands. Land use planning tools can guide development projects to reduce their impacts on forests.

| Policy tool | Details |
|---|--|
| <p>Moratoria</p> <p>Governments prohibit the conversion of forests for commodity production within areas at risk of deforestation and forest degradation.</p> | <p>Moratoria are often cited as one policy tool that significantly contributed to Indonesia's reduction in commodity-driven deforestation. The country implemented a moratorium on new forest and peatland concessions in 2011.⁶⁷ In 2019, the president made permanent the moratorium on clearing primary forests and peatlands.⁶⁸ Notably, the moratorium excludes 18 percent of primary forests, 10 percent of peatlands, and areas that were covered by permits in 2011, such as for palm oil.⁶⁹ The moratorium also lacked consequences for violations.⁷⁰ Additionally, some studies find significant spillover effects into areas not covered under the 2011 moratorium,⁷¹ which suggests that moratoria must be carefully designed and implemented to reduce adverse effects. In 2016, Indonesia issued an additional moratorium on peatland drainage, which was much more successful due to stronger enforcement and a series of implementing regulations that followed.⁷²</p> <p>In Lao PDR, support from the Prime Minister was a key factor in the partial success of a timber export suspension (i.e., moratorium) in 2016.⁷³ Exports of illegally traded timber dropped significantly after the moratorium was declared, but legislative loopholes left conditions for large-scale logging to continue.⁷⁴</p> <p>Western Australia has an upcoming 2024 moratorium on native forest logging.⁷⁵</p> <p>The U.S. state of Massachusetts has a temporary moratorium on new logging contracts on state lands until at least December 2023.⁷⁶</p> |
| <p>Protected areas (PAs)</p> <p>Legal designations aimed at conserving land and forests from human encroachment, ranging from areas with strictly no human activity allowed, to multiple-use areas where limited, sustainable resource use is permitted.</p> | <p>PAs are one of the most studied policies for forest protection, and are shown to be one of the most effective tools for reducing deforestation, per a 2023 meta-analysis.⁷⁷ PAs are consistently associated with lower deforestation, and strict PAs often produce more effective forest outcomes than mixed-use PAs.⁷⁸ For example, PAs in the Amazon were associated with 21 percent less deforestation between 2008-20.⁷⁹ Enforcement of laws that help protect forests—like the monitoring of protected areas—consistently reduces deforestation.⁸⁰</p> <p>However, some individual studies show PAs as not achieving reduced deforestation,⁸¹ or not being different from adjacent areas where no PA exists.⁸² PAs can face similar concerns to moratoria, like the potential for spillover (though evidence has also been found for positive spillovers on surrounding areas)⁸³ and concerns for harms to local communities.⁸⁴</p> <p>Though the recent growth in global implementation of PAs is notable, many PA systems are “residual” in nature, meaning that they were established in landscapes that are already poorly suited for producing commodities (and are therefore least threatened).⁸⁵</p> |
| <p>Environmental and social impact assessments (ESIAs)</p> <p>Land assessment tools that systematically consider the environmental and social impacts of a development.</p> | <p>There are many types of land use planning tools, including ESIAs, which are used to scope the potential impacts of development and land use projects. Here, we focus on ESIAs.</p> <p>ESIAs are required in most countries before development projects will be approved.⁸⁶ Yet the scope, timing, and implementation of these assessments are often poorly matched to the aim of forest protection, and not aligned with the mitigation hierarchy.⁸⁷ ESIAs are often not required to consider the indirect or cumulative impacts of an extractive or infrastructure project, and often occur only after the exploration phase has been completed, making them less likely to influence whether approval is actually granted.⁸⁸</p> <p>Additionally, ESIAs do not necessarily prevent development projects even if the outcome of the assessment is negative. For example, European Union regulations permit projects to proceed despite negative environmental and social outcomes if there are no alternative solutions.⁸⁹</p> <p>Also, bias and manipulation is inherent to ESIAs (and other tools that require input from a diverse group of stakeholders), which can complicate their outcomes.⁹⁰</p> <p>The requirement for ESIAs often does not prioritize forest loss, nor consider all the impacts a project can have. For example, in Malaysia, ESIAs for infrastructure projects only expect developers to consider potential local impacts within a limited spatial scale, without requiring assessment of any potential indirect risks.⁹¹</p> |

Table 2.3. Examples of fiscal policy measures

Economic incentives and disincentives that aim to motivate—but not mandate—subnational governments and/or private sector actors to take actions to protect and restore forests.

| Policy tool | Details |
|--|---|
| <p>Repurposing harmful subsidies</p> <p>Governments transfer billions of dollars of support each year to an array of economic sectors. Many of these subsidies directly and indirectly harm forests—something especially true of agricultural subsidies. Reforming harmful subsidies is a potentially high-impact policy tool.</p> | <p>Projections on the possible forest benefits of repurposing agricultural subsidies,⁹² but there is a data gap on how agricultural subsidy reform impacts forests in aggregate.</p> <p>As just one example of subsidies' negative impacts, to promote productive land use, Brazil taxed forested land more heavily than agricultural land, which provided a perverse incentive to clear trees from landowner's properties.⁹³</p> <p>However, there is no singular, unequivocal link between changes in agricultural systems and tropical deforestation, and definitive links cannot yet be made between specific agricultural support policies and levels of deforestation and forest degradation.⁹⁴</p> <p>In the agriculture sector, for example, implementing direct payments to farmers instead of market price supports or other coupled forms of support can help reduce distortions (and excess production) and improve conservation outcomes, especially when implemented alongside other reforms.</p> <p>Other harmful subsidies may include subsidies for biomass energy. For example, the United Kingdom provides subsidies to biomass energy, which is categorized as clean energy based on forest carbon accounting practices.⁹⁵ However, biomass harvesting has been linked with negative impacts on forests and the climate.^{96,97} Subsidies for biomass energy may be redirected to truly renewable energy sources such as wind and solar.</p> |
| <p>Ecological fiscal transfers (EFTs)</p> <p>EFTs transfer inter-governmental public funds based on ecological indicators, which can include criteria related to forests or protected areas. EFTs compensate subnational governments for the costs of conserving ecosystems and, in principle, can incentivize greater conservation and/or restoration of forests and other ecosystems.</p> | <p>While EFTs still account for a tiny minority of global intergovernmental fiscal transfers, if just 2 percent of intergovernmental transfers were "greened," the resulting finance would equal USD 100 billion per year.⁹⁸</p> <p>EFT schemes are not specific to forests, but are often tied to sustainable forest outcomes.</p> <p>Brazil has multiple subnational EFT schemes, mostly tied to protected area management.⁹⁹</p> <p>India's 2015 EFT "compensates states for 'fiscal disability' of forgone tax revenue due to forest cover, and also to recognize forests' 'huge' ecological benefits."¹⁰⁰</p> |
| <p>Other "green" incentives (e.g., subsidies) or disincentives (e.g., environmental commodity taxes)</p> <p>There are many other fiscal policy tools that attempt to sway the choices of subnational governments and private sector actors towards those that protect and restore forests.</p> | <p>Fiscal incentives to motivate sustainable forest use and management can take many forms. However, both the quantity and diversity of such fiscal policies make it difficult to list them exhaustively or assess them holistically.</p> <p>Still, key examples of other "green" fiscal tools include subsidies for forest restoration, Indigenous-led land stewardship, and export tariffs to benefit forests.</p> <p>For example, Chile¹⁰¹ has implemented subsidies for afforestation and reforestation. These results emphasize that strong, well-enforced safeguards for natural ecosystems can improve climate and biodiversity benefits of afforestation incentives, while reducing their costs.</p> <p>The EU LIFE program includes, for example, support to: (i) restore natural or semi-natural forest habitats and species in their structure, composition and functioning; (ii) improve forest resilience to fires, droughts, diseases, and climate change, and prevent/reduce the impact of natural disasters; (iii) protect the EU's primary and old-growth forests; (iv) create ecological corridors and other green infrastructure; and (v) test/demonstrate new management approaches, including closer-to-nature forestry practices.¹⁰²</p> |

BOX 2.3. CHALLENGES IN ASSESSING FISCAL POLICY TOOLS

Comprehensively assessing progress on implementation of many fiscal policy tools—rather than evaluating these policies individually—is challenging. First, there is limited aggregate analyses on the global or regional implementation of many forest-based fiscal policy tools. Second, in several tropical countries with vast remaining primary tropical forests (e.g. the Democratic Republic of the Congo), the informal economy dominates, making it very challenging to measure the impact of any new formal fiscal policy. In addition to this information gap, the broad policy landscape makes it challenging to compare policies across country contexts.

The case of agriculture subsidy reform serves as an example of the challenges of assessing fiscal policy implementation. Agricultural subsidies are projected to significantly harm forests. Estimates suggest that agricultural price supports are responsible for the loss of 2.2 million hectares of forest cover per year—equal to approximately 14 percent of total annual deforestation.¹⁰² However, there are data gaps on the extent of agricultural subsidy reform. Despite the general consensus that repurposing agricultural subsidies could greatly benefit forests and other ecosystems, there is a data gap on the global or regional implementation of agricultural subsidy reforms. At the global level, existing research mainly concentrates on defining, identifying, and measuring harmful agricultural subsidies under the broad framework of “environmentally harmful” subsidies rather than those specifically tied to forest outcomes.¹⁰³ Specific literature on the linkages between land degradation and agricultural support is less well-developed, as the complex interactions between policies, ecology, and outcomes are better suited for local-level analysis.¹⁰⁴

Fiscal policy success hinges on proper design and implementation, strong political cooperation and enforcement, and many other enabling conditions. The lack of these enabling conditions limits the efficacy of fiscal tools. For example, an important barrier that complicates fiscal policy implementation is the prevalence of corrupt practices, both in the private sector and in governments (see **Chapter 4** on forest rights & governance). This reality should not discourage governments from utilizing a range of policy tools to address forest risks; instead, governments should work to carefully design and implement policies so that they are effective at protecting forests.

2.2.3 Achieving forest goals while promoting sustainable livelihoods

Governments have many policy levers at their disposal to promote sustainable livelihoods while addressing deforestation and degradation or promoting sustainable land use. Such policies have achieved mixed levels of success. Our examples show that implementation of these policy measures can succeed with strong governance and several other enabling conditions in place.

Several policy measures are available to simultaneously mitigate forest risks and support sustainable livelihoods (**Table 2.4**). Many of these policies have been consistently associated with reductions in deforestation, like community forestry and payment for ecosystems services (PES).¹⁰⁵ Examples of countries with direct support policies have also shown positive forest and livelihood outcomes. However, the example of artisanal and small-scale mining (ASM) illustrates that efforts to regulate or formalize informal livelihood activities without explicitly providing safeguards for forests and other ecosystems can exacerbate, rather than reduce, harmful environmental impacts.

Overall, while there is significant analysis on the efficacy of these policies—often on project or program levels—there are limited comprehensive, aggregate studies on the extent to which countries implement them across the world.

Table 2.4. Examples of policy tools that address forest risks while promoting sustainable livelihoods

Governments have several policy levers at their disposal to promote sustainable livelihoods while addressing deforestation, which have achieved mixed levels of success.

| Policy tool | Details |
|--|---|
| <p>Payment for ecosystem services (PES)</p> <p>Countries employ PES schemes that compensate individuals or communities for managing their land in ways that provide key ecosystem services, like carbon sequestration or biodiversity conservation.</p> | <p>PES schemes are consistently associated with less deforestation at a regression-level and a study-level, per a 2023 meta-analysis.¹⁰⁷ Evidence from REDD+ projects demonstrates that PES schemes offer a direct and flexible model for incentivizing forest protection while providing additional income for local communities.¹⁰⁸</p> <p>PES schemes have several enabling conditions that can prompt their success, like sufficient stakeholder engagement (built on trust and local ownership), stable, reliable payments, and transparent implementation.¹⁰⁹</p> <p>Ecuador's Socio Bosque program is often lauded as a major success story in the PES arena.</p> |
| <p>Community forestry</p> <p>Most countries have schemes in place for collaborative or community forestry, which refers to forest management activities implemented by local people as part of their livelihood strategies.</p> | <p>Community forest management is consistently associated with less deforestation on a regression-level (though not always at an individual study level).¹¹⁰ It can reduce deforestation through better forest governance, but it can also increase deforestation by incentivizing the expansion of cultivated lands and pasture.¹¹¹</p> <p>Community forestry programs have yielded results in both poverty alleviation and forest protection where they were able to involve local communities and carefully assess community needs and capacities, and to assure secure tenure and rights.¹¹²</p> <p>Community forestry programs are highly context-dependent (e.g., different user groups, governance mechanisms, and social, economic, and environmental contexts), meaning that the success of community forestry programs should not be generalized or necessarily extrapolated.</p> <p>In Mexico, a 2023 study of community forestry management found that the associated reductions in deforestation were “economically significant” and “could far outweigh the costs of adopting the management plans” for involved communities.¹¹³</p> |
| <p>Small and medium forest enterprises (SMFEs) support</p> <p>SMFEs make up 80-90 percent of forestry enterprises and over 50 percent of the entire forestry sector in many countries. Creating policies to support SMFEs has been recognized as a way to leverage associated poverty alleviation and improvements in livelihoods, but environmental impacts are less clearly understood.</p> | <p>Globally, 20 million people are employed by SMFEs, which generate USD 130 billion a year of gross value added.¹¹⁴ However, a clear consensus on the forest impacts of SMFEs has not been established. While global meta analyses are not available, regional assessments show mixed results.¹¹⁵</p> <p>Evidence in support of the impact of SMFEs on livelihoods is clearer, though large-scale international assessments are not available. A study in Pakistan found a strong positive correlation between SMFEs and improvements in rural community livelihood, including income and assets owned.¹¹⁶ A study in Nepal found similar results.¹¹⁷ More globally, impacts vary.</p> <p>A global analysis of the uptake of SMFE support policy among REDD+ participating countries in 2016 found there had been little progress in implementing policy to support SMFEs.¹¹⁸ Since then a general absence of research/discussion appears to suggest that few concerted efforts have been made to establish this tool.</p> <p>Guatemala has committed to investing one percent of its budget in financing sustainable land-use, with funds being distributed to programs that support forest producers with and without legal ownership of their land. Agreements with private banks also provides a means of financing the expansion of SMFEs.¹¹⁹</p> <p>In Mozambique, public institutions have been mandated to promote the development of forest-linked SMEs through fiscal and non-fiscal incentives. This involves providing access to loans through programs such as FINAGRO (partnership of USAID and Mozambique government) direct lending at favorable interest rates.¹²⁰</p> |
| <p>Direct support</p> <p>Many countries provide direct support to rural populations that can</p> | <p>Where direct support programs are effective at improving livelihoods, their impact on forests remains unclear.</p> <p>The effectiveness of these programs is often limited by insufficient funding or limited capacities of relevant government institutions. For example, smallholder cattle ranchers in the Brazilian Amazon lack access to technical assistance and often rely on extensive farming and pasturing. The main limitation is the lack of qualified extension officers; basic services, such as health and education, are also in short supply.¹²¹</p> |

Policy tool

Details

have positive impacts on forests as co-benefits.

In the cocoa sector in **West Africa**—a smallholder sector tied to commodity markets and characterized by poor land management and widespread poverty—there is evidence that government support has led to increased productivity in cocoa production. There is a risk, however, that increased productivity may subsequently incentivize farm expansion and additional deforestation.¹²²

Similarly, in **Indonesia**, the role of extension service providers promoting better agricultural practices among smallholder palm oil farmers is limited by lack of capacity.¹²³

Regulating artisanal and small-scale mining (ASM)

Regulating ASM directly often falls short in reducing deforestation while enhancing livelihoods.¹²⁴ Improved forest governance and protected area policies that target areas where ASM is practiced have typically had more success in reducing deforestation but unclear impacts on local livelihoods.

Governments commonly seek to “formalize” ASM to reduce miners’ vulnerability, but interventions to formalize, paradoxically, can increase deforestation due to perverse incentives and mechanization, particularly when not combined with tenure security and training.¹²⁵ For example, **Peru’s** formalization efforts from 2001 to 2014 led to more mining and 40,000 hectares of forest loss.¹²⁶

International regulations often overlook forest-related concerns in ASM.¹²⁷ Yet, there is a growing push in policy and industry-led initiatives to integrate environmental aspects, focusing on business integrity and human rights. Critics warn that mandatory due diligence regulations may lead to ASM being excluded from responsible supply chains, as players may exit this high-risk sector due to elevated costs and reputational risks.

Multilateral organizations are developing innovative approaches that explicitly address forest impacts. The World Bank’s “Bolt-on Forest-Smart ASM Standard” enables ASM enterprises, regulators, and buyers to adopt “forest-smart” practices with support from various stakeholders.¹²⁸ The Global Environmental Facility’s GOLD+ program, targeting reduced mercury use in ASM, considers a jurisdictional approach, encompassing sectors like forestry, water, health, and the environment.¹²⁹

2.3 Have companies advanced their efforts to achieve forest goals?

2.3.1 Eliminating deforestation and conversion from agricultural and forestry commodity supply chains

Only a small group of leading agricultural commodity and forestry companies prioritize eliminating deforestation and conversion from their supply chains, though their efforts prove that such an outcome is possible. Their overall impact remains limited, however, because they control only a small share of the global market. The majority of companies are either behind on progress toward their forest commitments or have yet to adopt them.

Civil society organizations supported by public and private donors have laid the groundwork for private sector action. They have developed extensive guidance (e.g., the Accountability Framework and numerous certification standards) for companies to design and implement policies in their supply chains to address deforestation, conversion of natural ecosystems, and human rights abuses. Civil society organizations have gathered data on forests, deforestation hotspots, commodity trade, and deforestation risks in supply chains and made it available through platforms like Global Forest Watch, trase.earth, and Mighty Earth's Cocoa Accountability Map—among others—for companies to use and act upon.

HOW DO WE ASSESS PROGRESS?

Producers, traders, processors, manufacturers, and retailers of commodities can implement a range of measures to eliminate deforestation, forest degradation, and the conversion and degradation of other ecosystems from their supply chains. These measures include production and supply chain management systems and processes such as risk and impact assessments, traceability, supplier management and support, and monitoring and verification of compliance, along with strong grievance and noncompliance processes. This section focuses on addressing forest risks from legal activities, though illegal activities also play a major role in harming forests. See **Chapter 4** on forest rights & governance for more on illegal deforestation.

We assess company progress on two types of policies:

COMPANY POLICIES IN THE AGRICULTURE AND FORESTRY SECTORS: We look at the adoption of supply chain management commitments including time-bound targets, and implementation mechanisms such as for risk assessment, traceability, managing and supporting suppliers, and monitoring and verification of compliance.

COMPANY POLICIES IN THE MINING AND EXTRACTIVES SECTOR: We review how companies address the indirect influence of opening up forests to other drivers of deforestation, such as by applying the mitigation hierarchy.^P Policies are typically framed in the context of biodiversity protection.

Despite this engagement and effort by civil society over the last decade, most companies operating in agricultural and forestry commodity supply chains do not disclose their risks or progress in addressing those risks. Among those that disclose, many companies have yet to adopt robust and comprehensive commitments. While there are a handful of leading companies, their overall impact on reducing negative forest impacts is limited because they control only a small share of the global market for these commodities. Overall, corporate actors' progress is slow.

A minority (29%) of companies in forest-risk commodity supply chains assessed by Forest 500 have a deforestation commitment in place for all commodities to which they are exposed (**Figure 2.4**).¹²⁹ While this is progress, it's not fast enough. Since 2014, the percentage of companies that have a deforestation commitment for all of the commodities to which they are

^PThe "mitigation hierarchy" is a decision framework which allows for the systematic consideration of negative environmental impacts (direct, indirect, and cumulative) from a development project, and for the identification of appropriate mitigation options. Its application is considered a "best practice" approach in the mining, extractives, and infrastructure sectors. Four key steps are called for, in order of priority: Avoid impacts from the outset, through e.g. improved spatial or temporal planning; Minimize impacts that cannot be completely avoided; Restore or rehabilitate ecosystems and habitats impacted by the project, either concurrently or post-project closure; and Offset any residual impacts through interventions outside the project area. As a second priority, it calls for remedial measures, restoring or offsetting negative impacts. Effective application of this framework requires strong prioritization of avoidance and mitigation. Source: Forest Trends, <https://www.forest-trends.org/bbop/bbop-key-concepts/mitigation-hierarchy/>

exposed increased by 19 percent—demonstrating progress, albeit too slow. Progress by producers of major forest-risk commodities differed significantly. The majority of companies producing palm oil and timber have a deforestation commitment in place, continuing to show stronger ambition than those producing soy (less than half of which have a deforestation commitment). Beef producers lag even further behind, with just 30 percent of assessed companies having a deforestation commitment in place. Based on data from ZSL’s SPOTT, only 12 percent (10 out of 79) of companies in the palm oil sector have a commitment to no conversion that aligns with the Accountability Framework’s criteria for natural ecosystems.

Overall, only 12 percent of companies disclosing to CDP claim to be close to eradicating deforestation from their supply chains.¹³⁰ Among the mainly large- and medium-sized companies disclosing through CDP, just half (49%) of them had a system to control, monitor, or verify compliance with their zero deforestation supply chain policies or commitments. Only a third (35%) report over 90 percent of their commodity volumes to be in compliance with their no-deforestation or no-conversion policies or commitments (**Figure 2.5**).

There are various means by which companies can implement their no-deforestation and conversion commitments. Companies can combine different approaches depending on the specific commodities and geographies where they operate. These may include the implementation of robust supplier management, traceability and monitoring systems, use of certification (i.e., participation in and compliance with voluntary sustainability certification programs, like the Roundtable on Sustainable Palm Oil or the Rainforest Alliance standard for other commodities), direct supplier engagement and participation in jurisdictional initiatives. The Accountability Framework provides guidance necessary for companies to achieve their zero-deforestation, zero-conversion and respect for human rights in their agricultural and forestry supply chains and is designed to be used in tandem with other initiatives and approaches.

Limited progress on supply chain traceability

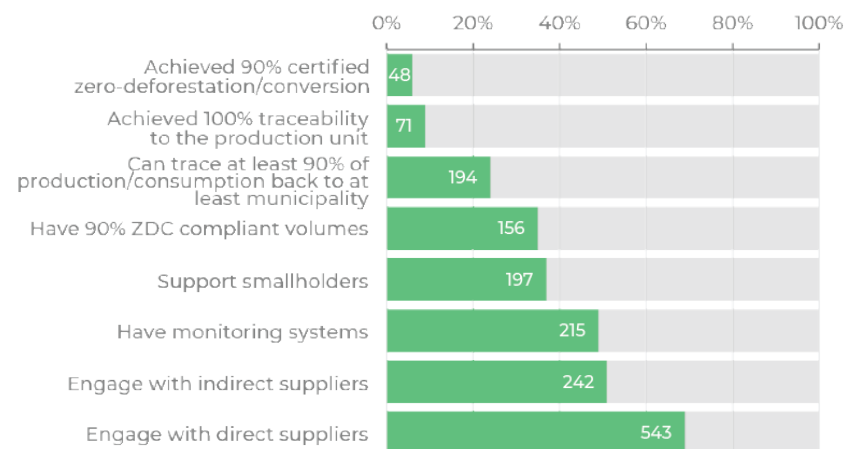
Just 9 percent (71 out of 810) companies disclosing through CDP report that they trace 100 percent of at least one of their sourced raw products back to the unit of origin (e.g., plantation, farm, and cattle ranch). According to Supply Change, of the 125 largest companies (those with global operations accounting for over USD 4 trillion in global sales), only 38 report the percentage of their volumes traceable to the source or primary production unit for at least one sourced commodity.¹³¹

Figure 2.4. Deforestation commitments among Forest 500 companies



Source: Forest 500 2023 Report

Figure 2.5. Implementation of no-deforestation commitments by agricultural supply chain companies disclosing through CDP



Source: CDP disclosure data from 2022

Full traceability is particularly important given recent regulatory developments like the EUDR, which introduced strict traceability requirements for companies who want to sell and import their products through the EU market. Companies that do not have a system in place to track and monitor the origin of their disclosed commodities cited reasons for this, per CDP disclosures. These reasons include that such systems are not an immediate business priority; that companies are in the process of implementing traceability systems within the next two years, but do not currently do so; and that there is insufficient data on their operations to do so.¹³²

According to CDP, improved traceability is most common in the palm oil sector. At least 46 percent of companies assessed indicate that they can trace almost half (43%) of their palm oil volumes to the processing level.¹³³ Unless companies can trace their commodities to at least subnational producer regions or the location of origin where they can monitor deforestation and conversion through satellite technologies, determining the risk of deforestation associated with these commodities remains a challenge.

Mixed progress on voluntary certification

The main certification schemes with zero-deforestation requirements are the Roundtable on Sustainable Palm Oil (RSPO); the Round Table on Responsible Soy (RTRS) and Proterra for soy; and the Rainforest Alliance (RA) for cocoa, coffee, and other commodities.

There is significant uptake of certification schemes within some commodities. Certification use is highest among companies reporting on palm oil (72%) and coffee (36%).¹³⁴ Similarly, while 68 percent of companies report using certification (e.g., Forest Stewardship Council) for timber, this generally refers to timber plantation certified “sustainable” but not necessarily “deforestation-free” (**Box 2.4**). While certification can be an effective assurance mechanism to implement deforestation-free policies and commitments to ensure sourced materials come from sustainable sources, their uptake alone does not provide the full picture.

In addition to zero-deforestation requirements, companies need to source segregated or identity-preserved materials certified under these schemes to provide zero-deforestation assurance. However, only 3 percent of companies reporting on palm oil report that at least 90 percent of their volumes can be identified as originating from identity-preserved or segregated supply chains. While RSPO has certified 14.7 million metric tons (19% of the entire

global palm oil sector), it has been unable to penetrate key markets such as China and India.¹³⁵ Meanwhile, no companies report this level of certification for soy, cattle products, natural rubber, cocoa, or coffee.

A 2023 meta-analysis found that commodity certification was among the policies and institutions associated with reduced deforestation.¹³⁶ The analysis found that certification schemes were linked with less deforestation in most—but not all—regions. A 2021 review of studies on voluntary certifications found that such schemes prompted farmers to increase tree cover or afforded them higher incomes when coupled with incentives like improved market access.¹³⁷ For example, while households with RSPO-certified farms have generally seen improved income, evidence for conservation outcomes, like reduced deforestation and reduced fire occurrence, compared to non-certified plantations was mixed.¹³⁸

Additionally, the private sector is increasingly acknowledging the importance of addressing deforestation due to both legal and reputational risks. For instance, Australian beef companies with international operations, for example, are cautious about being associated with deforestation and some are reevaluating their beef production methods (see **Australia case study**).

BOX 2.4. COMPANY EFFORTS ON SOURCING LINKED TO DEFORESTATION AND DEGRADATION

Many companies in the forest product supply chain rely on commitments centered on third-party certification systems. These systems, however, vary widely in the actual level of protection they provide to forests and Indigenous rights. Systems like the Sustainable Forestry Initiative, for example, don't prohibit degradation and offer minimal protections against biodiversity, climate, and human rights impacts.

However, investors have begun recognizing the risks associated with sourcing tied to forest degradation and pursuing measures to mitigate these risks in their portfolios. In 2020, 67 percent of shareholders for the multinational consumer goods company Procter & Gamble (P&G) voted in favor of a resolution asking the company to assess and report on how it can “increase the scale, pace and rigor of its efforts to eliminate deforestation and the degradation of intact forests in its supply chains.”¹³⁹ In 2022, 65 percent of shareholders for multinational home improvement retailer The Home Depot voted in favor of a similar resolution.¹⁴⁰

Investors have also begun integrating forest degradation standards into their policies. In its March 2023 Guidance on Environmental Management Disclosures, for example, State Street Global Advisors, which has USD 3.5 trillion in assets under management and is the fourth-largest asset manager in the world, highlights that companies should “manage [...] deforestation and land degradation risk in their supply chains and enhance disclosure on these efforts.”¹⁴¹

Progress on supplier engagement varies across supply chains and regions

Palm oil supply chains are doing comparatively well on supplier engagement compared to other forest-risk commodities, demonstrated by the sector in Indonesia (**Box 2.5**). Based on data from ZSL's SPOTT, about 56 percent of 93 assessed palm oil producers and processors report they have or support a program to support independent smallholders in the supply chain.

Engagement with indirect suppliers is challenging, especially in sectors that are dominated by many smallholders and intermediaries, such as the cocoa and palm oil sectors. In the cocoa sector, for example, companies focus support mostly on large, direct-supplying farms while many smallholders remain unsupported. However, there is increasing multistakeholder collaboration at the landscape and jurisdictional level in producer countries to address underlying drivers of deforestation including by supporting farmers (**Section 2.5.1**).

2.3.2 Mitigating impact from extractive industries

Corporate transparency on forest risks remains very limited in the mining and extractives sectors. Companies reporting in 2022 saw small signs of improvement in adopting commitments and policies to reduce or avoid biodiversity loss. However, the quality and effectiveness of these policies remains unclear due to a lack of specificity in their design. Downstream companies also still fail to address their environmental impacts related to mining and extractives.

Lack of ambition and specificity in company commitments

From 2021 to 2022, there was an increase in mining and coal extractive companies reporting through CDP that made a public commitment to reduce or avoid impacts on biodiversity (Figure 2.6), which can largely be attributed to a change in the sample of companies reporting.⁹

BOX 2.5. THE ROLE OF ZERO-DEFORESTATION COMMITMENTS IN INDONESIA'S PALM OIL SECTOR¹⁴²

Indonesia, the world's top palm oil producer, generated 46 million metric tons of crude palm oil in 2021, accounting for 59 percent of global exports.¹⁴³ Historically, palm oil production drove significant deforestation. Palm oil production was responsible for over 3 million hectares of forest loss over the past 20 years.¹⁴⁴ However, Indonesian palm oil producers have recently adopted more sustainable practices. Trase Insights¹⁴⁵ research demonstrates this shift, showcasing the positive impacts on forests.

Indonesia's palm oil sector has witnessed widespread adoption of zero-deforestation commitments (ZDCs), with over 85 percent of palm oil exports linked to companies having formal ZDCs. Initially, these commitments did not yield significant deforestation reductions, showing similar risk levels to the sector overall after adoption. However, this trend shifted in subsequent years as companies improved compliance and transparency. This time lag may be because many of the major producing companies certified their existing plantation base first, and then as the expansion continued, certified their new plantings.

Trase Insights reveals notable differences between ZDC-adopting supply chains and others in Indonesia. Exporters with ZDCs source palm oil from lower-deforestation supply chains, with each metric ton of palm oil exported by traders with ZDCs having just 70 percent of the deforestation risk of one exported by other traders. Together, these results provide evidence of a differentiated market in which supply chains governed by ZDCs have a markedly lower rate of deforestation.

While there is still much progress to be made, commodity-driven deforestation from palm oil has decreased in Indonesia. From 2018-20, deforestation for palm oil dropped to 18 percent of its 2008-12 peak, even as palm oil production expanded. Importantly, government-led action played a major role, here: in 2018, the Government of Indonesia instituted a palm oil moratorium (based on President Regulation No. 18), which helped stem deforestation from palm oil production. Challenges to maintaining this decrease include rising palm oil prices and the emergence of less transparent, unsustainable companies. However, Trase Insights reports that recent palm oil price increases did not drive a surge in deforestation, offering hope. This may be because as prices fell, many of the larger plantation companies began to replant their older plantations with improved planting materials. Yet, 2.4 million hectares of intact forest remain in Indonesian palm oil concessions, representing both a conservation opportunity and a significant continued risk.

⁹A total of 38 companies reported in 2021, and 37 companies reported in 2022; 9 new companies responded in 2022, while 10 that did so in 2021 failed to do so in 2022.

However, the overall lack of specificity and ambition in existing commitments among reporting companies undermines confidence in their quality and effectiveness. For example, less than a third (both in 2021 and 2022) of these companies pledged to adopt the mitigation hierarchy approach. Further, very few companies aim for a net positive impact on biodiversity (5 percent in 2021 and 8 percent in 2022).

Biodiversity policies on the rise, but remain vague

Policy adoption can be considered a more impactful action than making a commitment, since policies guide behavior. In response to investor demand, most mining companies have now adopted some form of corporate social responsibility approach or environmental, social, and governance (ESG) principles that guide their activities.¹⁴⁶ While biodiversity commitments and policies are relatively common in these principles, an explicit focus on forests is rare.

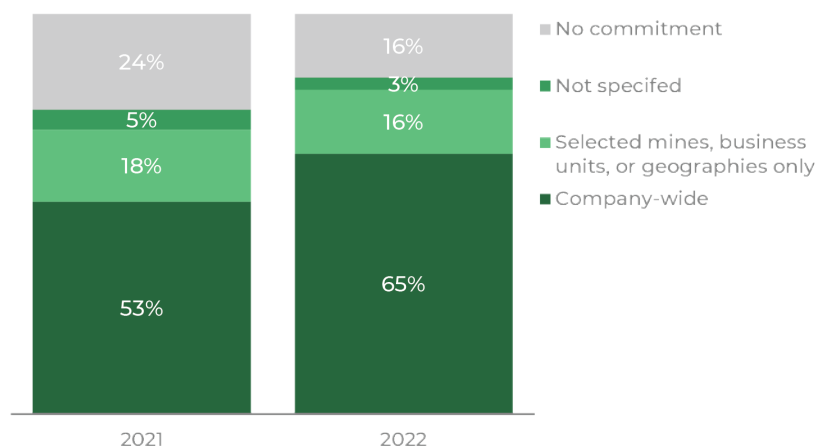
Nearly all companies that reported through CDP in 2022 have a biodiversity policy (89%), though fewer have an actual commitment to avoid or reduce impacts on biodiversity (73%). The share of companies whose biodiversity policy is publicly available was higher in 2022 (81%) than in 2021 (68%), but consistent transparency is still lacking, making it hard to track progress on this indicator.

In 2022, the proportion of biodiversity policies from reporting companies containing best practice elements generally increased compared to 2021. For example, the share of policies recognizing the overall importance of natural habitats increased from 42 to 51 percent, while those containing commitments to transparency went from 26 to 38 percent. On the other hand, fewer policies set time bound targets: 21 percent in 2021 dropped to 19 percent (Figure 2.7). Overall, well below half of the policies contain the kind of explicit commitments or references to best practices that characterize well-designed, effective policies to reduce negative forest and biodiversity impacts.

Performance improvements slowing down

Despite the significant work that remains even for companies that have traditionally been leaders on responsible mining, progress on performance has slowed in recent years. The Responsible Mining Foundation has tracked mining company progress in responsible mining since 2018. They evaluate four key indicators: ESG integration, transparency, rights-based harm prevention, and international action.¹⁴⁷

Figure 2.6. Scope of public biodiversity commitments among mining and coal extractive companies reporting through CDP in 2021 and 2022



Source: CDP analysis of self-reported and disclosed mining company data in 2021 and 2022

Note: A total of 38 companies reported in 2021, and 37 companies reported in 2022; 9 new companies responded in 2022, while 10 that did so in 2021 failed to do so in 2022.

The assessed companies, accounting for 25 to 30 percent of global mining, have shown slow improvement. On average, they improved by 17 percent from 2018-20 and 11 percent from 2020-22. Notably, top-tier companies only saw a 4 percent average improvement from 2020-22.

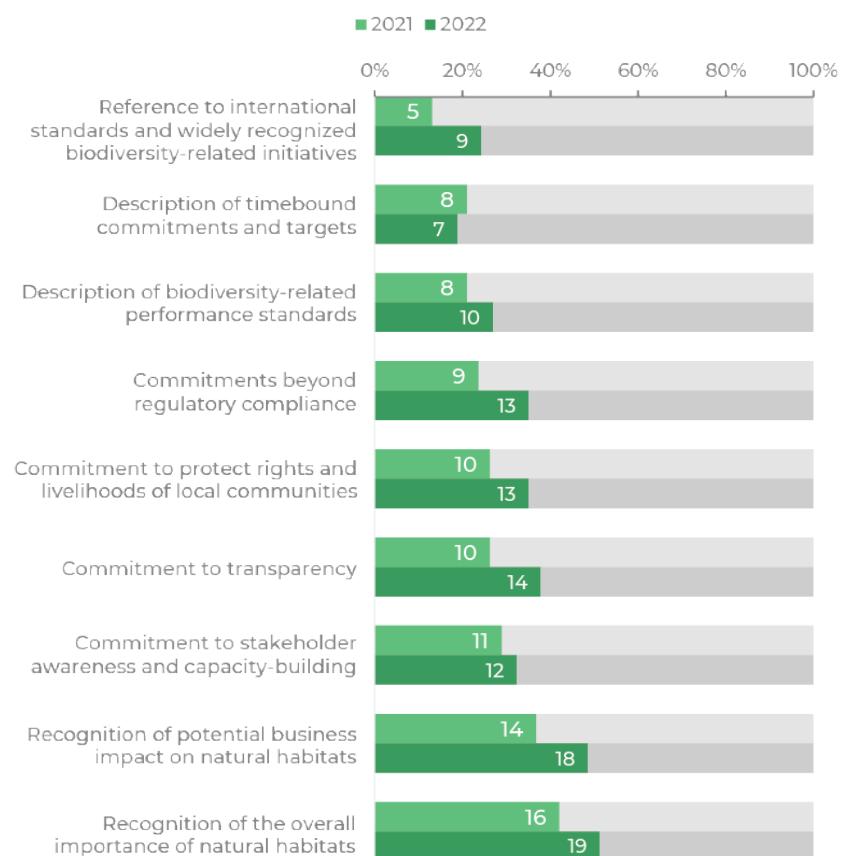
Another group, the Mining Association of Canada, assesses environmental stewardship through its Toward Sustainable Mining (TSM) framework.¹⁴⁸ The latest data from December 2022 reveals that 79 percent of companies achieved Level A or higher in “conservation planning and implementation,” with approximately 50 percent reaching the highest AAA rating. This indicates a slight decrease in overall performance compared to 2021—the same share (79%) of companies had reached the A level or higher, but a higher percentage had reached the AAA level (around 65%). However, overall performance has improved since 2013 when only 50 percent reached Level A or above, and around 30 percent attained the AAA grade.

Voluntary sustainability standards are increasingly adopted but are not all strong on forests

Voluntary sustainability standards for extractive industries are becoming increasingly important, as evidenced by increased uptake by actors in the

mining sector and increasing consumer demand for sustainable products.¹⁴⁹ Voluntary standards have gained prominence as a means to guide companies in adopting best practices and providing assurance to consumers. Standards provide frameworks for monitoring, reporting, and independently auditing mining operations to assess their compliance.¹⁵⁰ Some standards cover a broad range of minerals and levels of supply chain, and others focus on specific commodities or supply chain segments.

Figure 2.7. Scope of biodiversity policies mining and coal extractive companies reporting through CDP in 2021 and 2022



Source: CDP analysis of self-reported and disclosed mining company data in 2021 and 2022.

Note: A total of 38 companies reported in 2021, and 37 companies reported in 2022; 9 new companies responded in 2022, while 10 that did so in 2021 failed to do so in 2022.

BOX 2.6. FOREST REQUIREMENTS IN MINING SECTOR VOLUNTARY SUSTAINABILITY STANDARDS

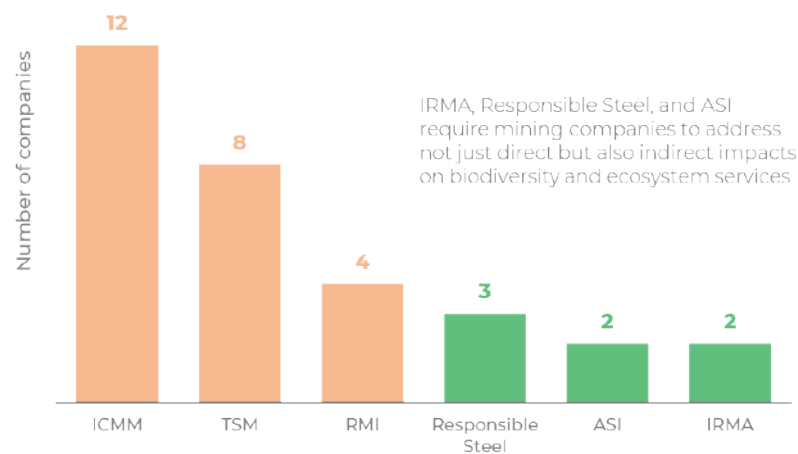
Sustainability schemes targeting the mining sector have been developed with varying relevance for forest and biodiversity protection (see **Theme 2 Annex**). At the level of mine site operations and processing, the International Council on Mining and Metals (ICMM)'s Mining Principles was the first international industry framework to address environmental and social impacts.¹⁵¹ The ICMM and the Toward Sustainable Mining (TSM) framework both require biodiversity and environmental impact assessments, with risks and impacts to be managed through application of the mitigation hierarchy. IRMA's Standard for Responsible Mining is the only standard for mine site level that requires assessment and management of "direct, indirect, and cumulative impacts."

The ResponsibleSteel Standard extends the IRMA Standard's principles up the supply chain throughout the steel sector, requiring mine sites to assess and manage biodiversity risks according to the mitigation hierarchy. ResponsibleSteel will conduct a full review of its international standard beginning in 2024. Also covering activities in the processing stage of supply chains is the Responsible Minerals Initiative (RMI). Through its Responsible Minerals Assurance Process (RMAP), the RMI manages nine standards covering a variety of commodities. Of these nine standards, two include forest-specific criteria such as the requirement for processors to not use, operate, or encroach on protected areas such as forests or wildlife preserves/management areas.

The International Finance Corporation (IFC)'s Performance Standards are one of the most common reference points for the sector and cover the entire lifecycle of an investment. IFC Performance Standard 6 states that projects should consider direct and indirect project-related impacts on biodiversity and ecosystem services. Similarly, the Responsible Jewelry Council's (RJC) Code of Practices calls for impact assessments to cover the direct, indirect, and cumulative impacts on biodiversity and ecosystem services. The Aluminum Stewardship Initiative's (ASI) version 3 of its Performance Standard, released in 2022, requires companies to assess the biodiversity and ecosystem services impacts of their operations within their area of influence, which includes indirect project impacts that affect communities' livelihoods.

The proliferation of standards in recent years has led to demand for clarity and alignment. Launched in 2019, the Mining, Minerals, and Metals (M3) Standards Partnership¹⁵² is a collaboration between standards organizations that includes ResponsibleSteel (the leader of M3), IRMA, RJC, and TSM. Rather than forming a new standard, M3 created the Integrated Assessment Protocol (IAP) Tool which is designed to allow mine sites to be assessed against multiple site-level standards in a single audit, supporting alignment across standards and facilitating demonstration of conformity with multiple standards with greater efficiency and reduced costs. ResponsibleSteel notes that as part of their collaboration efforts, IRMA, RJC, and TSM have engaged in dialogues on how to align their standards more closely.¹⁵³ It remains to be seen how, and to what extent, the inclusion of forests will be strengthened as part of this effort.

Figure 2.8. Participation in voluntary sustainability schemes by top 20 international mining companies



Source: Adapted from Franken, G., & Schütte, P. (2022).

Out of the 20 largest global mining companies, fourteen have embraced voluntary sustainability standards (**Figure 2.8**), with some adopting more than one standard.¹⁵⁴ The International Council on Mining and Metals (ICMM) leads with twelve member companies, covering 30 percent of global mining production.¹⁵⁵ The Mining Association of Canada’s TSM framework follows with eight members, succeeded by the Responsible Minerals Initiative (RMI) with four members, the ResponsibleSteel Standard with three, and the Aluminum Stewardship Initiative (ASI) Performance Standard with two. However, 6 of the top 20 firms remain outside any sustainability scheme.

Few mining standards include strong mandates for mine site operators to assess and mitigate their indirect and cumulative biodiversity impacts alongside direct effects (**Box 2.6**). The Initiative for Responsible Mining Assurance (IRMA)’s Standard for Responsible Mining is the only standard for mine site level that requires assessment and management of “direct, indirect, and cumulative impacts.”

Only 2 of the top 20 companies have adopted IRMA’s standard, meaning that its best-practice approach to addressing biodiversity and ecosystem impacts is not widely adopted by mining’s power brokers. However, by other measures, the standard’s reach is growing rapidly: there has been a six-fold

increase in mine sites participating in IRMA processes over the last three years. As of September 2023, 33 mine sites (spanning 23 companies) were in the self-assessment stage of IRMA adoption,¹⁵⁶ up from 30 sites in September 2022 and only 6 in September 2020. Additionally, 15 sites from 10 companies had begun or completed the independent, third-party assessment by September 2023.¹⁵⁷

The TSM framework is unique among voluntary sector standards in that it targets national industry bodies for adoption, rather than individual mining companies. To date, the TSM framework has been adopted by 13 countries’ national mining associations, covering 29 percent of global mineral and metal production value.¹⁵⁸ Guatemala, Mexico, and Panama adopted the TSM standard since the 2022 Forest Declaration Assessment.

The global transition to sustainable energy has thrust mining companies extracting critical materials like cobalt, nickel, lithium, and platinum into the spotlight. The ICMM standard is the most widely adopted among the top companies by market share in these energy transition commodities.

However, approximately half of the leading firms in these sectors have not joined any sustainability scheme, highlighting room for further engagement and improvement in promoting sustainable mining practices.

Downstream companies weak on addressing environmental impacts

Downstream companies with links to the extractive commodity sector—those who do not produce but instead procure extractive commodities—are making commitments to reduce their environmental impacts, but few are backing these up with concrete actions aligned with the mitigation hierarchy.

The Extractive Commodity Trading Report 2023¹⁵⁹ from the Responsible Mining Foundation and the World Resources Forum assessed commitments, due diligence, and public disclosure among 25 of the world’s largest companies that trade extractive commodities primarily sourced from third-party suppliers—most assessed companies were international oil companies

or energy traders. The report found that most companies express a commitment to addressing environmental impacts, but few formalize it with a mitigation-hierarchy approach.

Efforts to fulfill these commitments are generally weak. Over 70 percent of companies assessed in the Extractive Commodity Trading Report 2023 have set environmental expectations for their suppliers, but only a few formalize them in documents or require environmental management systems. Few have formal systems to assess supplier compliance with environmental matters, with just one disclosing actions for supplier non-compliance.¹⁶⁰ Only three assessed companies (Glencore, Eni Trade & Biofuels, and TotalEnergies Trading & Shipping) have relatively strong environmental due diligence performance. Minimum transparency on sourcing remains limited, with only one company (MRI Trading) publicly disclosing all of the countries from which it sources.

Without due diligence, environmental commitments are unlikely to improve environmental performance on the ground. Producing companies are unlikely to change their practices if they are not held accountable by sourcing companies—see **Box 2.7** for an example). As of now, there is little indication that downstream companies in the extractives sector are making efforts to review or improve their due diligence systems.

BOX 2.7. CHALLENGES IN MINING GOVERNANCE: THE CASE OF NICKEL MINING IN INDONESIA

The global transition to renewable energy has spurred increased mining activities in regions rich in critical minerals, driven by the growing demand for essential resources used in electric batteries and renewable technology components. As the supplier of 37 percent of the world's nickel in 2021, Indonesia is a pivotal player in this transition. Its share of nickel production is projected to soar to around 60 percent by 2025.¹⁶¹

Indonesia has actively sought foreign investment to strengthen its domestic nickel sector.¹⁶² For example, in August 2022, Tesla, the world's second-largest electric car manufacturer, signed a monumental USD 5 billion deal to secure nickel for its batteries from Indonesian suppliers.¹⁶³ In January 2023, German chemical giant BASF announced a planned USD 2.6 billion investment in an Indonesian facility to process nickel for use in electric vehicle batteries.¹⁶⁴ BASF's rationale for this investment decision partly hinges on the project site's commitment to "the highest standards of responsible and ethical practices, in line with the highest national and international standards."¹⁶⁵ This includes adoption of the IRMA standard, which mandates comprehensive social and environmental impact assessments and requires free, prior, and informed consent from affected Indigenous Peoples.

Despite claims of compliance with international mining standards, concerns have arisen regarding the impact of Indonesian nickel mining activities on local communities and on the environment, including evidence of large-scale deforestation.¹⁶⁶ These concerns stem largely from Indonesia's weak mining governance and policy frameworks that often prioritize the interests of large-scale mining companies over environmental protection and human rights. For example, Indonesia's granting of mining concessions does not require consultations with local people, as they are not considered the owners of the land under Indonesian law.¹⁶⁷ In response to a damning investigative report on conflicts of interest in granting mining licenses, the Indonesian Ministry of Energy and Mineral Resources took swift action by revoking permits for numerous nickel companies associated with deforestation.¹⁶⁸ Enhanced transparency and disclosure mechanisms could improve mining governance and mitigate some of the challenges associated with Indonesian nickel mining.

¹ Companies assessed include bp trading & shipping, CCI, Chevron Supply and Trading, CITIC Metal, ConocoPhillips, Eni Trade & Biofuels, ExxonMobil, Gerald Group, Glencore, Gunvor, LITASCO, Mercuria, Minmetals International, Mitsubishi Corporation, Mitsui, MRI Trading, Noble Resources, Phibro, RGL Group, Shell International Trading and Shipping, TotalEnergies Trading & Shipping, Trafigura, UNIPPEC, Vitol, and Wogen.

2.4 Have grassroots actors advanced their efforts to achieve forest goals?

2.4.1 Engagement of civil society, Indigenous Peoples and local communities, and other citizen-led groups in grassroots movements

IPs and LCs have made astounding headway in raising awareness at the international level of the critical role they play in safeguarding the world's forests and other natural ecosystems. Grassroots movements and resistance led by IPs, LCs, and other stakeholders have elevated conversations about the environmental and social impacts of large-scale development projects and the potential for alternative development pathways. Yet, evidence from ground level tells a story of woefully insufficient funding, legal recognition and respect for rights, and protection for environmental defenders.

Indigenous Peoples claiming space on the international stage

IPs' and LCs' voices are critical to shaping global narratives advocating for forests to be foregrounded in climate action, biodiversity protection, and sustainable development agendas. IPs and LCs have long been at the forefront of national and subnational forest stewardship efforts, and are now elevating this leadership in international contexts. Over the last 15 years, Indigenous leaders from all over the world have united their forest communities through transnational alliances to amplify IPs' and LCs' messages.¹⁶⁹

HOW DO WE ASSESS PROGRESS?

This section considers the extent and impact of grassroots activity that is positively contributing to the achievement of global forest goals, as well as the opposition that these actors face, using case studies and available aggregate data on grassroots efforts, where available. Civil society organizations, non-profit institutions, and IPs' and LCs' organizations, as well as ad hoc or informal coalitions of smallholder farmers, women's networks, and mutual aid groups,¹⁷⁰ can all contribute to grassroots activities, defined as taking place outside of dominant power and decision-making structures. These grassroots actors can unite in common cause against threats to their livelihoods or the environment.¹⁷¹ Grassroots actors use a variety of methods—such as organizing public protests, initiating legal challenges, and rallying international support—to influence how, where, or if development projects are undertaken and to exert IPs' and LCs' rights to self-determination.

The success of these efforts has been evident in recent climate and forest events—for example, through the launch of the IPLC Tenure Pledge at COP26. International alliances have allowed grassroots actors to overcome or circumvent authoritarian or oppressive domestic contexts—at least to an extent—even as space for civil society and activism closes in many countries.¹⁷² Grassroots efforts influence public opinion and inform land use decision making and policy.¹⁷³

Bottom-up mobilizations' limited but profound moments of success

An analysis of 2,743 cases found that bottom-up mobilizations (including formal petitions, street protests, and public campaigns) for more sustainable and socially-just uses of the environment occur worldwide across all income groups.¹⁷⁴ In 11 percent of cases, mobilizations contributed to halting environmentally destructive and socially conflictive projects, and defending the environment and livelihoods.¹⁷⁵ Another study of 649 cases of resistance movements found that place-based resistance movements are succeeding in curbing both fossil-fuel and low-carbon energy projects, and over a quarter of projects encountering social resistance were canceled, suspended, or delayed.¹⁷⁶ Ecuador has recently seen significant shifts due to mass resistance to the expansion of extractive concessions (**Box 2.8**).

Community-led conservation and alternative development pathways shifting the status quo

Conventional models of protected areas have faced criticism for perpetuating “fortress conservation,” which excludes communities from lands that they have traditionally occupied and on which they rely. However,

new models for community-led conservation can counteract the trend toward exclusion, empowering communities and fostering self-determination while safeguarding forests.

For example, for decades, IPs in Canada have been leading the way in establishing Indigenous Protected and Conserved Areas that both protect forests for future generations and promote Indigenous governance.¹⁷⁷ The federal government of Canada has committed more than USD 1.2 billion toward Indigenous-led protection since 2018.¹⁷⁸ Guardians programs also provide new models of Indigenous-led stewardship, supporting and empowering Indigenous “eyes and ears” on the ground in their traditional territories. In December 2022, Canada announced the creation of a First Nations National Guardians Network.¹⁷⁹

Voices from Global South, particularly Indigenous communities, have been redefining development paradigms. Concepts like *buen vivir* (“living well”) from Latin America and similar ideas in other regions emphasize an alternative to the exploitative and destructive nature of modern capitalism.¹⁸⁰ These alternative approaches prioritize harmony with nature, community, and sustainability, aiming to dismantle the idea of universal progress driven by technology and economic growth. Recently, increasing efforts are underway to expand traditional measures of economic well-being (like GDP) to encompass a broader range of indicators for social and ecological wealth.¹⁸¹

Rising scrutiny of donors driving (slow) localization of funding

In recent years, donor countries and philanthropic organizations have increasingly recognized the importance of IPs and LCs in biodiversity conservation and climate change efforts.¹⁸² This represents a significant shift from earlier conservation programs that often excluded IPs and LCs from decision-making processes. A landmark 2021 report from Rainforest Foundation Norway, noting that less than 1 percent of global climate financing reached IPs and LCs, led to increased awareness and a USD 1.7 billion pledge (the IPLC Forest Tenure Pledge) by bilateral donors and foundations.¹⁸³ However, Indigenous leaders have raised concerns that this pledge will be fulfilled through existing funding channels, which do not generally meet IPs’ and LCs’ needs.¹⁸⁴ The first progress report issued by signatories to the pledge revealed that only 7 percent of distributed funding was directly reaching IP and LC organizations.¹⁸⁵

BOX 2.8. GRASSROOTS RESISTANCE TO EXTRACTIVES EXPANSION IN ECUADOR

The Waorani people and other Indigenous groups in Ecuador have long opposed using their traditional forest lands for extractive industries. In 2022 and 2023, they made significant strides in challenging Ecuador’s reliance on oil production. While potential alternative revenue sources are emerging, the timing of scaling them up to avoid an economic crisis is uncertain.

President Guillermo Lasso issued Decree 95 in July 2021, aiming to double national oil production and attract private investment to address pandemic-induced economic challenges. This decree opened parts of the Ecuadorian Amazon to new mining concessions and relaxed environmental controls. Despite Ecuador’s progressive constitution, governmental actions often contradicted its principles.¹⁸⁶

President Lasso’s decrees and the subsequent awarding of new concessions sparked protests and lawsuits.¹⁸⁷ In February 2022, Ecuador’s Constitutional Court ruled that Indigenous Peoples (IPs) have the right to consent to extractive projects on their lands, slowing oil concession permits.¹⁸⁸ Further unrest erupted in June 2022, and in September 2022, the government agreed to a temporary moratorium on new concessions and projects in Indigenous territories and protected areas, lasting at least 12 months or until free, prior, and informed consultation for IPs and comprehensive environmental legislation is enacted.¹⁸⁹ Lawsuits and protests also led to the repeal of Decree 95 and the reform of Decree 151.

Indigenous protests likely contributed to President Lasso’s declining popularity; the protests caused significant economic losses, and caused gasoline shortages and soaring prices.¹⁹⁰ Ecuador’s oil industry faced challenges, including declining production, coinciding with economic difficulties. New presidential elections were scheduled, and in August 2023, national and local referendums were held, with a majority rejecting oil drilling in Block 43—a major contributor to Ecuador’s oil production.¹⁹¹ Supporters of the oil ban argue that ecotourism and debt-for-nature swaps could mitigate the economic impact of shutting down oil production in Yasuni National Park, where Block 43 is located.

Recently established global, regional, and national IP- and LC-focused funding initiatives are welcome advancements, along with an increased representation of these communities in their leadership. For example, CLARIFI (the Community Land Rights and Conservation Finance Initiative, by the Rights and Resources Initiative and Campaign for Nature) recently appointed an Indigenous woman as its head.¹⁹² CLARIFI is a flexible global funding mechanism aiming to contribute to the goal of raising USD 10 billion by 2030 to support IPs and LCs. In May 2023, Indonesia’s three largest Indigenous and civil society organizations launched the Nusantara Fund, a direct community funding mechanism aiming to attract USD 20 million in donor commitments.¹⁹³ Another Indigenous and civil society consortium launched the Indigenous Peoples of Asia Solidarity Fund, or IPAS Fund,

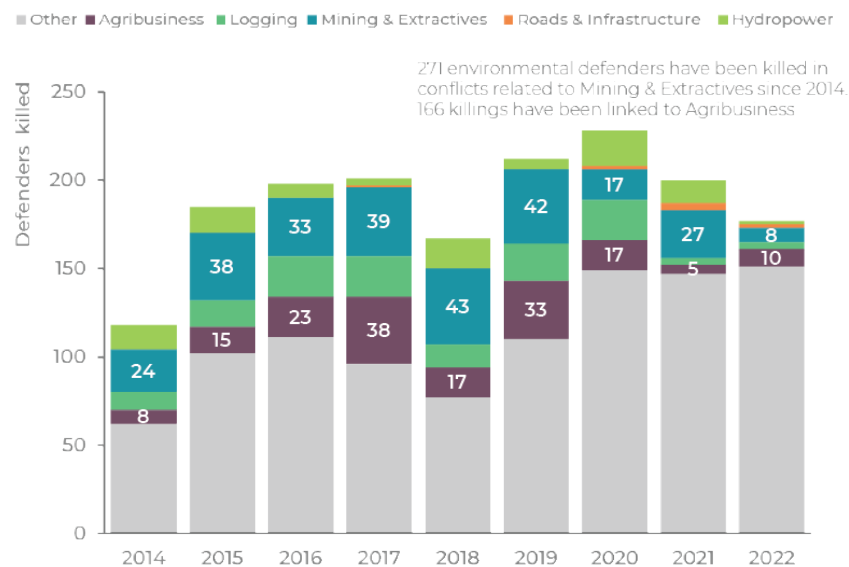
which aims to function as an endowment for long-term IP- and LC-directed funding.¹⁹⁴ An increase in initiatives focusing on and led by IPs and LCs reflects a recognition that Indigenous, Afro-descendant, and LC rights-holders must be empowered in decision-making spaces in order to simultaneously advance climate, forest, justice, and development goals.

Environmental defenders increasingly targeted

Recent grassroots successes have come at a rising cost to the environmental defenders involved in them.¹⁹⁵ Environmental defenders face high rates of criminalization, physical violence, and assassinations.¹⁹⁶ IPs and LCs are among the most likely groups to mobilize for environmental protection, and face even higher rates of criminalization, violence, and assassinations than other groups.¹⁹⁷ In a systematic mapping of resistance movements, violence was most common over projects related to hydropower, biomass, pipelines, and coal extraction.¹⁹⁸

At least 177 land and environmental defenders were killed in 2022, according to Global Witness, and the agribusiness and mining and extractives sectors are ranked as the deadliest for defenders (**Figure 2.9**). Most of these killings go unpunished; and some are facilitated by the State through systematic and deliberate suppression of IPs and LCs and grassroots environmentalists, justifying their actions through legal mechanisms such as penal laws and anti-terrorist legislations.¹⁹⁹

Figure 2.9. Killings of environmental defenders per industry driver



Source: Global Witness [In Numbers database](#) and 2023 report [Standing Firm](#).

2.5 Have collaborative efforts advanced to achieve forest goals?

2.5.1 Public, private, and civil society collaboration at the jurisdictional and landscape scale

At least 80 multistakeholder and multisector initiatives have emerged with varying degrees of formalization in recent years. Many are still in their early stages, making it difficult to attribute any recent reductions in deforestation to improved collaboration.

Establishment and effectiveness of multistakeholder and multisector landscape and jurisdictional initiatives

In recent decades, numerous multistakeholder and multisector initiatives, including public-private partnerships, civil society collaborations, commodity certifications, place-based sourcing agreements, REDD+ programs, and other sustainability efforts, have emerged at international, national, and subnational levels. A 2021 study identified 80 initiatives for improving sustainable resource use in forest landscapes, of which 25 had clearly specified stakeholders' roles and formalized their collaboration.²⁰⁰ Formalized examples of successful landscape or jurisdictional partnerships exist mainly in Latin America and in Southeast Asia.²⁰¹

Many of these initiatives are still in early stages, making it challenging to attribute recent deforestation reductions solely to improved collaboration. A 2018 study of 38 initiatives found progress in land use planning and multistakeholder governance, but limited advancements in sustainable agriculture support and financing, especially from the private sector.²⁰² Indonesia, for example, has made initial progress in developing jurisdictional approaches and gaining private sector support,²⁰³ but their impact on deforestation, fire prevention, or reforestation remains unclear.

Corporate engagement in jurisdictional initiatives

Corporate actors can also engage in jurisdictional initiatives as part of their efforts to reduce their impacts on forests. Involvement in these approaches is growing. As of November 2022, ZSL SPOTT reported that 25 out of 100 palm

HOW DO WE ASSESS PROGRESS?

Stopping deforestation requires the engagement and collaboration of all sectors and stakeholders that enable deforestation or are affected by efforts to prevent it. This collaboration is a fundamental component of landscape and jurisdictional approaches, which facilitate strategic alignment between initiatives, sectors, and market incentives within jurisdictions. We assess the status of jurisdictional and landscape initiatives, looking at progress and challenges as well as the share of companies reporting engagement in such collaborative initiatives.

oil sector companies implement landscape or jurisdictional approaches. A 2023 review found the number of palm oil companies disclosing engagement with landscape initiatives to CDP doubled in 2022 compared to 2021.²⁰⁴ In total, 62 midstream and downstream companies have invested in 37 landscape and jurisdictional initiatives palm oil-producing areas.²⁰⁵

Data from CDP's 2022 forests questionnaire identifies leaders and laggards in landscape-level action. In 2022, nearly 20 percent of respondents (191 companies) reported being engaged in landscape and jurisdictional approaches. More than 90 additional companies plan to engage within the next two years.²⁰⁶

Challenges and opportunities for expanding jurisdictional approaches

Most jurisdictional initiatives are less than five years old and face several implementation challenges. These include insufficient funding and monitoring capacities. Other common challenges include inconsistent land use data quality and availability; limited local government capacities; gaps in environmental law enforcement; slow progress on social issues; and misalignment of policies at national and subnational levels. Challenges persist in formalizing the inclusion of local land users, particularly IPs and LCs, and in creating equitable market access for these groups.²⁰⁷ Despite the ambition of many jurisdictional initiatives to create equitable collaboration spaces, many of them end up reproducing traditional power structures and struggle to empower marginalized voices.²⁰⁸

Acknowledging these early challenges can, however, help to spur investment in solutions to enable the implementation of successful jurisdictional initiatives over the long term. Strengthening respect for human rights, building accountability within jurisdictional initiatives, and securing increased financing can help improve their impacts going forward.²⁰⁹

Successful multistakeholder collaboration to address supply-chain deforestation

Public-private partnerships that deliver both environmental and socioeconomic benefits have potential for transformative change in commodity production and land use. Interventions tailored to local contexts and delivered at the landscape or jurisdictional scale, built through integrative, multipurpose, and inclusive collaboration, can allow national and subnational governments, producers, investors, civil society organizations, and the private sector to build shared trust and accelerate positive outcomes.²¹⁰

One of the most successful examples of multistakeholder collaboration to end supply-chain deforestation is the Amazon Soy Moratorium, in which almost all soy traders in the region collectively decided to halt purchases linked to Amazon deforestation (**Box 2.9**).

BOX 2.9. THE AMAZON SOY MORATORIUM

In 2006, the Brazilian Association of Vegetable Oil Industries (ABIOVE) and the National Association of Grain Exporters (ANEC) announced a policy that would become one of the most successful market-based conservation initiatives in the world: the Amazon Soy Moratorium. The Moratorium established that grain traders, representing 90 percent of soy trade in the region,²¹¹ would not purchase soy grown on recently deforested land in the Amazon region. Initially agreed for a period of two years, the Moratorium was later renewed annually until 2016, when it was renewed indefinitely. The original agreement prohibited purchase of soy produced on lands cleared after 24 July 2006. This date was later pushed to 22 July 2008, the amnesty for deforestation cut-off date established in the new Brazilian Forest Code of 2012.²¹²

The Moratorium is led by the Soy Working Group, a multistakeholder forum. It was endorsed by the government in 2008 with the National Institute for Space Research (INPE) supporting monitoring efforts. Banco do Brasil, Brazil's largest public bank and major funder of the Brazilian agricultural sector, is also part of the initiative.²¹³

The process of systematic discussions and annual renewals of the Moratorium led to gradual improvements of its monitoring and transparency system.²¹⁴ As a result, the agreement achieved a high level of maturity and obtained impressive results. Compliance reached remarkably high levels: non-compliant area corresponded to only 2 percent of total soy grown in the Amazon Biome in the 2019-20 crop year. Only a residual fraction of 0.11 million hectares were associated with deforestation after 2008.²¹⁵ On net, the Moratorium avoided an estimated 0.9 percent of global deforestation from 2011-16.²¹⁶ Despite the localized success of the Moratorium, up to half of the avoided deforestation "leaked" to other areas, mostly within Brazil, such as the Cerrado biome.²¹⁷ The Cerrado is not yet included in a moratorium.²¹⁸

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Country case study

ARGENTINA

Challenges and opportunities to stop the conversion of forests, grasslands, and savannahs

Ecosystems under threat

Despite their unique values for biodiversity, forests, savannahs, and grasslands remain highly threatened in several ecoregions of Argentina. These ecosystems are rapidly converted for agriculture, especially beef and soy production, and forestry plantations. From 2007 to 2022, 3.7 million hectares of native forest were lost in Argentina.¹ The Chaco region is Argentina's "deforestation hotspot," having lost large portions of forests,² grasslands, and savannah ecosystems³ over the last decades. Most of the grasslands of the Pampas region have also been converted.⁴

Weak governance

The government has limited influence on private land, while it fails to enforce its regulations. Almost all land in Argentina is privately owned, which makes it difficult for the government to set aside land for protection.⁵ Since the

government adopted a new forest law in 2007, deforestation can still be prohibited on private land designated as an area of high or medium conservation value. A 2020 study of the Dry Chaco found, however, that the implementation of this law was ineffective and led to illegal deforestation of more than 700 thousand hectares (28 percent of the total transformed area) between 2008-17.⁶ Penalties for illegal conversion are often ineffective, while enforcement is sporadic.⁷ Savannahs and grasslands are not protected by a similar legal instrument.

Company efforts to address deforestation

The soy sector claims that it could demonstrate legality for markets that request it, and could comply with the new EU regulation to prove that soy produced in Argentina is free of deforestation. For this purpose, the industry has created an online platform to trace and track forest risks in soy production.⁸ Environmental groups have, however, raised concerns about the industry's ability and willingness for self-monitoring.⁹ The EU also imports only a minor share of Argentinian soy production, hence it is unclear if the industry would apply the same standard to all production. For now, the industry does not foresee tackling the conversion of other ecosystems.

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⁸ Brown, K. (2023, June 6). [Can the EU's deforestation law save Argentina's Gran Chaco from soy?](#). Mongabay.

⁹ Brown, K. (2023, June 6).

Country case study

PHILIPPINES

Forest policies face challenges under shifting economic and political priorities

Deforestation set to intensify as priorities shift

Socioeconomic trends in the Philippines, including changes in peoples' livelihoods, as well as larger scale trends in agriculture, mining, and industry, are increasing the threat to forests without being mitigated by effective forest law enforcement. Since 2018, the Philippines' deforestation rate had been trending down.¹ However, 76,850 hectares of forests were lost in 2022, a 31 percent increase compared to the 2018-20 baseline. Studies identify several drivers of the ongoing deforestation² in the Philippines. These include both commercial and shifting agricultural expansion,³ extensive legal and illegal logging,⁴ and the entry and expansion of large-scale development projects, particularly for mining and energy.⁵

¹ Global Forest Watch. (2023). Philippines Deforestation Rates and Statistics. <https://www.globalforestwatch.org/dashboards/country/PHL/>.

² Officially, the Philippines subscribes to the FAO (2001) definition of deforestation as "the conversion of forest to another land use or the long-term reduction of the tree canopy cover below the minimum 10% threshold." From: Republic of the Philippines Department of Environment and Natural Resources, Forest Management Bureau. (2019). [Philippine Official Reference for Forest-Related Terms and Definitions](#), p. 27. Quezon City, Philippines.

³ Kummer, D.M. (1992). Deforestation in Postwar Philippines. Chicago, Illinois: The University of Chicago Press. <https://press.uchicago.edu/ucp/books/book/chicago/D/bo3622423.html> as cited in López, R., & Galinato, G.I. (2005). Trade Policies, Economic Growth, and the Direct Causes of Deforestation. *Land Economics*, 81(2), 145-169. <https://le.uwpress.org/content/81/2/145>; Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ). (2012). [Analysis of Key Drivers of Deforestation and Forest Degradation in the Philippines](#). Manila, Philippines: Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH.

⁴ Stenberg, L.C., & Siriwardana, M. (2002). Deforestation in the Philippines: a different perspective. *International Journal of Sustainable Development*, 5(4), 415-432. https://researchonline.nd.edu.au/bus_article/34/; Kummer (1992) as cited in López & Galinato (2005); GIZ.(2012).

Forest risks are only expected to intensify as the Marcos administration, which took office in June 2022, has identified the mining sector as key to the Philippines' post-pandemic economic recovery.⁶ The reopening of the local tourism industry and the demand for housing and infrastructure has also intensified land conversion and the need for wood as a construction material and land conversion, hastening deforestation in forest-rich provinces.⁷

Weak governance

Enabling these drivers is the overall weak implementation of forest conservation and management policies, such as the 1975 Forest Code, the rules implementing the Environmental Impact Statement System, and numerous administrative issuances against illegal logging.⁸ Additionally, as the definition of what forests are excludes lowland forests—although these hold the greatest number of threatened fauna—the permissive legislation leads to their deforestation.⁹

Ineffective national reforestation efforts

The Philippine government has initiated reforestation¹⁰ efforts in recent years, including the introduction of a national greening program in 2011 that targeted the planting of 1.5 billion trees in 1.5 million hectares of public land in six years.¹¹ However, these reforestation efforts have been considered weak overall and unlikely to be sufficient to recover forests lost over the years.¹²

⁵ GIZ. (2012).

⁶ Bacedonia, Wilnard. (2022, October 11). [DENR exploring potentials of mining as economic driver](#). Philippine News Agency.

⁷ Diaz, C. (2022, June 21). [Construction industry is fueling deforestation in the Philippines](#). Quartz.

⁸ GIZ (2012).

⁹ Mallari, N.A.D., Collar, N. J., McGowan, P. J. K., & Marsden, S. J. (2016). Philippine protected areas are not meeting the biodiversity coverage and management effectiveness requirements of Aichi Target 11. *Ambio*, 45(3), 313-322. <https://pubmed.ncbi.nlm.nih.gov/26666956/>.

¹⁰ Officially, the Philippines subscribes to the FAO (2001) definition of reforestation as "establishment of forest plantations on temporarily unstocked lands that are considered as forest. Also called as Artificial Regeneration." From: Republic of the Philippines Department of Environment and Natural Resources, Forest Management Bureau. (2019).

¹¹ Executive Order No. 26. (2011). [Declaring an Interdepartmental Convergence Initiative for a National Greening Program](#).

¹² Ilagan, K. (2021, May 12). [7M hectares of Philippine land are forested – and that's bad news](#). Philippine Center for Investigative Journalism (PCIJ).

Chapter 3

FINANCE FOR FORESTS

Theme 3 Assessment

Chapter contents

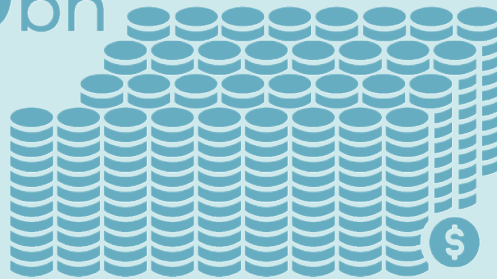
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FINANCE FOR FORESTS REMAINS INADEQUATE

Public and private finance for forests remains far below estimated needs for meeting global goals to halt and reverse deforestation by 2030.

ESTIMATED FOREST FINANCE NEEDS

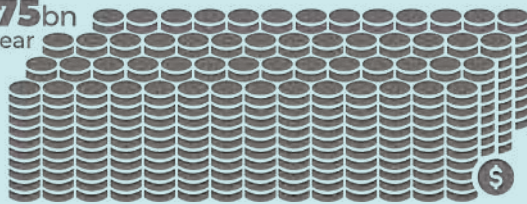
\$460bn
per year



Current annual flows...

GRAY FINANCE*

\$675bn
per year



GREEN FINANCE**

\$2.2bn
per year

Green finance flows continue to be far outweighed by gray flows, amounting to less than 1% of gray finance on average each year.

? GREEN INVESTMENTS BY THE PRIVATE SECTOR REMAIN POORLY TRACKED AND DIFFICULT TO MEASURE

*Total includes both public and private finance flows

**Total includes only public finance flows, due to limited private sector data.

3%

INSUFFICIENT FUNDING FOR IPS AND LCS

Only 3% of Indigenous Peoples and local communities' financial needs for transformational tenure reform is being met annually.

\$5-10 PER METRIC TON tCO₂

The average price under large-scale jurisdictional REDD+ programs

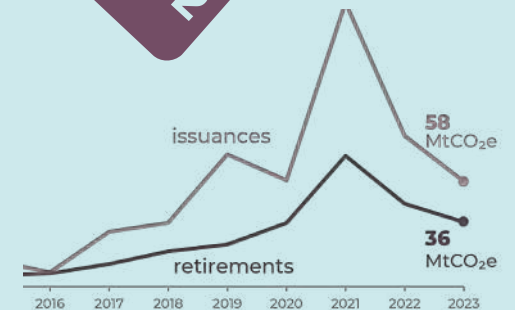
Incentives from donors under large-scale jurisdictional REDD+ programs are not commensurate with the investment needed and reforms that are required. Most jurisdictional REDD+ initiatives still have far to go to halt tropical deforestation and restore forests.

\$6.1 TRILLION

As of 2022, private financial institutions were providing USD 6.1 trillion in active financing to companies most at risk of driving tropical deforestation through agricultural commodity production.

PRICES OF FOREST-BASED CARBON CREDITS IN THE VOLUNTARY CARBON MARKET REMAIN FAR TOO LOW

Far below the true costs of impactful conservation and restoration activities, and far below the price ranges economists foresee as necessary to meet the 1.5°C limit.



CONCERNS OVER FOREST-BASED CARBON PROJECTS PERSIST

Recently publicized concerns about the integrity of forest-based carbon projects have impacted the cost of, and demand for, forest-based carbon credits, and will likely continue to shape demand over the coming years.

KEY MESSAGES

Finance for forests remains far off track to meeting global goals to halt and reverse deforestation by 2030. Currently, domestic and international mitigation and adaptation finance for forests averages USD 2.2 billion per year—less than 1 percent of estimated needs for meeting global forest goals by 2050.

Public finance

- Recent international forest finance pledges demonstrate increases in ambition to meet 2030 forest goals. Commitments amount to USD 28.9 billion between the years 2021-25, equating to an additional USD 4 billion in public and private finance for forests per year.^a However, a lack of information on how pledges will be operationalized and poor transparency on implementation hinders a full assessment of progress. As of October 2023, just over USD 5.7 billion has been disbursed. Half of the pledges are reported to be on track, but the remainder are not on track or have no progress reports available.
- Public finance committed to activities that have the potential to drive deforestation or forest degradation (“gray” finance) continues to far outweigh finance committed to forest protection (“green” finance). Between 2013-2018, grey public finance flows were estimated to range between USD 378 to USD 635 billion per year, globally. During the same period, governments committed just USD 26.5 billion in domestic and international funding to protect, conserve, and restore forests. These green finance flows amount to just USD 2.2 billion per year—less than 1 percent of grey flows.
- Governments are making moves toward cutting the flow of finance to deforestation. New regulations in the EU are ramping up corporate disclosure and due diligence requirements, signaling an essential shift from voluntary to mandatory action. However, the strength of impact will lie in implementation. These measures require support and

investment for compliance in producer countries, and more consumer countries need to adopt similar measures for them to be truly effective.

- REDD+ remains an important lever for forest finance, however, most jurisdictional REDD+ initiatives still have far to go to halt tropical deforestation and restore forests. Incentives from donors are not commensurate with the investment needed and reforms that are required.
- Indigenous Peoples (IPs) and local communities (LCs) receive far less funding than their estimated finance needs for securing tenure rights and preserving their forest ecosystems. IPs and LCs are the most effective stewards and guardians of their forest territories, and key stakeholders and partners in the development of forest management and governance solutions. It is estimated that only 3 percent of the financial needs for transformational tenure reform is being met annually.

Private finance

- Most financial institutions still fail to have any deforestation safeguards for their investments. Analysis by Global Canopy suggests that as of 2022, private financial institutions were providing USD 6.1 trillion in active financing to companies most at risk of driving tropical deforestation through agricultural commodity production. Of the 150 financial institutions funding these companies, two-thirds do not have a single deforestation policy covering their lending and investments.
- In recent years, an increasing number of financial institutions have adopted guiding principles to ensure the sustainability of their investments. However, these actions generally remain voluntary as many do not formally require reporting on progress and implementation, so little can be concluded about their real impact on global finance flows.
- Green investments by the private sector remain poorly tracked and difficult to measure. Until regular, transparent reporting becomes the default, the extent of private sector support for activities that protect, enhance, and restore forests globally cannot be measured.

^aNote that pledges cover different time periods, see Table 3.1.

Alternative finance mechanisms

- Alternative forest funding mechanisms are gaining traction. Novel approaches such as funding for high integrity forests have entered the scene, while uptake of mechanisms including payment for ecosystem services (PES) schemes and debt-for-nature swaps by a handful of countries show promise for diversification of the forest finance landscape.
- Transactions of forest-based carbon credits are being affected by changing buyer preferences and the role of forest carbon credits in corporate climate strategies. Prices in the VCM remain far below the true costs of impactful conservation and restoration activities, and far below the price ranges economists foresee as necessary to meet the 1.5°C limit of the Paris Agreement.
- Credit quality has long been an issue of concern for forest-based carbon credits and was thrust into the spotlight in early 2023 when the findings of a research investigation into the climate impacts of a selection of REDD+ projects was widely publicized in the media. While competing investigations and some project developers have since sought to demonstrate the robustness of forest-based carbon credits, the criticisms have impacted stakeholder confidence in forest-based credits and will likely shape demand for such credits in the coming years.
- International market mechanisms introduced under Article 6 of the Paris Agreement create potential new channels for forest finance, however, it remains to be seen how burdensome engaging in such transactions will be for forest country governments, and which forest-based mitigation activities will be eligible.
- Flows of finance to forests globally remain poorly tracked and difficult to quantify, due to poor transparency as well as a lack of global standards for tracking climate-related mitigation finance. While data availability is improving, it remains insufficient for conducting a comprehensive global assessment, particularly of private finance flows.



INTRODUCTION

Why look at forest finance?

Achieving international forest goals requires substantial investment in protecting and restoring forests. Under the Paris Agreement, parties committed to making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development (Art.2.1.c).¹ The Forest Declaration Assessment Partners estimate that it will cost up to USD 460 billion per year to reduce deforestation and implement restoration and sustainable forest management at a sufficient scale to protect and restore forests globally.² This funding must be mobilized through both public and private sources—this report assesses the extent to which global public and private finance is currently aligned with forest goals.

Stopping deforestation not only requires more finance earmarked for forest protection and restoration (referred to as “green” finance in this report), but also a shift away from investments in potentially harmful activities (referred to as “gray” finance). Estimates suggest that every year, between USD 378 to USD 635 billion in public gray finance is being provided by governments in the form of agricultural subsidies—activities that are potentially harmful to forests (see **Section 3.1**).

What has been pledged on forest finance?

Recent international forest finance pledges demonstrate increases in ambition to meet 2030 forest goals. Commitments amount to USD 28.9 billion between the years 2021-25, equating to an additional USD 4 billion in public and private finance for forests per year. However, a lack of information on how pledges will be operationalized and poor transparency on implementation hinders a full assessment of progress.

As of October 2023, just over USD 5.7 billion has been disbursed. Half of the pledges are reported to be on track, but the remainder are not on track or have no progress reports available.

Pledges for “greening of gray” finance

Under the 2021 Glasgow Leaders’ Declaration on Forests and Land Use (GLD), a total of 143 countries containing more than 90 percent of the world’s forest pledged to “facilitate the alignment of financial flows with international goals to reverse forest loss and degradation, while ensuring robust policies and systems are in place to accelerate the transition to an economy that is resilient and advances forest, sustainable land use, biodiversity and climate goals.”

Similarly, the Kunming-Montreal Global Biodiversity Framework (GBF) also expresses a clear ambition to align financial flows with its overall vision, which is for a world living in harmony with nature by 2050. The GBF’s Target 15 calls for large companies—including financial institutions—to assess and disclose nature-related risks, impacts and dependencies. Additionally, Target 18 calls for the phase-out of subsidies that harm biodiversity by at least USD 500 billion annually and for the ramping-up of incentives for the conservation and sustainable use of biodiversity. To date, no plan has been published on operationalizing the GLD, nor has there been any coordinated effort by signatories to report on their progress. Comprehensive reporting has also not yet begun under the more recently established GBF.

In recent years, a number of financial institutions have also made ambitious pledges to “green” gray finance by eliminating deforestation risks from investment portfolios. For example, as of September 2023, 37 institutions signed a financial sector commitment letter pledging that, by 2025, they will make their best efforts to eliminate commodity-driven deforestation from portfolios and only provide finance to clients that have met risk-reduction criteria and increase investment in nature-based solutions. As of 2022, 16 of these institutions were disclosing environmental information through CDP, 9 of which disclosed information on forests for the first time.³

Pledges for “green” investments

A range of recent international finance pledges, most of them made at COP26, intend to raise global ambition for forest goals. The pledges by governments, financial institutions, companies, and foundations amount to USD 28.9 billion from 2021-25 (**Table 3.1**, next page).^b A handful of larger pledges target not only forests but nature and biodiversity as a whole, totaling over USD 600 billion by 2025 (**Table 3.2**). A large majority of this USD 600 billion has been pledged under the GBF, which sets an ambition to mobilize USD 200 billion per year up to 2030 to help countries implement their National Biodiversity Strategies and Action Plans.

It is not yet clear whether these finance pledges are additional to one another; as such, the overall pledge total may be an overestimation. For instance, the progress report for the IPLC Forest Tenure Pledge noted that the same finance contributions are likely being counted towards three pledges simultaneously: its own, the Global Forest Finance Pledge, and the Congo Basin Pledge.⁴

In late 2022, several pledges published progress reports, for many, marking the end of their first full year of operation. As of October 2023, just over USD 5.7 billion has been disbursed under these pledges.^c Pledges reporting on-track progress include the Congo Basin Pledge; the Global Forest Finance Pledge; the Innovative Finance for the Amazon, Cerrado, and Chaco; and the IPLC Forest Tenure Pledge.⁵ The Lowering Emissions by Accelerating Forest finance (LEAF) Coalition has secured finance commitments that exceed its original pledge volume, though finance has yet to be disbursed. One pledge—The Natural Capital Investment Alliance—did not clearly provide up-to-date progress reporting. Further progress reporting by pledges is expected at COP28 in late 2023.

Table 3.2. Key finance pledges and initiatives for biodiversity

| Pledge or Initiative | Description | Intermediate targets and progress reporting | Final target |
|---|---|---|---|
| Kunming-Montreal Global Biodiversity Framework (2022) | Adopted by 196 Parties to the Convention on Biological Diversity at COP15 in December 2022 with the overarching goal to halt and reverse biodiversity loss by 2030 and live in harmony with nature by 2050. | Target 19 calls for a substantial increase in public and private financial resources—by at least USD 200 billion annually. Monitoring is planned but not yet available. | Progressively closing the biodiversity finance gap of USD 700 billion per year by 2050 (Goal D). |
| Nature Action 100 (2022) | Nature Action 100 aims to drive greater corporate ambition and action on tackling nature loss and biodiversity decline. It was formed at COP15 in December 2022 by a coalition of investment organizations. The initiative engages companies in key sectors that are deemed to be systemically important in reversing nature and biodiversity loss by 2030. | Nature Action 100 was launched in December 2022 and has not yet released progress reporting as of August 2023. | Nature 100 Action partners commit to the plan’s Investor Expectations for Companies, which include six actions that help achieve the reversal of nature loss and biodiversity loss by 2030. These are related to ambition, assessment, target setting, implementation of plans to achieve targets, board oversight, and engagement with external parties. |
| Natural Capital Investment Alliance (2021) | 15 finance institutions mobilize finance through investment products aligned with Natural Capital themes. | The NCIA notes that members have plans to launch USD 7.9 billion in combined funds but does not provide a timeline or a dated, consolidated report. It is not clear when the site was last updated. | By the end of 2022, mobilize at least USD 10 billion. |
| Finance for Biodiversity (2020) | 140 financial institutions representing 23 countries and over 19.7 trillion euros in assets commit to protecting and restoring biodiversity through their investments. | Initiated in 2020 by a group of 26 financial institutions, the Pledge has been signed by 140 institutions as of 2023. | By signing the pledge, signatories commit to: collaborating and sharing knowledge, engaging with companies, assessing impact, setting targets, and reporting publicly on their progress before 2025. |

^b Calculation based on sum of finance pledges announced at COP26, assuming no overlap between different pledges.

^c Original analysis of publicly available progress reports provided on the pledges included in Table 3.1.

Table 3.1. Key finance pledges and initiatives for forests

| Pledge or Initiative | Description | Intermediate targets and progress reporting | Final target |
|---|--|---|---|
| Lowering Emissions by Accelerating Forest (LEAF) Coalition (2021) | Public-private finance for tropical forests Emissions Reductions (ERs) at a floor price of USD 10 per ton of CO2 equivalent. | At COP27, LEAF announced that total commitments exceeded USD 1.5 billion. | Announced an original target of at least USD 1 billion (met in 2021, exceeded in 2022). |
| The Congo Basin Pledge (2021) | 11 countries and one philanthropy pledge USD 1.5 billion from 2021-25 to support Congo Basin ecosystems. | In 2021, the donors provided over USD 508 million, with almost USD 311 million disbursed. | By 2025, mobilize USD 1.5 billion of public and private finance. |
| Finance Sector Deforestation Action (FSDA) initiative (2021) | 38 signatories endorsed the Financial Sector Commitment on Eliminating Agricultural Commodity-driven Deforestation. | In 2022, the Commitment published shared investor expectations, and noted that several signatories have advanced on progress. | By 2025, make best efforts to eliminate commodity-driven deforestation from portfolios; finance only clients meeting risk-reduction criteria; increase nature-based solutions investment. |
| Global Forest Finance Pledge (2021) | 12 countries pledged USD 12 billion (2021-25) for forest-related climate finance. | In November 2022, the pledge reported progress of over USD 2.6 billion (22% of total). | USD 12 billion by 2025. |
| IPLC Forest Tenure Pledge (2021) | 23 countries and philanthropies pledged USD 1.7 billion (2021-25) for IPs and LCs tenure rights. | In 2022, the pledge reported USD 321 million in progress (19% of total). | USD 1.7 billion by 2025. |
| Innovative Finance for the Amazon, Cerrado, and Chaco (IFACC)(2021) | The initiative aims to channel funds for sustainable beef and soy production models in these key geographies. | Per its 2022 Market Report, 15 signatories committed USD 4.3 billion and disbursed USD 111 million. | Commitments of USD 3 billion (by 2023) and USD 10 billion (by 2025). Disbursements of USD 200 million (by 2023) and USD 1 billion (by 2025). |
| Forest, People, Climate (FPC)(2022) | A coalition of philanthropies and civil society organizations mobilizing finance to reverse tropical deforestation. | At COP27, the FPC announced a total of USD 780 million (an extra USD 400 million on top of the USD 380 million over five years that FPC donors already planned to spend). | FPC aims to mobilize USD 1.2 billion in new philanthropic support over the five years from 2022. |
| The Libreville Plan (2023) | At the 2023 One Forest Summit in Libreville, Gabon, 20 countries signed the Libreville Plan which aims to reconcile environmental ambition with economic development in African tropical forest countries. | Besides reporting progress on Positive Conservation Partnerships (PCPs), first launched at COP27, the Plan announced that France, Conservation International, and the Walton Family Foundation created the first PCP contracts investment of EUR 100 million. | No final target. |

How do we assess progress?

This chapter assesses the extent to which global public and private finance is aligned with forest goals. We assess the following indicators of progress:

- **Green finance** provided by the public or private sector that aligns with objectives for the conservation, protection, restoration, or sustainable use of forests—including REDD+ finance, and finance for IPs and LCs.
- **Gray finance** provided by the public or private sector that has no stated objective to positively impact forests, but has potential to negatively impact them—we focus primarily on government subsidies for the agriculture and forestry sectors.
- **Policies** for redirecting gray finance away from forest-risk activities: in the public sector, how regulation is helping to “green” gray finance flows; in the private sector, how companies are using internal policies to safeguard their investments.
- **Innovative finance mechanisms** that are helping to establish new channels for forest finance, including market and non-market mechanisms.

This chapter relies predominantly on publicly available finance datasets like the Organization for Economic Cooperation and Development (OECD) and Food and Agriculture Organisation Statistics platform (FAOSTAT). The chapter also relies on existing analyses from Forest Declaration Assessment Partners, including Global Canopy’s Forest 500, CDP, Rainforest Foundation Norway, Forests & Finance, and Forest Trends’ Ecosystem Marketplace. Where quantitative data is unavailable, the report relies on qualitative research.

Overall, flows of finance to forests globally are poorly tracked and difficult to quantify, and are therefore not fully captured in this assessment. This monitoring challenge can be partly attributed to a lack of global climate finance tracking standards. With no standardized way to track financial flows, there is risk of overestimating global progress on forest finance due to overlapping commitments. Finance specifically for forests is also not easily disaggregated from broader, cross-cutting interventions. This means that finance estimates must sometimes be compiled from project-level information, which can be difficult to interpret or contain information gaps.

Gray finance estimates—particularly from domestic sources—are also hindered by limited data availability. However, there is a move to improve reporting infrastructure. Since 2022, financial institutions have been able to disclose to CDP forests-related portfolio exposures, risks, and opportunities.⁶

Though this chapter aims to assess progress globally, it contains relatively more information on tropical forests and developing countries, in part due to a trend in available data and literature. That said, this year’s Assessment aims to include more information on developed country progress where data is available.

FINDINGS

3.1 Have governments aligned finance flows with forest goals?

3.1.1 Gray public finance flows

Finance to business-as-usual activities that have the potential to drive deforestation or forest degradation continue to dwarf finance dedicated to forest protection and restoration. Public support to agriculture and forestry sectors, such as the use of subsidies, is often geared toward advancing development objectives related to food security and poverty reduction. However, such support can present risks to forests. Subsidies can reduce farmers' production costs, distorting their decisions on where and how much to produce, and incentivizing expansion into forest areas.⁷ The report considers public subsidies to agriculture and forestry sectors as "gray" finance due to the threats they pose to forest ecosystems.

Estimates suggest that between 2013-2018, gray public finance flows—in the form of government subsidies for the agricultural sector—ranged between USD 378 to USD 635 billion per year, globally. The upper bound is estimated at as much as USD 1 trillion per year, if data for all countries were available.^d

A comprehensive assessment of public gray finance's negative impact on forests (i.e., precisely how much deforestation or degradation can be directly linked to harmful subsidies) is not available. However, these subsidies' overall harmful impacts on forests is clear. Research from the World Bank finds that agricultural subsidies are associated with the loss of 2.2 million hectares of forest cover per year.⁸

HOW DO WE ASSESS PROGRESS?

GREEN PUBLIC FINANCE: Green public finance can support forest protection, sectoral research and capacity building, and economic incentives for leveraging private finance. We assess how much green finance governments are committing to forests domestically and internationally.

PROGRESS UNDER REDD+: REDD+ is the United Nations Framework Convention on Climate Change (UNFCCC) framework for "Reducing Emissions from Deforestation and Degradation plus conservation, sustainable management, and enhancement of forest stocks". REDD+ provides developing country policy makers with a framework for national (or subnational) climate action in the forest sector. We assess progress made under REDD+ and examine implementation barriers.

INCREASING FINANCE FOR IPs and LCs: Protecting IPs' and LCs' land rights is an evidence-based climate change solution that costs a fraction of other mitigation options. Policies and laws that recognize and protect the tenure and governance rights of forest communities are essential for securing forest protection. We assess current funding for IPs and LCs, and the extent to which it is meeting their needs.

GRAY PUBLIC FINANCE: Public support provided to the land sector—including agriculture, forestry, and land use—can greatly shape the extent to which forests mitigate or contribute to climate change. Government support for the land sector—such as the provision of subsidies—can present huge risks to forests if appropriate safeguards are not in place. We assess the current state of gray public finance globally.

"GREENING" GRAY FINANCE: Opportunities for "greening" gray finance include making support conditional upon achieving environmental objectives and removing or redirecting agricultural production support to other public goods and services. We assess regulatory developments to this end and what specific countries are doing to "green" gray finance flows.

Public finance committed to activities that have the potential to drive deforestation or forest degradation ("gray" finance) continues to far outweigh finance committed to forest protection ("green" finance). Between 2013-2018, gray public finance flows were estimated to range between USD 378 to USD 635 billion per year, globally. During the same period, governments committed just USD 2.2 billion per year protect, conserve, and restore forests—less than 1 percent of gray flows.

The negative impact of subsidies can be amplified as global market fluctuations make agricultural commodity production more profitable, incentivizing producers to expand further into forest frontiers.⁹ For more on this topic, including other examples of fiscal policy tools, see **Chapter 2** on sustainable production & development.

^d This range is based on estimates made by FAO and the World Bank of public subsidies provided to the agricultural sector between the years 2013 and 2018. See Theme 3 Annex for a breakdown of these figures.

3.1.2 Green public finance flows

Between 2010-22, we estimate that governments committed USD 26.5 billion in domestic and international public green finance (**Figure 3.1**).^{e,10} This equates to approximately USD 2.2 billion per year. While no other comprehensive estimates of public finance for forests exist; other analyses which consider public finance for agriculture, forestry and other land use (AFOLU) as a whole suggest that finance dedicated to forests specifically falls in the same order of magnitude as the estimate reached by this Assessment.¹¹ A range of different financial instruments can be used to channel finance to forests, such as grants, debt, guarantees, nature-linked insurance, and equity. However, most of these tools are not yet widely implemented and are therefore difficult to measure. As such, most of the figures presented in this chapter—including those presented in this subsection—reflect standard grants and loans. For more information on other instrument types, see **Section 3.3**.

BOX 3.1. DEFINING “GREEN” AND “GRAY” FINANCE

Though the availability of “sustainable” investment products and opportunities continues to grow and diversify globally, there is not yet a universally accepted definition for sustainable finance, not least for sustainable forest finance. Recent research on the topic found the landscape to be complex, with different financial and forest sector actors holding vastly different perceptions of what constitutes sustainable forest finance, regarding risks and opportunities; the definition of “sustainable”; and whether interventions should be state- or private-sector led.¹²

In light of this complexity and poor data availability, limiting analysis of both public and private finance, we make a simple distinction between “green” and “gray” finance. In the context of this chapter:

Green finance includes any domestic, international, public, or private finance that is aligned with objectives for the conservation, protection, restoration, or sustainable use of forests. This may include direct investments, capacity building, technology development and transfer, results-based finance or support for the development of forest strategies and green economy pathways, action plans, policies, and measures.

Gray finance is defined as finance that has no stated objective to positively impact forests but has potential to negatively impact them. In the context of this assessment, we consider primarily finance for agricultural activities (particularly government subsidies) as gray finance.

^eNote that the public finance trends observed in this year’s assessment vary slightly when compared to last year’s assessment. This has been attributed to retroactive data updates applied to the OECD DAC External Development Finance Statistics database. The variations are not significant and do not change the observable trend line or the magnitude of the overall finance total.

^fREDD+ stands for Reducing Emissions from Deforestation and Forest Degradation in developing countries, a framework developed as a part of the Paris Agreement. Under the framework, developing countries can receive results-based payments (payments for already achieved results) for emission reductions achieved through activities that reduce deforestation and forest degradation, and/or help to conserve forest ecosystems.

^gHigh deforestation countries are those with an annual average deforestation rate that exceeds 30,000ha.

Figure 3.1. International and domestic public finance committed to activities aligned with global forest objectives between 2010-2022, in billion USD



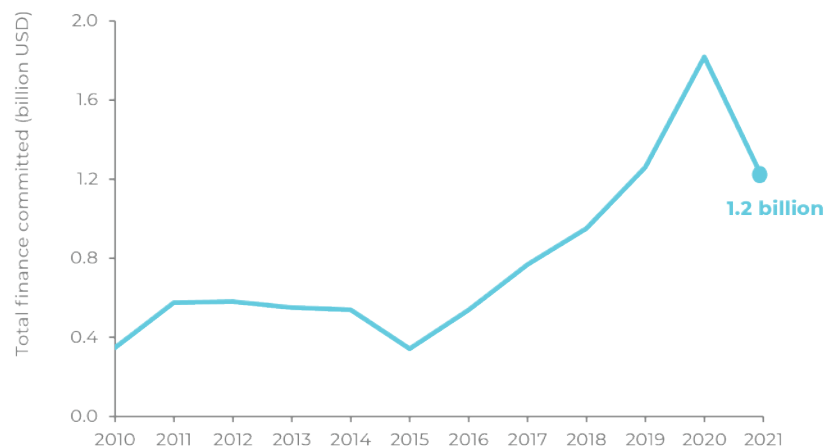
Source: OECD DAC External Development Finance Statistics; Forest Carbon Partnership Facility.

Just over one-third of the USD 26.5 billion in public green finance was provided as forest-related international development finance. Flows of such finance—which is committed by governments, multilateral development banks, and multilateral organizations—have increased since 2010 (**Figure 3.2**). Though there was a significant period of growth from 2015-20, finance flows fell by almost half in 2021, possibly due to countries’ changing budget priorities in the wake of the COVID-19 pandemic.¹³ Data has yet to show an uptick in finance committed to forest sectors since this decline.

From 2010-21, multilateral climate funds and bilateral donors committed USD 6.9 billion under the REDD+ framework.¹⁴ However, disbursements of REDD+ results-based payments remain slow, with just under half (49 percent) of committed finance disbursed to date.^f During the 2010-21 period, governments in high deforestation countries also committed USD 10.1 billion to activities under their domestic REDD+ plans.^{9,15} These commitments were largely made towards the beginning of the decade, however, and information on their implementation is not available.

Still, there were signs of positive progress. In 2022, there was a notable increase in disbursements under several REDD+ funds, like the Forest Carbon Partnership Facility (FCPF), which made new disbursements of around USD 100 million, and the Forest Investment Program, which made new disbursements of about USD 80 million. Under REDD+, donors channel finance to mostly tropical or subtropical countries in three phases: readiness, implementation, and payment for results (see **Figures 3.3** and **3.4**).

Figure 3.2. Trends in international and domestic public finance committed to activities aligned with global forest objectives over the period 2010-2021, in million USD



Source: OECD DAC External Development Finance Statistics.

BOX 3.2. PUBLIC FINANCE CASE STUDIES

In the absence of comprehensive global data, case studies offer a snapshot of public green and gray finance flows within specific country contexts. The **Land-use Finance Tool**, developed by the EU REDD Facility and Climate Policy Initiative, was developed to help country governments understand how public and private spending is aligned with climate and forest objectives.¹⁶ The tool has been used to map trends in land-use financing in a handful of countries, which all show low shares of green finance.

In Cambodia in 2018, 28 percent (USD 180 million) of total land-use expenditure financed activities directly or indirectly related to reducing deforestation and forest degradation, while promoting sustainable management, conservation of natural resources and contributing to poverty reduction (green flows). The remaining 72 percent of land-use expenditure (USD 461 million) financed other types of land-use activities—the majority infrastructure-related—with an unknown impact on forests.¹⁷ A similar trend can be seen in Vietnam, where around one-third (USD 297 million) of all land-use finance disbursed to the Central Highlands between 2016-2020 was considered “green” and in alignment with national REDD+ objectives. The remaining two-thirds (USD 669 million) was not linked to any deforestation safeguards and/or was considered a potential contributor to deforestation.¹⁸ Public finance in Côte d’Ivoire paints a similar picture, where in 2015, USD 28 million was channeled to REDD+ aligned activities, while over USD 140 million went to gray activities that did not explicitly account for deforestation risks.¹⁹

Efforts to tackle forest loss in the Global North largely relate to restoration activities. In Canada, CAD 3.2 billion has been pledged for the 2 Billion Trees program, a ten-year tree planting initiative supported by the Natural Climate Solutions Fund.²⁰ In the United States, according to the REPLANT Act, the Biden-Harris administration has pledged to plant more than one billion trees by 2030, to address a reforestation backlog of four million acres. The program is set to receive an annual average of USD 123 million.²¹ The EU, as part of its European Green Deal, has committed to plant at least three billion trees under the EU Biodiversity Strategy for 2030, although finance commitments are to date unclear.²²

Figure 3.5. Public finance for land use in Cambodia, Vietnam, and Côte d’Ivoire, in million USD (varying timeframes)

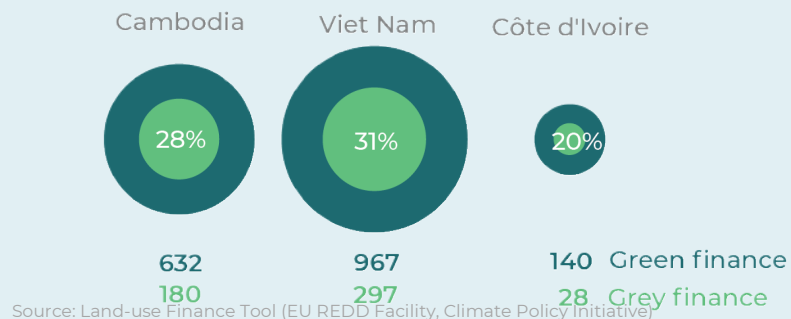
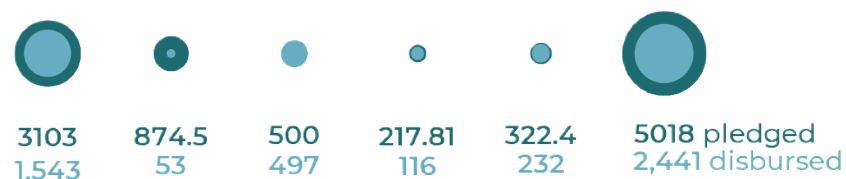


Figure 3.3. International REDD+ Readiness and Implementation finance, in million USD (cumulative since 2010)



Source: Data obtained directly from contacts, from publicly available reports, or from Climate Funds Update.

Figure 3.4. International REDD+ Results-based finance, in million USD (cumulative since 2010)



Source: Data obtained directly from contacts, from publicly available reports, or from Climate Funds Update.

3.1.3 Public policies for redirecting “gray” finance

Governments are making moves toward cutting the flow of finance to deforestation. New regulations in the EU are ramping up corporate disclosure and due diligence requirements, signaling an essential shift from voluntary to mandatory action. However, the strength of impact will lie in implementation. These measures require support and investment for compliance in producer countries, and more consumer countries need to adopt similar measures for them to be truly effective.

Risk assessment and disclosure tools remain the exception

Comprehensive and mandatory disclosure policies are necessary to ensure that businesses and financial institutions are fully transparent about their investment activities, and held accountable for their contributions to deforestation. An analysis by CDP of environmental disclosure policies and regulations across the G20+ group^h shows that forest-related disclosure requirements are currently an exception in the international landscape. Only in a few cases do policy makers require businesses or financial institutions to disclose forest-related information connected to biodiversity- or climate-risks.²³ For example, in the EU and Brazil, land use change, including deforestation, is framed as a potential driver of biodiversity loss and financial risk that requires monitoring, assessment, and potential disclosure. Similarly, biodiversity-related disclosure mandates across G20 are nascent, with just a few jurisdictions—notably the EU and Indonesia—requiring companies to disclose biodiversity-related information. Most disclosure policies and regulations lack clarity on biodiversity impact metrics, overlook supply chain implications, and miss considerations to request disclosure on biodiversity transition plans.

To support policy makers and financial regulators, CDP has developed 10 principles for high quality mandatory disclosure (HQMD) that can support

^h CDP’s High Quality Mandatory Disclosure (HQMD) Policy Brief was launched in September 2023 during G20 and aims to support policy makers to design comprehensive, high-quality, and coherent mandatory environmental disclosure policies. The assessment focuses on policies and regulations around the disclosure of climate-, biodiversity- and water-related information and considers the crucial importance of a holistic approach to disclosure policies and the interrelation of climate, water and biodiversity issues. The brief also includes a focus on Singapore, Hong Kong and Switzerland. Read the full report here: <https://www.cdp.net/en/policy/program-areas/mandatory-environmental-disclosure>

the shift of financial flows towards a net-zero, nature positive future and help institutions to align with the goals of the Paris Agreement and Global Biodiversity Framework. Targeting the financial sector exclusively, the EU Sustainable Finance Disclosure Regulation (SFDR) aims to increase transparency on sustainability-related issues through entity-level and financial product-level disclosures. Although deforestation is included as a voluntary principle adverse impact (PAI) indicator, in its current form, the regulation does not cover the impact of investments on biodiversity and deforestation throughout the entire value chain.²⁴

Examples of green budgeting and other risk management tools

Nonetheless, improved disclosure alone cannot cut the flow of finance to activities that drive deforestation.²⁵ Mandatory environmental disclosure must be accompanied by top-down action that tackles forest-risk investment decisions at their origin. In a few countries, green budgeting tools are being developed to assess the extent to which budgetary and fiscal policies are coherent with the delivery of national and international climate and environmental commitments. Green budgeting involves evaluating the environmental impacts of budgetary and fiscal policies and assessing opportunities for aligning public investment and taxation with climate goals.²⁶ The Organisation for Economic Co-operation and Development (OECD) Paris Collaborative for Green Budgeting is working with governments and experts to define methodologies for aligning national and international budgetary policies.

Other types of risk management tools are also emerging to help public finance institutions address the systemic risks that biodiversity loss and ecosystem degradation pose to their investments. Green taxonomy tools provide a standardized classification system that identifies projects with environmental objectives and mobilizes public and private finance to such activities. Taxonomies may provide general screening requirements to avoid deforestation-related investments (in some cases—but not all—leading to exclusion of those that do not meet requirements) or outline more detailed guidance on issues such as improved forest management, estimation of carbon impacts, and appropriate time periods for assessment.²⁷ These tools are being developed partly in response to growing sustainable finance markets, which, reaching up to 35.3 trillion USD in 2020, are increasingly exposed to greenwashing.²⁸ Governments including the EU, the UK, South Africa, and Colombia are pioneering the application of taxonomy tools to guide investors on what can be considered a sustainable or green

investment. Despite growing uptake, defining technical criteria—especially for forest biodiversity conservation and restoration—has been proven difficult, at least within the EU, due to diverse interests.²⁹ See **Theme 3 Annex** for more examples of green budgeting and risk assessment tools in the public sector.

Such findings suggest that policy makers are increasingly recognizing the need to enhance the quality and availability of corporate disclosures. However, policy makers' dominant focus on climate and/or financial impact often comes at the expense of forests and other impacted ecosystems. Nations should strive for greater transparency and mandatory disclosure which considers the entire scope of environmental risk; CDP's Principles for HQMD can guide policy makers to design comprehensive, high-quality, and coherent mandatory environmental disclosure policies.³⁰

Emerging regulatory initiatives in the EU, Brazil, and China

Besides new regulatory measures on corporate reporting standards and taxonomy, new supply-chain legislation emerging across Europe has the potential to green large flows of public and private finance. The EUDR will require companies importing to and exporting from the EU market, products that play a substantial role in global deforestation, to carry out due diligence to ensure their imports or exports are deforestation-free. This regulation represents a significant step towards greater transparency and accountability for corporations that currently profit from importing and trading deforestation-linked products in the EU. Until now, this trade has been largely unchecked in import markets. Also at the EU level, the Corporate Sustainability Due Diligence Directive (CSDDD), still under negotiation, is intended to expand deforestation, environmental, human rights and social due diligence requirements across supply chains to all large firms operating in the EU.³¹

While all steps in the right direction, these regulatory measures have been met with some pushback.³² Financial institutions do not currently have any obligations under the EUDR. Two years after implementation, the Commission will conduct an impact assessment on the role of financial institutions in deforestation and forest degradation, and assess whether deforestation due diligence obligations should be implemented; however, this does not guarantee their subsequent inclusion in the regulation.³³ The current CSDDD proposal has also come under criticism. While it is, on the one hand, considered a useful “umbrella” measure to complement the product-specific EUDR, the scope of the CSDDD's proposed due diligence

requirements have been called out for having insufficient scope.³⁴ In its current form, the regulation remains limited to the activities of the direct clients or investee companies of a financial institution, leaving activities further up the value chain—and thus the bulk of a financial institutions' impact—unchecked.³⁵ For a deeper analysis of regulatory developments around the world, see **Chapter 4** on forest rights & governance.

At the national level, Brazil is finalizing important regulations which will require the financial sector to implement due diligence checks to assess links to illegal deforestation. In May 2023, the Brazilian Federation of Banks (FEBRABAN) issued a regulation that defines guidelines and procedures for financial institutions to support credit operations with slaughterhouses and meatpackers, ensuring that activities are free from illegal deforestation.³⁶ By the end of 2023, the Brazilian Central Bank (BCB) is expected to replace the Rural Credit and Proagro Operations System (Sicor), currently used by financial institutions, with a Sustainable Rural Credit Bureau.³⁷ This will integrate government databases to improve financial institutions' risk management processes for granting rural credit. In 2021, the BCB issued more strict rules defining social, environmental, and climatic impediments to the granting of rural credit across the country.³⁸ Based on this, ensuring CAR (Rural Environmental Registry) and compliance with human rights aspects are now mandatory for the granting of rural credit in all biomes. Rural credit is currently prohibited for rural areas involved in illegal deforestation in all Brazilian Biomes.³⁹

3.1.4 Advancing jurisdictional REDD+ initiatives

REDD+ remains an important lever for forest finance, however, most jurisdictional REDD+ initiatives still have far to go to halt tropical deforestation and restore forests. Incentives from donors are not commensurate with the investment needed and reforms that are required.

Over the last decade, governments have engaged in jurisdictional REDD+ programs, which cover entire countries, states, or provinces. These programs

have been spearheaded through initiatives like Forest Carbon Partnership Facility (FCPF),⁴⁰ administered by the World Bank, and the Green Climate Fund (GCF).⁴¹ Progress under these programs has been slow. For example, only 6 of the 45 developing countries that have engaged in the preparatory “readiness” stage for REDD+ as part of the FCPF program have received payments for results (see **Chapter 2**). As of August 2023, the FCPF has signed ERPA with a total of 15 countries.⁴² This slow progress has several reasons:

- The incentive provided by REDD+ payments is insufficient and not commensurate with the challenge. The theory of change underlying REDD+ is that donor payments will help forest country governments—and ground-level actors—to overcome critical constraints to implement climate mitigation activities.⁴³ These constraints can include a shortage of technical knowledge or capacity to implement their locally developed REDD+ strategies. Currently, investments needed to adequately protect forests are estimated at USD 30-50 per metric ton of carbon dioxide.⁴⁴ Pay-for-performance systems for large-scale REDD+ programs currently range in price from USD 5-10 per metric ton of carbon dioxide.⁴⁵ These price ranges fall far below the cost range economists recommended for meeting the Paris Agreement's 1.5C degree limit, which is estimated at a minimum of USD 100 per tonne of CO₂.⁴⁶ Current REDD+ payments also fall far below estimates of the social cost of carbon, estimated at up to USD 200 per tonne of CO₂.⁴⁷ Depending on the program, REDD+ finance may also fall short in covering project transaction, implementation, and opportunity costs, as well as measurement, reporting and verification (MRV) project costs.⁴⁸
- Protecting and restoring forests is complicated. REDD+ requires bold reforms, backed by legislative consensus and political will. To achieve results, governments face tradeoffs between environmental, social, and economic objectives. Global political-economic trends can also complicate REDD+ implementation, as seen in the case of Guyana, where fluctuations in the world gold price led to significant increases in mining activity and deforestation in the country, triggering unexpected hurdles for REDD+ program implementation.⁴⁹
- REDD+ countries face a multitude of standards, program requirements, price offers, and donor expectations in addition to the requirements of

¹It should also be noted that REDD+ is designed for areas of high historic deforestation and as such, is not well suited to provide incentives to high forest-low deforestation countries (see Section 3.3).

UNFCCC frameworks.^j For example, certification standards diverge in their approaches to safeguards, reference levels, and MRV systems.⁵⁰ Furthermore, REDD+ programs are often implemented independently from other government programs and not integrated into relevant sectoral policies,⁵¹ including countries' Nationally Determined Contributions, despite mechanisms for multi-stakeholder coordination.⁵²

- Institutional readiness among the most challenging barriers for successful REDD+ implementation.^k Achieving a strong institutional foundation for REDD+ implementation relies on political will for REDD+, which can be difficult to target through international technical assistance.⁵³ One review of REDD+ readiness in Bhutan, India, Myanmar, and Nepal finds that levels of institutional readiness were typically lower than financial, technical, and strategy readiness.⁵⁴ In general, weak intersectoral coordination remains a significant obstacle to institutional readiness.⁵⁵

While significant barriers remain to its effective implementation, REDD+ continues to be an important lever for forest finance. REDD+ has improved understanding of deforestation drivers and increased stakeholder engagement in forest policy matters, including improving policy coordination among national ministries involved in forest governance.⁵⁶ In Colombia, REDD+ readiness finance elevated forests to the political agenda, leading to the establishment of a national multi-stakeholder platform and a subsequent pledge to achieve zero net deforestation in the Colombian Amazon by 2020.⁵⁷ REDD+ finance has also contributed to improved forest monitoring capacities and the implementation of compliance mechanisms, such as in the DRC and Mexico.⁵⁸ All of these developments are essential components in the fight towards achieving 2030 forest goals.

3.1.5 Increasing public finance for Indigenous Peoples and Local Communities

IP and LCs receive far less funding than their estimated finance needs for securing tenure rights and preserving their forest ecosystems. IPs and LCs are the most effective stewards and guardians of their forest territories, and key stakeholders and partners in the development of forest management and governance solutions. It is estimated that only 3 percent of the financial needs for transformational tenure reform is being met annually.

Funding received by IPs and LCs remains far below their estimated needs for securing tenure rights and preserving the ecosystems in their territories. Rainforest Foundation Norway (RFN) estimates that from 2017-20, funding to projects supporting IPs' and LCs' tenure and forest management was relatively static, remaining between USD 250 and 300 million per year.⁵⁹ Of this total, only 11 percent was provided to projects that advanced tenure security—meeting only 3 percent of estimated needs. Total global finance needs for securing land rights for IPs and LCs to enable forest mitigation activities are estimated at USD 8.9 billion, equaling just over USD 315 million per year between now and 2050.⁶⁰

Progress under the Forest Tenure Pledge shows promise, with over USD 321 million being disbursed to support IPs' and LCs' forest tenure since it was initiated in 2021.^l However, only 7 percent (USD 17 million) was provided directly to IP- and LC-managed associations and funds.⁶¹ The funders group of the Forest Tenure Pledge are exploring multiple financial pathways for a more equitable financial flow for the remaining years of implementation.⁶²

^jThe Warsaw Framework for REDD+ (WFR) sets out four requirements for countries to obtain RBP from REDD+ activities: (i) a national strategy or action plan, (ii) national Forest Reference (Emission) Levels (FRL/ FREL), (iii) a national forest monitoring (MRV) system, and (iv) a Safeguard Information System (SIS). See UNFCCC Warsaw Framework for REDD+, <https://unfccc.int/topics/land-use/workstreams/redd/redd-resources#Warsaw-Framework-for-REDD>.

^k REDD+ readiness refers to the efforts a country undertakes to develop the capacities needed to demonstrate and implement REDD+, and meet UNFCCC REDD+ requirements.

^lThe Forest Tenure Pledge is an agreement signed by 23 of the largest public and private donors in the forest conservation space at COP26. Under this agreement donors pledge to collectively distribute USD 1.7 billion of financing to support the advancement of Indigenous Peoples' and local communities' forest tenure rights; see Forest Tenure Funders Group.

IP and LC groups have consistently expressed their need for self-sufficient finance to implement Indigenous and traditional stewardship approaches without relying on ongoing donor support. For some groups, REDD+ remains an important support mechanism. In 2023, an open letter signed by Indigenous-led organizations in over 40 countries expressed support for the effectiveness of REDD+ in traditional conservation. The letter notes that despite criticisms, “well-managed REDD+ projects enable local communities to build strong Indigenous-led and nature-based economies that do not have to depend on extractive activities.”⁶³

At the same time, other IP representatives have expressed concern over REDD+, especially in relation to their often-precarious land tenure rights.⁶⁴ They have called for the creation of direct climate finance mechanisms, including funds that distribute grants directly to community members,⁶⁵ as opposed to finance that is channeled through intermediaries. Recent developments in this regard include the creation of the Nusantara Fund, Indonesia’s first direct funding mechanism for IPs and LCs, launched with an initial USD 3 million in international support.⁶⁶ CLARIFI (the Community Land Rights and Conservation Finance Initiative, by the Rights and Resources Initiative and Campaign for Nature), is another funding mechanism aiming to contribute to the sector goal of raising USD 10 billion by 2030 and strategically deploying public and private funds to strengthen communities’ territorial governance and management, advancing gender justice, fighting criminalization and establishing an enabling legal environment for securing their rights.⁶⁷

Organizations contributing conservation finance are increasingly pushing for greater collaboration with IPs and LCs. More organizations are trying to work with these groups as partners rather than beneficiaries. The Grand Bargain, launched in 2016, is a framework developed to help donors better support local and national partners. The Grand Bargain aims to increase the volume as well as quality of funding provided.⁶⁸ A second iteration of The Grand Bargain was launched in 2021, and the initiative continues to gain traction. As of October 2022, 65 signatories—including 25 national governments, the World Bank, and UN Development Programme (UNDP)—had pledged to follow the guidance. A 2023 review of the Grand Bargain reported improvements in the localization of funding efforts.⁶⁹ In the same vein, in 2022, United States Agency for International Development (USAID) announced a policy of supporting locally led development, which has been backed by an array of national governments.⁷⁰

3.2 Has the private sector aligned finance flows with forest goals?

Most financial institutions still fail to have any deforestation safeguards for their investments. Analysis by Global Canopy suggests that as of 2022, private financial institutions had USD 6.1 trillion in active financing to companies most at risk of driving tropical deforestation through agricultural commodity production. Of the 150 financial institutions funding these companies, two-thirds do not have a single deforestation policy covering their lending and investments.

3.2.1 Gray private finance

There is growing recognition that companies and financial institutions should consider not only the material impacts of environmental risk on their operations, but also the risks their activities pose to the environment.⁷¹ Institutions can implement policies which account for these impacts and help to redirect finance and investment away from deforestation-linked activities. Recent analyses of the lending behavior of financial institutions with forest-risk investments showed that most still do not have deforestation safeguards in place. As of 2022, the 150 financial institutions included in Global Canopy's Forest 500 assessment are providing USD 6.1 trillion in active financing to the 350 companies with the greatest influence in forest-risk commodity supply chains.^{m,72} Of this total, USD 0.6 trillion is being provided to companies without a single deforestation commitment. USD 2.4 trillion is being provided to companies with deforestation commitments for all relevant commodity supply chains, and USD 2.1 trillion to companies with deforestation commitments for only certain commodities.⁷³

HOW DO WE ASSESS PROGRESS?

GRAY PRIVATE FINANCE: Private sector investment policies can be designed to incentivize emission reductions, redirect finance flows away from unsustainable agriculture, and provide support for sustainable production models. This section assesses what progress the private sector has made to reduce the negative impacts of investments.

FOREST-RISK MANAGEMENT: Assessing forest- and other climate-related risks can be complex and burdensome for private sector actors, especially when the risks to business are poorly understood. Risk management and disclosure guidance initiatives can be transformative in providing businesses with the tools they need to understand, manage, and mitigate forest-related risks. This section assesses the uptake of these initiatives and where gaps remain.

GREEN PRIVATE FINANCE: Private finance has considerable power to steer commodity production onto a sustainable trajectory and enable forest protection and conservation. This section assesses the extent to which private investment is directed into activities that increase the sustainability of commodity production and forest management, whether through targeted green investment or the implementation of investment safeguards.

Furthermore, only a small portion of these financial institutions internally address deforestation as a systematic risk. The 2022 assessment shows that only 58 of the 150 institutions have published a deforestation policy for at least one relevant commodity, and only 42 actively monitor compliance of their clients/holdings with the deforestation policy. Just 11 financial institutions were found to be actively monitoring compliance for all deforestation risk commodities within their portfolio.

Around a third (56/150) of financial institutions assessed by Global Canopy disclosed through CDP's financial services sector questionnaire for forests in 2022, yielding similar findings on progress. 26 percent (96) of financial institutions had a policy framework with forest-related requirements that clients or investees needed to meet. But of those institutions, few had specific requirements; only 10 percent included requirements in their policies for clients or investees to set third-party certification targets, and only 6 percent included requirements for clients or investees to set traceability targets. While these findings signal some progress, gaps remain.

^m Global Canopy identifies and assesses the 150 financial institutions providing the most finance to the 350 companies with the greatest exposure to tropical deforestation (as identified by the Forest 500 assessment). This figure includes shareholdings, loans, underwritings, and bondholdings.

Data from Forests & Finance shows that financial services received by over 300 companies directly involved in the palm oil, soy, pulp and paper, beef, rubber, and tropical timber supply chains exceeded USD 343 billion from 2010-22.⁷⁴ From 2016-22, banks also provided USD 353 billion in finance to 23 mining companies operating in the world's three largest tropical forest regions. Of this total, 45 percent went to activities in Latin America, 32 percent to activities in Southeast Asia, and 23 percent to Central and West Africa.⁷⁵ Mining is a significant driver of deforestation (see **Chapter 2**).

3.2.2 Helping the private sector to address forest risks

In recent years, an increasing number of financial institutions have adopted guiding principles to ensure the sustainability of their investments. However, these actions generally remain voluntary as many do not formally require reporting on progress and implementation, so little can be concluded about their real impact on global finance flows.

Tools that help institutions assess their risks, dependencies, and impacts on nature continue to be developed. The Equator Principles, launched in 2003, were the first widely adopted framework for managing social and environmental risk in project finance. As of 2023, 139 financial institutions and 39 countries are signatories to the Principles.^{n.76} It is estimated that financial institutions complying with the Principles manage over 80 percent of global project finance transactions.⁷⁷

Tools for the private sector to assess, manage, and disclose nature-related risks have developed in recent years:

- In 2018, the **ENCORE Partnership's** ENCORE tool was established jointly by Global Canopy, the United Nations Environment Programme Finance Initiative (UNEP FI) and UN Environment Programme World

Conservation Monitoring Centre (UNEP-WCMC). ENCORE helps financial institutions identify the risks that environmental degradation—such as deforestation—pose to their operations.

- In 2021, the **Task Force on Nature-related Financial Disclosures (TNFD)** was launched by Global Canopy, UNDP, UNEP FI, and WWF to develop risk management and disclosure guidance for organizations to report and act on nature-related risks. The TNFD released its final framework in March 2023 and final recommendations in September 2023.⁷⁸ TNFD's framework is intended to align with other relevant standards such as those from the International Sustainability Standards Board (ISSB) and the Global Reporting Initiative (GRI), as well as emerging regulatory standards. Prior to the TNFD's official framework release, it had seen significant uptake: 200 organizations are actively piloting aspects of the draft framework across a range of global sectors.
- In 2022, **CDP** began requesting financial institutions to report portfolio data on forests-related issues (as well as on water-related issues), in recognition of the role financial institutions have in supporting the shift towards greening financing and investments. Disclosure through the CDP questionnaire can help prepare financial institutions for disclosure in line with upcoming TNFD requirements. Results from disclosures in 2022 were mixed, showing that while some financial institutions are acting on forest-related risks and opportunities, the sector as a whole has a long way to go to fully address deforestation risks. Only 25 percent of the companies disclosing forest-related information reported assessing exposure to forest-related risks and opportunities within their risk management process. Further, exposure to forest-related risk and opportunities was only considered as a specific ESG-related risk management process for 37 percent. CDP expects that the ability of financial institutions to disclose complete and high-quality data will increase with time and will help to boost the ambition of institutions' pledges and the quality of their progress reporting.

ⁿSignatories commit to integrating ten EPs—which include impact assessment, stakeholder participation, reporting, transparency, and other investment considerations—within their internal policies, procedures, and standards for project financing; as well as withholding project finance or loans to clients that are unable to comply with the EPs. Integrated throughout the EPs are the International Finance Corporation's (IFC) Performance Standards, which are widely adopted and considered an "international good banking practice."

3.2.3 Assessing private sector support for forests

Green investments by the private sector remain poorly tracked and difficult to measure. Until regular, transparent reporting becomes the default, the extent of private sector support for activities that protect, enhance, and restore forests globally cannot be measured.

The limited data available suggest that annual private green finance reaches several billion USD, a tiny fraction of private finance compared to gray finance flows that are potentially putting forests at risk. One estimate suggests that the private sector spends an average of USD 7 billion per year on sustainable supply chains.⁷⁹ Other private funding is channeled into sustainable land practices through public-private investment funds, with an estimate from 2020 suggesting that globally, these funds held at least USD 683 million at the time of the assessment.⁸⁰

On the philanthropic side, of the average USD 1.7 billion per year channeled to climate change mitigation from 2017-21, around USD 140 million annually was dedicated to direct activities that align with forest objectives.⁸¹ In 2021, USD 260 million was channeled to such activities, making forest objectives the second most funded and fastest growing sector for philanthropic support, capturing 9 percent of total funding for the year.⁸²

3.3 Are other finance mechanisms contributing to forest finance?

Alternative forest funding mechanisms are gaining traction. Novel approaches—such as funding for High-Integrity forests—have entered the scene, while uptake of mechanisms including payments for ecosystem services (PES) schemes and debt-for-nature swaps by a handful of countries show promise for diversification of forest finance.

3.3.1 New finance for high integrity forests

High integrity forests are those that have not experienced significant degradation from human activities and have a high degree of ecological integrity or intactness based on the Forest Landscape Integrity Index (FLII).⁸³ Only 40.5 percent of global native forest areas have high integrity, the largest areas lying in Russian and Canadian glacial areas and in tropical regions, including the Amazon Biome and the Congo Basin. The majority of high integrity forest areas are outside national protected areas, and are thus under private management or are without government protection. High integrity forests are mostly excluded from public policies and investment schemes that could fund their management and conservation, and as such, few incentives exist for their protection.⁸⁴ In recognition of this, a number of new finance mechanisms have emerged in recent years to create new finance channels for these important areas.

- The High Integrity Forest (HIFOR) investment initiative is being developed by the Wildlife Conservation Society (WCS) to drive finance toward these vital ecosystems. The HIFOR initiative is intended to incentivize the protection of high integrity forests through the sale of HIFOR units.⁸⁵ A HIFOR unit will represent a verified net tonne of CO₂ sequestered by a well-managed forest, but—importantly—will not be eligible for carbon offsetting use. In contrast to offset credits created and sold on carbon markets, HIFOR units do not reflect an additional greenhouse gas removal against a short-term baseline scenario, and as such, cannot be used for offsetting purposes or against claims of carbon neutrality.⁸⁶

HOW DO WE ASSESS PROGRESS?

EMERGING FINANCE MECHANISMS: Direct grantmaking has dominated the forest finance landscape in recent decades. Financing approaches which integrate different types of capital with innovative new tools and mechanisms can help to crowd in private finance and create new investment opportunities. This section assesses the growing uptake of new, non-market based finance mechanisms.

HIFOR units are intended to reflect the continuous benefits that high integrity forests provide in terms of climate regulation, biodiversity conservation, and other ecosystem services. Proceeds from the sale of HIFOR units can finance protected areas, support IPs and LCs, strengthen governance, fight deforestation drivers, or invest in sustainable development activities outside the HIFOR Crediting Area. The development of the first HIFOR pilot program is currently in progress in Amazonas State, Brazil, under a Memorandum of Understanding between the State Environment Secretariat and WCS Brasil.⁸⁷

- The Global Innovation Lab for Climate Finance, a program at Climate Policy Initiative, has recently launched a new dedicated activity stream to accelerate the development of ideas relating to monetizing forests with high integrity. The objective is to select and develop innovative financial solutions which can benefit these forest types. The UK government has provided approximately USD 900 thousand in support of this initiative, alongside another program which has a focus on Latin America and the Caribbean.⁸⁸

3.3.2 Other finance instruments

Alternative financing tools that show potential for impact but have only been used a few times to date in the forest sector include debt-for-nature swaps and PES schemes. PES schemes involve the provision of financial incentives to farmers or landowners in exchange for ecosystem stewardship that supports the delivery of ecological services, such as watershed management or soil health. PES schemes can also support sustainable rural livelihoods. While PES schemes have yet to become a default environmental financing tool for national governments, recent developments show promise. For example, in 2021, the Brazilian government established a National Policy of Payment for Environmental Services that provides targets, monitoring criteria, and a national PES registry for activities including reducing

deforestation and forest restoration.⁸⁹ (For more on how forest country governments are using policies to promote sustainable land management, see **Chapter 4** on forest rights & governance and **Chapter 2** on sustainable production & development).

Debt-for-nature swaps typically involve the provision of debt relief to a developing country in return for a government commitment to conservation or other environmental protection activities. Since the concept was first introduced in 1987, around 140 such deals have been struck around the world.⁹⁰ Two examples of debt-for-nature swaps come from Belize and Ecuador:

- In 2001, **Belize** entered its first debt-for-nature swap project, committing to preserve 23,000 acres of rainforest in exchange for debt reduction of USD 9.7 million by the US government through The Nature Conservancy (TNC).⁹¹ In 2021, supported again by TNC, the country entered a much larger deal, worth around USD 553 million, in exchange for domestic commitments to marine conservation.⁹²
- In 2023, **Ecuador** refinanced USD 1.6 billion of its commercial debt at a discount in exchange for dedicating at least USD 12 million a year towards conservation in the Galápagos islands.⁹³
- Also in 2023, **Peru** finalized a debt-for-nature swap and forest conservation agreement under the Tropical Forest and Coral Reef Conservation Act (TFCCA). The agreement was developed with the support of Conservation International (CI), TNC, WCS, and WWF and will reduce Peru's debt payments to the United States Government by over USD 20 million over the next 13 years.⁹⁴

Though many recent swaps have focused on marine conservation, the increasing value of these deals, and their ability to address developing countries' economic and environmental concerns simultaneously, suggest they could be a promising mechanism for scaling up forest finance.⁹⁵

3.4 Are market-based mechanisms contributing to forest finance?

Transactions of forest-based carbon credits are being impacted by changing buyer preferences and the role of forest carbon credits in corporate climate strategies. Prices in the VCM currently remain far below the true costs of impactful conservation and restoration activities, and far below the price ranges economists foresee as necessary for meeting the 1.5°C climate goal of the Paris Agreement.

3.4.1 Forest-based carbon credits in the VCM

The Voluntary Carbon Market (VCM) remains a consistent—albeit small—source of finance for forests. While the VCM cannot, and should not, be relied on to achieve forest finance objectives, it can be a useful tool for mobilizing forest finance, particularly from the private sector.

Forest-based carbon activities may produce emission reduction, avoidance, or emissions removal credits. Avoidance or reduction credits are generated from carbon activities that reduce emissions from a baseline scenario. For example, REDD+ activities such as improved forest management (IFM) can avoid or reduce emissions of CO₂ or other greenhouse gases (GHGs) into the atmosphere. Removal credits are generated when emissions are removed from the atmosphere permanently, or for a set period of time, through activities such as afforestation and reforestation.

To date, the majority of forest-based credits transacted in the VCM have been emissions avoidance credits. This is in large part because removal activities typically have larger upfront and implementation investment requirements than avoidance activities, and removal activities usually issue credits at a slower rate than avoidance activities.

HOW DO WE ASSESS PROGRESS?

VOLUNTARY CARBON MARKET: The voluntary carbon market (VCM) allows public and private sector actors to purchase carbon credits generated by emission reduction projects certified by recognized carbon standards. Carbon markets can play a critical role in delivering climate action above and beyond science-based targets to contribute to reaching global net-zero. This section assesses how much the VCM is contributing to forest finance, and how quality initiatives are helping to ensure market integrity.

FOREST-BASED CREDITS UNDER ARTICLE 6: The new mechanisms introduced under Article 6 for the first time create a risk of overlap in the governance of the voluntary carbon market and regulated markets. This section assesses the implications of Article 6 for the development and transaction of forest-based carbon credits.

As a result, removal activities have historically received less investment than avoidance activities. Removal credits currently account for less than one third of all issuances from nature-based solution (NBS) projects.⁹⁶

The makeup of forest carbon credits in the VCM may be set to change following a number of developments in the way credit buyers engage with the market. Under the Science Based Targets initiative's (SBTi) Corporate Net Zero standard, emissions avoidance credits are not permitted for use by companies towards their near-term targets (5-10 years) and may only be used for beyond value chain mitigation activities. Removal credits, on the other hand are permitted, though only to counterbalance residual GHG emissions at the end of the journey to net zero.⁹⁷ It is possible that such guidance, combined with recent quality concerns (see **Section 3.4.2**), may trigger a shift in corporate demand away from emission reduction and avoidance credits and towards removals, to support the achievement of internal climate targets.

At the same time, corporate guidance is increasingly emphasizing the need for a shift in focus—away from reliance on carbon credits and short-term offsetting transactions towards direct, within-supply chain mitigation action and beyond supply chain action through a contributions approach, which together can achieve emission reductions plus benefits for people and

⁹⁶NBS carbon projects are any project designed to avoid and reduce emissions through nature conservation and nature restoration activities.

nature over the long term. A key objective of the SBTi Forest, Land and Agriculture (FLAG) guidance, developed for AFOLU sector companies, is to encourage within-supply chain mitigation efforts that can facilitate a systemic shift towards more sustainable agricultural and commodity production practices.⁹⁸

Demand for carbon credits in the VCM is driven by a variety of actors with diverse objectives and as such, is difficult to predict. In the absence of any other measure, issuances can be used as a proxy to understand demand for certain credit types, as credits will often only be issued from VCM activities when there is an interested buyer. Issuances of forest-based carbon credits showed an upward trend from 2016-21, reaching an all-time high of around 157 million metric tons of carbon dioxide equivalent in 2021. They subsequently declined, falling to 83 million metric tons of carbon dioxide equivalent in 2022, and reaching just 58 million metric tons of carbon dioxide equivalent by the end of Q3 2023 (**Figure 3.6**).

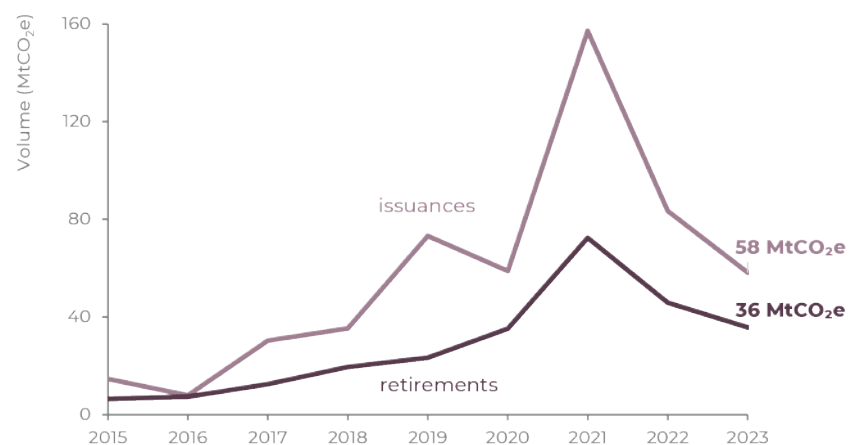
A similar trend can be observed in credit retirements, which grew year on year from 2016-21, peaking at over 72 million metric tons of carbon dioxide equivalent in 2021. Since, retirements have declined steadily, totaling just under 46 million metric tons of carbon dioxide equivalent in 2022, and 36 million metric tons of carbon dioxide equivalent by the end of Q3 2023.⁹⁹

The declines observed in both issuances and retirements are largely attributed to mounting concerns over the quality of REDD+ credits. In early 2023, concerns around the carbon integrity of REDD+ credits grew after the findings of an investigation into the climate impacts of a selection of REDD+ projects were made public (see **Section 3.4.2**). For some market actors, the findings cast doubt over the extent to which REDD+ credits account for real emission reductions and were linked to a notable decline in demand for these credit types.

Carbon credit pricing

The price of forest-based carbon credits remains low. One source estimates that as of the third quarter of 2023, the price of nature-based and forestry credits falls between USD 4-5, compared to between USD 8 and 10 over the second half of 2022.¹⁰⁰ The price of REDD+ credits in particular has dropped significantly since the negative coverage of REDD+ projects in early 2023, falling to a low of USD 2.75 in mid-August 2023.¹⁰¹

Figure 3.6. Issuances and retirements of forest-based carbon credits in the VCM, in MtCO₂e



Source: Climate Focus VCM Dashboard

While the price of REDD+ and other forest-based credits varies considerably, current pricing remains far below the cost range economists recommend for meeting the Paris Agreement's 1.5 °C limit, which ranges between USD 50 and 250 per metric ton of CO₂.¹⁰² Higher prices for forest carbon credits allow forest carbon activities to compete with subsidized agriculture and other land uses, creating incentives for more investment into forest protection activities. While the current prices of forest-based credits may cover activity implementation costs and provide some benefits to impacted communities, they are unlikely to incentivize conservation and reforestation over competitive land uses at a large scale.¹⁰³

Jurisdictional programs

To date, most forest-based credits transacted in the VCM have been issued from standalone projects—activities implemented in a defined forest area, with baseline emissions calculated for that specific area. Non-governmental carbon crediting programs, such as Verra's VCS Jurisdictional and Nested REDD+ (JNR) Framework,¹⁰⁴ and more recently the Architecture for REDD+ Transactions (ART) initiative and its REDD+ Environmental Excellence Standard (TREES),¹⁰⁵ have been making moves to link REDD+ results-based payments and jurisdictional programs with the VCM. Jurisdictional programs can include carbon projects through nested approaches, which effectively integrate projects into jurisdictional carbon accounting and enable projects

to either directly generate carbon credits or receive benefits through the jurisdictional program. Jurisdictional programs can offer more benefits than standalone REDD+ projects. Most importantly, jurisdictional programs are more scalable than REDD+ projects and depend on high levels of government involvement and backing, which is crucial for addressing the underlying drivers of deforestation and aligning REDD+ activities with national policies.

In 2022, **Guyana** became the first country to issue forest carbon credits from a jurisdictional activity that is also eligible for use under the VCM. The program issued 30 million credits under ART-TREES.¹⁰⁶ Currently, 14 other countries and large sub-national jurisdictions are in the process of developing programs targeting ART-TREES registration.¹⁰⁷ Though the inclusion of jurisdictional credits under the VCM signals progress and creation of a potential new channel for forest finance, the Guyana program has so far come under fire from a number of angles. In early 2023, a formal complaint was launched by a Guyanese NGO claiming that IPs were not properly consulted on the carbon project implementation plans and raising concerns around ART's grievance mechanism.¹⁰⁸ Though the complaint did not lead to any formal action, the case highlights the importance of full, transparent, and participatory processes in the development of jurisdictional programs.

In addition, ART-TREES' reliance on High Forest Low Deforestation (HFLD) credits has drawn criticism. HFLD carbon credits are generated from countries or jurisdictions that have high forest cover and low historical rates of deforestation. Some market voices argue that such credits are not fungible with legitimate carbon offsets on the basis that they cannot prove the basic condition of additionality—one of the core elements of a credible carbon credit.¹⁰⁹ While it is acknowledged that HFLD credits could make meaningful contributions to forest conservation, critics urge that they should not be used for offsetting purposes, for the sake of maintaining market integrity.¹¹⁰

3.4.2 Ensuring quality in forest-based carbon credits

Credit quality has long been an issue of concern for forest-based carbon credits and was thrust into the spotlight in early 2023 when the findings of a research investigation into the climate impacts of a selection of REDD+ projects was widely publicized in the media. While competing investigations

and some project developers have since sought to demonstrate the robustness of forest-based carbon credits, the criticisms have impacted stakeholder confidence in forest-based credits and will likely shape demand for such credits in the coming years.

Forest-based carbon credits have long come under scrutiny over a range of issues, including additionality, leakage, risk of adverse social impacts and, in particular, issues relating to permanence and crediting baselines.¹¹¹ Permanence is defined as the length of time carbon will remain sequestered or stored from a project activity without risk of reversal, while robust crediting baselines are essential to accurately quantify the emission reductions or removals generated by a carbon project. Both have been key quality concerns for forest-based carbon credits in recent decades.

Quality issues recently became particularly acute for REDD+ credits, which became the target of prominent criticism over the last year. An investigation carried out by a group of researchers on a selection of 27 REDD+ projects, of an approximate 89 million credits generated, 71 percent originated from projects that did not significantly reduce deforestation, and a further 29 percent originated from projects likely associated with some avoided deforestation, but not to the extent expected by the project developers.¹¹² The findings were widely publicized by major news outlets—including The Guardian and Die Zeit—stating that 90 percent of rainforest credits issued by Verra, the largest certifier in the market, do not represent real emissions reductions.¹¹³ While other assessments find that a higher proportion of projects correctly estimate baselines—up to 44 percent¹¹⁴—the initial findings seem to have considerably impacted both pricing and demand for forest-based credits (see **Section 3.4.1**). While criticism around baseline setting in REDD+ projects is not new, it highlights the need for renewed attention to integrity in forest-based carbon projects.

A number of market-guided initiatives for addressing the integrity of the VCM have emerged in recent years. A key development in this regard was the establishment of the Integrity Council for the Voluntary Carbon Market (IC-VCM).¹¹⁵ The IC-VCM was established in 2021 by the Taskforce on Scaling Voluntary Carbon Markets (TSVCM). The objective of the initiative was to develop a clear roadmap to determine a global benchmark for carbon credit quality. The IC-VCM has since been actively developing guidance and recently released a full set of criteria for assessing categories of credits and crediting methodologies, including the Core Carbon Principles (CCP), which set a (minimum) standard for high-quality carbon credits.¹¹⁶ These include guidelines for nature-based projects on handling reversal risks, as well as

separate permanence requirements for Jurisdictional REDD+ Programs. Market experts have reported that a “good number” of carbon credits will fail to meet the CCP label, and thus the guidance is expected to help buyers and other market actors to identify high quality credits.¹¹⁷ However, the label has also been criticized for its approach to permanence in nature-based projects. The framework sets a minimum bar of 40 years for monitoring permanence in projects with a risk of reversal—compared to a period of 100 years set by other standards—as well as currently leaving Jurisdictional REDD+ projects exempt from monitoring. The next iteration of the framework will be released in 2026.

Other efforts to boost market integrity include:

- The Tropical Forest Credit Integrity (TCFI) guide is an example of an initiative that is specifically targeting environmental integrity issues associated with tropical forest activities, offering guidance to companies on sourcing high integrity forest credits from legitimate certifying bodies.¹¹⁸ The TCFI Guide promotes a shift in corporate climate action towards using carbon credits as a complement to, and not a substitute for, a company's decarbonization. The guide states that companies first commit to a science-based emissions reduction target, validated by the SBTi, and use the mitigation hierarchy to guide their decarbonisation actions.¹¹⁹ It also recommends that purchasers rapidly shift demand towards credits originating from jurisdictional-scale programs that are verified and validated to the most rigorous standards. When companies do invest in carbon credits, the guide encourages the prioritization of investment into NBS emission reduction activities—including protecting, restoring and sustainably managing forests—before removals.¹²⁰ Companies must first quantify any emissions that cannot be directly mitigated—taking into account also the indirect social and environmental cost of their emissions—before investing in climate solutions or financing carbon credits which generate wider benefits for nature and society.
- At the standard level, Verra is currently developing **a new, updated REDD+ methodology** to minimize the risk of errors such as overcrediting—where more credits than tonnes of CO₂e achieved are issued by a given project. The methodology draws on the VCS Jurisdictional and Nested REDD+ (JNR) framework, which sets baselines using deforestation data generated from an entire jurisdiction, rather than specific project area. The new methodology is due to be released in the third quarter of 2023.¹²¹
- The search for quality is also being facilitated through a growing number of **carbon credit ratings agencies**¹²² that have entered the VCM in recent years. These firms offer credit rating style scores for carbon credits to guide buyers in their decision making, and extend their assessments to nature-based projects. Their work helps buyers and investors navigate the complex landscape of projects, filtering out low quality credits and helping to restore trust in the market.

3.4.3 Forest finance under Article 6

International market mechanisms introduced under Article 6 of the Paris Agreement create potential new channels for forest finance, however, it remains to be seen how burdensome engaging in such transactions will be for forest country governments, and which forest-based mitigation activities will be eligible.

New rules for international carbon markets under the Article 6 of Paris Agreement were defined at COP26 in 2021, potentially improving the prospects for forest finance over the long term. COP26 saw the finalization of the Article 6 rulebook, which provides guidance on the operations and requirements of the proposed market mechanisms under Article 6. The rulebook sets the conditions for the international trading and transfer of emission reduction units by enabling two market-based mechanisms—Article 6.2 cooperative approaches and the Article 6.4 mechanism (the successor of Kyoto Protocol's Clean Development Mechanism). Under Article 6.2, countries engaged in cooperative approaches are responsible for defining the types of activities allowed to generate tradeable mitigation outcomes. Under Article 6.4 the rules are more complex. Countries will need to agree on whether Article 6.4 activities could include emission avoidance and conservation enhancement activities at COP28, in December 2023.¹²³ However, formal rules for activities involving removals (including land-based) under Article 6.4 are currently under development.¹²⁴

Forest-based credits, including REDD+, must comply with the same Article 6 rules as credits generated from any other sector. Forest projects and programs of activities will be subject to the same new reporting and accounting requirements, as well as adjustment measures to ensure that the same emission reductions are not used twice. The application of “corresponding adjustments” is intended to ensure that the same emission reductions are not claimed by both the project host country and buyer, thus avoiding “double counting” the same mitigation. In practice, however, implementing corresponding adjustments presents different burdens to different host countries, who may be limited by economic or capacity constraints.

In September 2023, the first sovereign REDD+ credits to be offered for international trade under Article 6 were made available by Suriname. The

country is issuing 4.8 million tonnes of emission reductions, to be sold on a new platform created by the Coalition for Rainforest Nations (CfRN).¹²⁵ The Forest Reference Level has been reviewed by the UNFCCC, and the resulting credits are eligible for use by other countries towards their NDCs, providing that corresponding adjustments are applied.¹²⁶ Soon after, three other tropical forest countries—Honduras, Belize, and the DRC—announced their intention to issue REDD+ credits eligible for trade under Article 6 mechanisms. Honduras and Belize have each announced upcoming issuances of over 10 million credits, and no volumes have yet been disclosed by DRC, which is at a much earlier stage of project development.¹²⁷

While these issuances of REDD+ credits suggest that new international market mechanisms may provide a future channel for international forest finance, the Article 6 UNFCCC infrastructure and Article 6.4 rules, together with most national Article 6 regulatory frameworks, are still under development. Article 6 may be fully operational by late 2025, depending on how quickly major host countries implement the necessary capacities and institutional procedures to participate in Article 6 collaboration.

CHAPTER 3 ENDNOTES

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Country case study

AUSTRALIA

Australia's efforts to curb deforestation

Deforestation is a major issue in Australia, but recent developments bring hope

Australia was the only developed nation on WWF's Deforestation Fronts world list of deforestation hotspots in 2021.¹ This was largely due to persistent and significant forest losses in eastern Australian states. Nearly half of the forests that covered eastern Australia two centuries ago have now been cleared.² Some forests have even been cleared to less than 10 percent of that area, leaving them endangered or critically endangered.³

Despite this discouraging trajectory, 2022 saw signs of progress: national-level deforestation was down by 36 percent, and the country could now be on track to halt deforestation by 2030 if the trend continues.⁴

Economic, political, and environmental factors drive changes in forest cover

Land clearing for agriculture, driven by economic factors like high beef prices, is the largest contributor to deforestation in Australia.⁵ The expansion of urban areas

and the misalignment of national and state policies further exacerbates the problem.⁶ While the central government can set incentives to reduce land clearing, state governments are ultimately in control of land use policy, and state policies have often not been consistent with federal conservation goals.⁷ Climate change played a role in forest cover change, evident during the severe drought from 2017-20. The drought culminated in major forest fires that destroyed 12.6 million hectares of forests and woodlands,⁸ followed by some of the wettest years on record in Australia, which contributed to rapid vegetation growth.⁹

Awareness and action are increasing

Catastrophic fires in 2018-20 contributed to rising public and governmental awareness and spurred improved forest policies and investments in restoration.¹⁰ The Australian federal government committed at least USD 144 million to native wildlife and habitat recovery,¹¹ created the Australian Carbon Credit Unit scheme (formerly known as the Emissions Reduction Fund),¹² and may soon pass the Nature Repair Market Bill,¹³ a framework to enable and stimulate investment in biodiversity conservation and restoration. The government has also committed to provide USD 148 million in grants to Indigenous Protected Areas from 2023-28 to support Indigenous leadership in managing its fragile ecosystems.¹⁴

The private sector is increasingly acknowledging the importance of addressing deforestation due to legal and reputational risks. Australian beef companies with international operations are especially cautious about being associated with deforestation and are reevaluating their beef production methods. Many have signed voluntary commitments.¹⁵ Companies are compelled by the recent EU regulation requiring beef exporters to show their operations have not contributed to deforestation and cattle were not raised on land cleared after December 2020.¹⁶

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Chapter 4

FOREST RIGHTS & GOVERNANCE

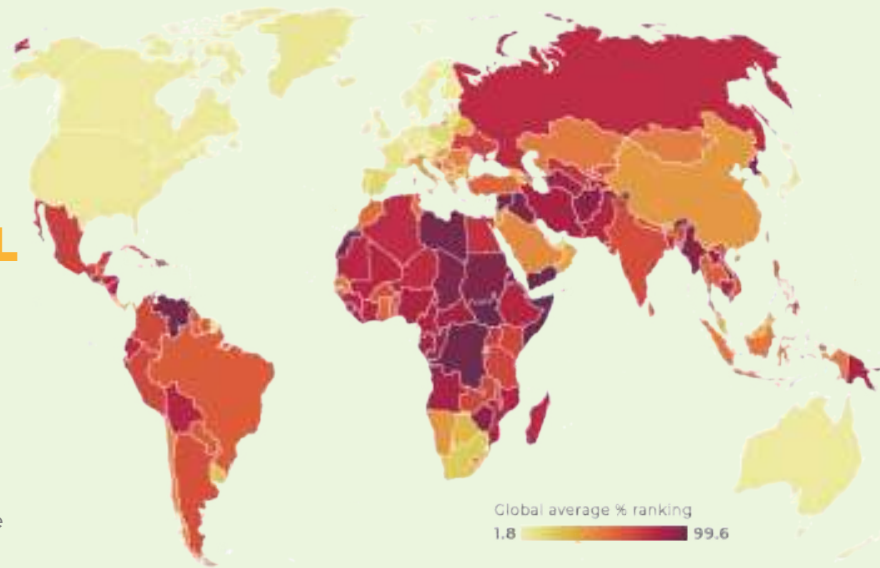
Theme 4 Assessment

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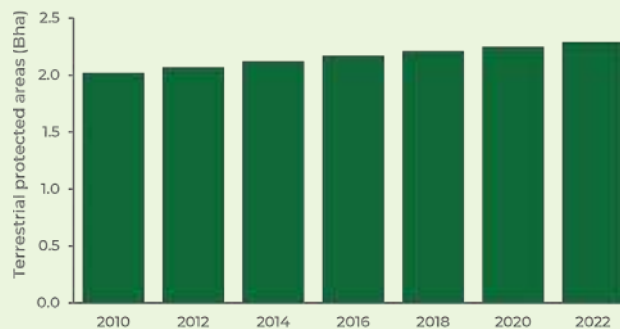
CORRUPTION AND POOR GOVERNANCE CONTINUE TO LEAD TO HIGH RISKS OF ILLEGAL LOGGING IN MANY TROPICAL FOREST COUNTRIES

The risk of illegal logging remains high across much of Africa, Asia, and Latin America, with little change in governance scores from 2019-21.



GLOBAL PROTECTED AREA COVERAGE HAS STEADILY INCREASED SINCE 2010

Countries like Brazil, Togo, China, the United States, and Chile have recently taken action to expand or strengthen protected areas, though countries such as India and Canada are seeking to remove protections for large areas of forest.



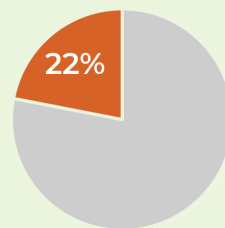
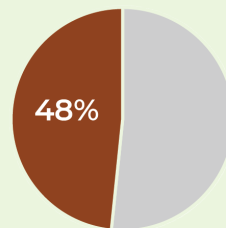
While creating and expanding protected areas can provide important legal protections for forests, in the absence of safeguards it also risks violating communities' rights.

ENVIRONMENTAL DEFENDERS, MANY OF THEM INDIGENOUS, FACE VIOLENCE, HARASSMENT, AND CRIMINALIZATION

In 2022, land, Indigenous Peoples' and environmental rights defenders were the most targeted of all categories of human rights defenders. In addition to putting their lives on the line, defenders face police harassment, lawsuits, arbitrary detention, and various other threats for simply trying to defend their rights.

194 Land, indigenous peoples' and environmental rights defenders killed

88 Indigenous human rights defenders killed

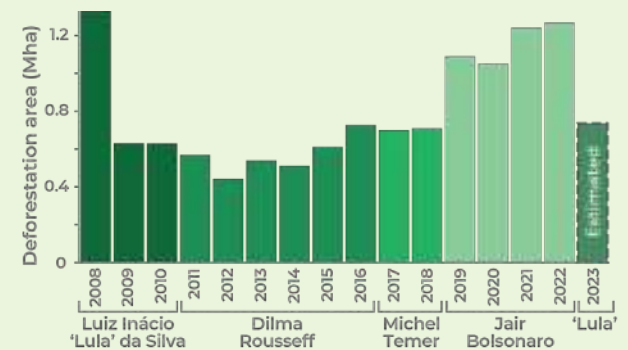


1.375 billion hectares of indigenous and local communities' land remain **unrecognized** globally, despite some progress

A recent report by the Rights and Resources Initiative shows an increase in the area of land Indigenous People, Afro-descendent Peoples, and Local Communities have legal rights to in at least 39 of the 73 countries studied. However, many communities still lack legal recognition of their rights, leaving them vulnerable to land grabbing and incursions.

Reduced deforestation in the Brazilian Amazon shows the power of **POLITICAL LEADERSHIP** and investing in enforcement

Deforestation in the Brazilian Amazon dropped 42% in 2022's first seven months, as the new administration stepped up enforcement actions and adopted a plan to combat land grabbing and illegal mining – reversing the prior administration's dismantling of enforcement agencies and weakening of Indigenous rights.



2x the number of climate change court cases more than doubled globally since 2017

including an increasing number of litigation aimed at protecting forests & Indigenous rights.



KEY MESSAGES

- Coverage of protected areas has steadily increased over the last twelve years, and will likely continue to increase as countries committed in 2022 to massively scaling up protection of the world's ecosystem. However, several countries are downgrading, downsizing, and degazetting protected areas, and serious human rights violations continue in the establishment of protected areas around the world.
- Several tropical forest countries—notably Indonesia and Lao PDR—have over the past decade adopted moratoria on activities that threaten forests, with partial success. More recently, some subnational governments in Australia and the United States have also begun to adopt moratoria.
- There have been important legal and policy developments in tropical forest countries, notably in Indonesia and Brazil. Many have been positive, addressing inconsistencies and gaps in legal frameworks and enhancing environmental monitoring and land use planning. However, progress on reforms has recently slowed in Cameroon, Côte d'Ivoire, and the Republic of the Congo; while in Indonesia, the government risks its previous success through a new regulation that weakens safeguards on forest protection.
- Despite international commitments to forest, climate, and biodiversity protection, several boreal and temperate forest countries, including Canada, the United States, and Northern European countries, permit intensive forest management practices that lead to degradation. International discourse has focused on tropical forests, with only limited scrutiny given to industrial logging in developed countries. Fortunately, policymakers are increasingly noting and addressing the impacts of forest degradation in some of the concerned countries, including through adopting stronger domestic forest policies.
- An increasing number of countries are adopting demand-side measures to restrict the import and trade of products linked to deforestation and forest degradation, including the EU's landmark Regulation on deforestation-free products. However, the effectiveness of these measures will depend on robust implementation from all sourcing countries and support for developing countries to comply.
- The last two decades have seen an increase in deforestation-prevention and biodiversity protection provisions in trade agreements. However, the impacts of these provisions on forest protection are not always clear, and

in some cases there are points of contention, as exemplified by ongoing negotiations between the EU and the Mercosur bloc.

- Better enforcement of forest laws has helped address deforestation in tropical countries such as Indonesia, Brazil, Cameroon, Côte d'Ivoire, and the Republic of the Congo.
- Corruption and weak governance continue to lead to high risks of illegal deforestation as well as human rights violations in many tropical forest countries. Challenges in tracking illegal deforestation continue to limit the availability of quality data on the scale of illegal activities.
- There are increasing efforts to enhance international cooperation on fighting forest crime. However, these initiatives are new, and it remains too early to assess how effective they will be.
- There has been some progress made in the legal recognition of Indigenous Peoples (IPs)' and local communities (LCs)' land across multiple regions. However, progress remains slow, and globally at least 1.375 billion hectares of lands which IPs, Afro-descendant Peoples, and LCs have customary or historic claims to have not yet been legally recognized by national governments.
- Within the past year, there have been significant positive developments in protecting IPs' and LCs' rights in a number of countries, most notably in Brazil. However, in other countries there have also been attempts to weaken IPs' and LCs' rights. Across many countries, even where there are existing legal frameworks for the protection of IPs' and LCs' rights, implementation remains weak.
- Environmental defenders—many of them Indigenous—continue to face violence, harassment, and criminalization for seeking to protect their lands and forests from outside incursions. 194 killings of environmental defenders were recorded in 2022, making them the most targeted of all categories of human rights defenders last year.
- There have been positive steps toward enhancing transparency and participation in forest-related decision making in several tropical forest countries. However, progress has largely been driven by processes like FLEGT VPAs or REDD+, and momentum of implementation has recently waned following an absence or reduction in political push and accountability from these processes or projects.
- There has been a sharp increase in public interest litigation seeking to protect forests and IPs' and LCs' rights, some of which have led to positive outcomes in the protection of forests and Indigenous land rights.



INTRODUCTION

Why look at forest governance?

Forest governance refers to legal and policy frameworks that regulate land use. Strong governance systems provide opportunities to improve legal frameworks, expand opportunities for local stakeholders to influence and participate in decision making, and ensure protection of ecosystem values and sustainable and adaptive management of resources. They provide for transparent, predictable, and defensible rights, effective institutions, the rule of law, and accountability of public and private actors that violate the law.

Effective forest governance results in clear policy and legal frameworks that enable meaningful participation by all groups, hold governments accountable, and advance action toward the achievement of shared goals. In the context of this report, such goals include forest protection and restoration, improved land tenure, and access to natural resources.

Recognizing and respecting the rights of Indigenous people and other local and forest-dependent communities (IPs and LCs) is equally important in ensuring the protection of forests. There is ample evidence that when these groups have strong legal rights to the forests they have customarily owned and managed, those forest are better protected than even government-managed protected areas.¹ Recognizing and documenting land and forest tenure rights as well as respecting rights to free, prior, and informed consent (FPIC) are therefore highly effective forest conservation strategies.

Evidence suggests that weak forest governance is harmful, not just for forest landscapes and their ecosystems, but also for societies—particularly those who are most dependent on forest lands, including IPs, LCs, poor people, rural communities, and other marginalized groups. Countries with strong governance are best placed to curb deforestation and ensure stable and prosperous local landscapes. Investments into forest governance should therefore be a priority in any effort to protect forests and enhance conservation.

Political will and investments in forest governance are among the best tested approaches for ensuring long-term conservation outcomes. Historical and more recent conservation successes in Brazil, Indonesia, and Malaysia

can be linked to government measures such as investments into institutions or law enforcement, land titling and planning, moratoria, and improved legal and policy frameworks.² Improved forest governance can also be linked to improved local livelihoods, increased social resilience, and reductions in violence at the forest frontier.

What has been pledged on forest governance?

In recent years, several governments and non-government entities made voluntary pledges relevant to forest rights and governance, such as the IPLC Forest Tenure Pledge and the Glasgow Leaders' Declaration (GLD) on Forests and Land Use. These pledges include important commitments to ensuring good governance and protecting rights (**Table 4.1**).

In 2022, the Forest Tenure Funders Group published its first progress report on the state of the IPLC Forest Tenure Pledge. The report shows that USD 321.7 million of the USD 1.7 billion pledged has been disbursed. Over 80 percent of the funding was aimed at building the capacity of IPs and LCs or supporting community-level action, but only 7 percent of the nearly USD 321 million delivered in 2021 went directly to organizations led by IPs or LCs. About half of the funding was channeled via international NGOs. The group has also established a dialogue with leaders of IPs and LCs to learn from their perspectives and needs.³

While the signatories of the GLD have yet to announce a reporting mechanism for progress, a sub-group of countries, the Forests and Climate Leaders' Partnership (FCLP), has come together to enhance the delivery and ambition of the GLD's commitments and plans to publish annual progress reports. Progress reporting is also not yet available for Global Biodiversity Framework (GBF) commitments, as many countries are still preparing their national biodiversity strategies and action plans (NBSAPs).

How do we assess progress?

This chapter assesses progress based on the following five elements that are essential for coherent, effective, equitable governance for forests and forest lands, and guarantees protections of rights related to forests:

- Clear, equitable, and effective **legal, policy, and institutional frameworks** on the sustainable management, use, and protection of forests.
- Effective **demand-side regulations** that are implemented and enforced, and international engagement to address deforestation and forest degradation.
- Effective and equitable **implementation of laws and policies** ensuring detection, prosecution, and just enforcement of penalties on forest crimes.
- Recognized, respected, and protected **IPs' and LCs' rights**, including those relating to land and forest tenure, FPIC, and traditional knowledge and practices, as well as empowerment of IPs and LCs.
- Guaranteed **transparency and public participation** in forest-related decisions, and access to justice for impacted populations.

These five elements are also important for providing an enabling framework for forest restoration. This chapter focuses on the protection, sustainable management, and sustainable use of forests, since there is extensive research pointing to the importance of rights and governance for ensuring protection and sustainable management and use. There is less research available on the links between rights and governance and forest restoration.

Building on previous Assessment reports on forest governance, this chapter is complemented by updated data, where available, and an additional literature review. The Assessment Framework underlying this report is inspired by the [Chatham House forest governance and legality assessments](#), where policies and interventions are assessed for their existence, quality of design, and level of implementation. European Forest Institute (EFI)'s [Forest Governance Index](#), Chatham House's study on [fair and sustainable forest economies](#), Forest Trends' [Illegal Deforestation and Associated Trade \(IDAT\) Risk](#), and Rights and Resources Initiative (RRI)'s progress reports on [Who Owns the World's Land?](#) provided valuable information. Additional information came from reports from Forest Declaration Assessment Partners and other institutions. A forthcoming special report from the Forest Declaration Assessment will present an analysis of past NBSAPs and an initial look at prospects for new plans, with a particular focus on the extent to which NBSAPs respect and protect the rights of IPs and LCs. High-level findings from that report are referenced where relevant in this chapter.

This report aims to assess progress globally. However, due to data and literature availability, this chapter includes relatively more information on i)

tropical forests rather than temperate or boreal forests, ii) developing countries rather than developed countries, iii) supply-side measures rather than demand-side measures. Notably, this year's assessment aims to include more information on developed country progress where data is available. As always, future assessments will aim for a more comprehensive analysis.

Table 4.1. Pledges related to forest rights and governance

| Pledge or Initiative | Endorsers | Pledges and targets related to forest rights and governance |
|--|--|--|
| Glasgow Leaders' Declaration on Forests and Land Use | 145 countries | Empowering communities while recognizing the rights of Indigenous Peoples (IPs) and local communities (LCs) and redesigning agricultural policies and programs, and ensuring robust policies and systems are in place to accelerate transition to an economy that advances forest, sustainable land use, biodiversity, and climate goals. |
| IPLC Forest Tenure Pledge | 23 countries and philanthropic organizations | USD 1.7 billion in 2021-25 to secure and strengthen IPs' and LCs' tenure rights and the role of IPs and LCs. |
| Kunming-Montreal Global Biodiversity Framework | More than 190 countries | Bring the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity, close to zero by 2030. Ensure that all areas are under participatory, integrated, and inclusive management processes, equitable governed systems of protected areas and other effective area-based conservation measures; recognize and respect the rights of IP and LC; ensure that the use, harvesting and trade of wild species is sustainable, safe and legal; and ensure the full, equitable, inclusive, effective and gender-responsive representation and participation in decision making, and access to justice and information related to biodiversity by IPs and LCs. |
| Belém Declaration | 8 Amazon countries | Tackle illegal activities that are contributing to the deforestation of the Amazon, promote sustainable development and ensure the rights of the rainforest's IPs and local and traditional communities. |
| Global Biodiversity Framework Fund (GBFF) | 185 countries | Mobilize and accelerate investment in the conservation and sustainability of wild species and ecosystems whose health is under threat from wildfires, flooding, extreme weather, and human activity. |

FINDINGS

4.1. Legal, policy, and institutional frameworks and mechanisms for protection, sustainable use, and management of forests

4.1.1. Expanding protected areas while respecting rights

Protected areas continue to be among the most common legal and policy instruments governments used to address deforestation and forest degradation. Countries committed to massively scaling up protection of the world's ecosystems in December 2022 when adopting the GBF. While there has been a steady increase in the global coverage of terrestrial protected areas over the past decade, several countries are taking steps towards downgrading, downsizing, and degazetting protected areas. Meanwhile, there continue to be serious violations of IPs' and LCs' rights in the establishment of protected areas around the world.

Protected area expansion

Protected area coverage has steadily increased globally over the last twelve years (**Figure 4.1**). The coverage is likely to continue increasing as countries agreed to conserve 30 percent of the Earth's lands, oceans, coastal areas, and inland waters by 2030 under the GBF. Advancements towards expanding protected areas, including through the identification, recognition, and reporting of other area-based conservation measures and Indigenous and community conserved areas, are underway in many countries. Several national and subnational governments (in both the developed and developing countries) are developing measures to declare, expand, and manage protected areas.

- In June 2023, **Brazilian** President Lula da Silva signed a decree for the creation and expansion of conservation areas in Paraíba and Pará states. The decree creates a 61,000-hectare Serra do Teixeira National Park and adds an 1,800-hectare expansion to the Chocoré-Mato Grosso

HOW DO WE ASSESS PROGRESS?

Achieving forest goals requires countries to develop coherent and equitable laws and policies governing forests and land use as well as effective institutions. This includes having mechanisms in place that enable meaningful participation of stakeholders to shape laws and policies, and to allow civil society to support and monitor effectiveness. This chapter reviews progress made on the most common legal and policy instruments, including:

PROTECTED AREAS: While protected areas are an important tool for conservation and sustainable use of forests, literature shows mixed results on their effectiveness to reduce deforestation and forest degradation. Most studies show positive outcomes on reduced deforestation associated with protected areas, but some show that their impacts have been negligible, and others show increased deforestation in protected areas.⁴ In some contexts, protected areas are controversial.⁵ Without proper safeguards, protected areas can limit people's access to land or resources. Combining protected areas with a rights-based approach can be a powerful strategy to protect forests, and other conservation areas while also respecting Indigenous Peoples (IPs)' and local communities (LCs)' rights. This chapter assesses the legal and policy frameworks that designate or downgrade protected areas while respecting (or failing to respect) IPs' and LCs' rights.

MORATORIA: Moratoria can help to reduce deforestation and/or degradation if well designed and adequately implemented. Limited literature is available on the implications of moratoria on deforestation rates, but with what is available, this chapter assesses moratoria that have been adopted by countries, their implementation, and their implications for preventing or reducing forest loss.

OTHER LEGAL AND POLICY DEVELOPMENTS: This chapter considers examples of major positive or negative legal and policy developments from recent years, focusing on the adoption of laws and policies aimed at forest protection.

Extractive Reserve. President Lula da Silva also signed eight further decrees addressing climate change mitigation and deforestation,⁶ as well as signing the demarcation of two Indigenous territories in the municipalities of Fonte Boa and Jutai in the Amazonas.⁷

- Early this year, the **Togolese** government adopted a draft bill for the creation and management of protected areas. The bill seeks to amend and update the existing legal frameworks to improve the management of protected areas.⁸ While the bill still has to go through Parliament, this is a significant step considering that the total area of Togo's primary forest has decreased by 20 percent in the last two decades.⁹
- **China** announced a plan to build the world's largest national park system by 2035. The plan includes a list of 49 sites proposed to become national parks that together cover 1.1 million square kilometers.¹⁰
- The **United States** finalized protections for the Tongass National Forest, the world's largest intact temperate rainforest.¹¹

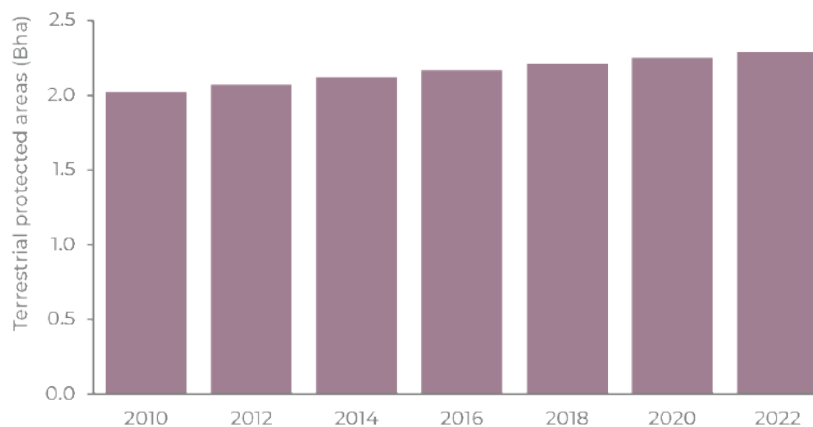
- The **Canadian province of Quebec** approved numerous Indigenous Protected and Conserved Areas (IPCA) at the end of 2020 in pursuit of its commitment to protect 17 percent of lands by 2020.¹² However, almost none of these were in the managed forest, where logging concessions are located, with the province rejecting 83 IPCA proposals in this area.¹³ The Canadian government has also stated that it may allow certain industrial activities in areas it deems “protected.”¹⁴
- In **Chile**, the government has implemented the Biodiversity and Protected Areas Service (SBAP) within the framework of the Law for Nature. The SBAP is the first public agency dedicated exclusively to protecting Chile’s biodiversity and managing natural protected areas in an integrated manner. The Minister of Environment has stated that approving this initiative will increase the annual environmental budget by nearly 58 percent, strengthen the participation of the private sector in the management of protected areas, and double the number of park rangers. Furthermore, it will recognize the contribution of private protected areas to conservation by integrating them into the National System of Protected Areas.¹⁵

Protected area downgrading, downsizing, and degazettement

Despite this progress, elsewhere there have been efforts to weaken, reduce, or eliminate protected areas, including in countries that have created and expanded protected areas. 74 countries have enacted more than 4,400 protected area downgrading, downsizing, and degazettement (PADDD) events since 1892, and an area equivalent to about 52 million hectares has been subjected to PADDD from 1892 to 2018, most being affected since 2000.^a

For example, in **India**, the proposed Forest Conservation (Amendment) Bill, 2023 could lead to the weakening of the Forest Conservation Act and allow for the opening of more areas to mining and infrastructure. Under the bill, forest lands could be exempted from the legal protection to fast-track

Figure 4.1. Steady increase in global coverage of terrestrial protected areas from 2010-2022



Source: Climate Focus elaboration based on data from the World Database on Protected Areas

implementation of strategic and security-related projects that are of national importance. The new legislation would leave 15 percent of the country’s forests (which are “unclassified”) vulnerable to exploitation without regulation.¹⁶

Risks to the rights of IPs and LCs from protected areas

Countries will set out their respective contributions and approaches to achieving the targets set by the GBF in their updated NBSAPs, to be presented to the United Nations by late 2024. Initial analysis undertaken by Forest Declaration Assessment indicates that rights-based approaches will be higher on the agenda in this round of NBSAP updates than in previous processes, but IPs’ and LCs’ rights are still at risk as countries move to expand protected areas.

The expansion of protected areas without proper rights assurances and safeguards continues to pose major risks for IPs and LCs. The Special

^aThis phenomenon can accelerate habitat loss, fragmentation, and carbon emissions, especially when related to industrial-scale resource extraction and development, but PADDD has been an under-recognized threat to biodiversity conservation until recently. In rare cases, PADDD may strengthen conservation outcomes by enhancing conservation planning or returning resource rights to Indigenous peoples and local communities. Data via PADDDtracker. (2022). <https://www.padddtracker.org>

Rapporteur on the Rights of Indigenous Peoples has reported a high number of allegations of “alarming violations” of Indigenous rights in the declaration of protected areas, including not only a lack of compliance with FPIC, but also forced evictions, killings, physical violence, and abusive prosecution.¹⁷ The Rapporteur highlights that not enough assurances are given to IPs that their rights will be respected in reaching the 2030 global biodiversity targets, and calls for a strict rights-based approach to be applied in the declaration or expansion of existing protected areas. The Forest Declaration Assessment’s forthcoming special report on NBSAPs shows that these documents rarely ensure FPIC is respected either in developing national plans or in declaring protected areas.

4.1.2. Effectiveness of moratoria in addressing deforestation

Several tropical forest countries—notably Indonesia and Lao PDR—have adopted moratoria on activities that threaten forests over the past decade, with partial success. More recently, subnational governments in Australia and the United States have also begun to adopt moratoria.

Several developing countries have utilized moratoria to address deforestation, with mixed results.

- In **Indonesia**, there have been two main moratoria in place, along with one regulation, that aim to protect remaining natural forests and peatlands. One moratorium focuses on palm oil expansion (presidential instruction 8/2018); the other moratorium bans the clearing of primary natural forests and peatland (instruction 5/2019); and the peatland regulation sets rules for the depth of allowed peatland drainage (regulation 57/2016). The moratorium on clearing primary forests and peatlands was made permanent in 2019, while the palm oil moratorium has not been renewed since its expiration in 2021. Indonesia’s decline in deforestation from 2017 to 2021 has been linked to, among others, the implementation of the moratoria.¹⁸ With the non-renewal of the palm oil moratorium, analyses suggest that the country risks losing 21 million hectares of forests.^b

^b Based on calculations by [Forest Watch Indonesia](#) analyzing lands suitable for conversion to plantations.

- In **Lao PDR**, support from the Prime Minister continues to be a key factor in the partial success of a timber export suspension adopted in 2016.¹⁹ Illegal trades experienced a significant drop in exports after the moratorium was declared, but legislative loopholes left conditions for large-scale logging to continue.²⁰
- In the **Philippines**, all timber cutting is banned in existing forests under Presidential Decree 705 Forestry Code. However, in practice, deforestation has continued despite the ban.²¹

Though national moratoria have been less common in developed countries, some subnational governments have begun to introduce them. **Western Australia**, for example, recently banned logging of native forests, starting in 2024.²² In June 2023, the state of **Massachusetts in the United States** extended a pause on logging contracts in state forests.²³

4.1.3. Legal and policy developments in tropical forest countries

There have been important legal and policy developments in tropical forest countries, notably in Indonesia and Brazil. Many of these developments have been positive, addressing inconsistencies and gaps in legal frameworks, and enhancing environmental monitoring and land use planning. However, progress on legal and policy reforms have recently slowed in Cameroon, Côte d’Ivoire, and the Republic of the Congo; while in Indonesia, the government risks reversing its previous success through a new law that weakens safeguards on forest protection.

Recent years have seen improvements in strengthening legal and policy frameworks in tropical forest countries. In 2020, the **Republic of the Congo** enacted a new forest law²⁴ and **Vietnam** issued the Timber Legality Assurance System Decree.²⁵

Prior to 2020, the FLEGT Voluntary Partnership Agreements (VPAs) and REDD+ processes have fostered improvements in the legal infrastructure in **Cameroon, Côte d'Ivoire, and the Republic of the Congo**.²⁶ These improvements have led to addressing inconsistencies and gaps in legal frameworks, empowering stakeholders to voice concerns, and improving transparency. However, despite these positive shifts, more work is needed to clarify overlaps and conflicts of roles and powers within the administrative bodies responsible for the forest sector. Likewise, resolving overlapping use conflicts remains an outstanding concern.²⁷ Furthermore, EFI's Forest Governance Index shows that legal and policy developments seem to be slowing down in the three countries assessed.²⁸

Notable developments also took place in Brazil and Indonesia in 2023:

- In June 2023, **Brazilian** President Lula da Silva launched the Amazon Security and Sovereignty Plan to combat land grabbing, illegal mining, and logging, as well as hunting and fishing within Indigenous territories, environmental protection areas, and the entire Amazon biome. Furthermore, he enacted the fifth phase of the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon. The original plan has been described as fundamental to the 83 percent drop in Amazonian deforestation from 2004 to 2012, but it was suspended during the Bolsonaro administration (2019-22). Further, President da Silva signed a decree reactivating the Bolsonaro-suspended Amazon Fund. The funds are to be spent on efforts to prevent, monitor, and combat deforestation, as well as to promote forest preservation and sustainable use²⁹ (see **Brazil case study**).
- In June 2023, **Indonesia's** environment ministry officials attributed the strong progress in reduced deforestation since 2017 to better control of fires and limiting new clearance permits on primary forests and peatlands.³⁰ However, there were attempts to weaken safeguards on forest protection through enactment of the Omnibus Law on Job Creation (2020). The Constitutional Court declared the law unconstitutional due to procedural issues and gave the government and the parliament a grace period of two years to regularize the law by revising or revoking it.³¹ In March 2023, the Indonesian Parliament passed

the Job Creation Law (Law No. 6 of 2023), which replaces the Omnibus Law. The Job Creation Law maintains most of the Omnibus Law's provisions and does little to accommodate the demands of civil society who highlighted the major risks the Omnibus Law poses to Indonesian forests (**Box 4.1**).

BOX 4.1. INDONESIA'S LAW ON JOB CREATION AND IMPLICATIONS FOR FOREST PROTECTION

Indonesia's Law on Job Creation represents one of the biggest legislative changes in Indonesia's history. Sweeping amendments to 79 existing laws roll back already limited protections for Indigenous Peoples (IPs)' rights and further privilege the interests of plantation companies and extractive industries.³² The Law:

- Increases the potential for criminalization of IPs' traditional practices;³³
- Waters down or eliminates critical safeguards for Indigenous land rights, namely, effective participation in decision making on the issuance of business licenses and the conduct of environmental and social impact assessments;
- Grants amnesty to 3.3 million hectares of oil palm plantations established and operating illegally inside forest areas, circumventing previous laws prohibiting plantation operations inside the forest estate;³⁴
- Overhauls Provincial Spatial Plans (Rencana Tata Ruang Wilayah) and allows state lands and forests to be re-zoned to accommodate corporate interests;³⁵
- Deems infrastructure initiatives, and energy and mineral resource projects to be of national strategic importance, amenable to the State's power to expropriate lands and to authorize the clearance of forests despite the national government ban on forest conversion;⁶
- Permits energy companies to take over the government's role in land acquisition for National Strategic Projects;³⁶ and
- Removes requirements for local governments to preserve a minimum of 30 percent forest areas in their respective districts, creating the possibility for Protected Forest (Hutan Lindung) to be reclassified as Production Forest (Hutan Produksi) and thus available for logging licenses and conversion to agricultural plantations).³⁷

⁶ The passage of the Omnibus Law provides space for infrastructure projects to be categorized as National Strategic Projects (NSP). See: Daftar Proyek Strategis Nasional Jokowi yang Baru. (2020, November 27). CNN Indonesia.; NSPs are protected for their economic importance ahead of the rights of Indigenous peoples and local communities. Between 2016 and 2019, there were 293 such conflicts connected to NSPs. See: Barahamin, A. (2022, May 11). 'Infrastructure-first' approach causes conflict in Indonesia. China Dialogue.

4.1.4 Boreal and temperate forest country laws and policies on forest management

Despite international commitments to forest, climate, and biodiversity protection, several boreal and temperate forest countries, including Canada, the United States, and Northern European countries, permit intensive forest management practices that lead to degradation. International discourse has focused on tropical forests, while limited scrutiny has been given to industrial logging in some developed countries. Fortunately, policymakers are increasingly noting and addressing the impacts of forest degradation, including through adopting stronger domestic forest policies.

Forest degradation driven by industrial logging

Intensive forest management is a key driver of forest degradation and biodiversity loss in boreal forests (see **Chapter 2** on sustainable production & development). Industrial logging practices, especially in boreal forests, include clearcutting of primary and old-growth forests, despite these ecosystems being irreplaceable in human time scales (see **Chapter 1** on overarching forest goals). Evidence shows that even logging practices labeled as sustainable, in part bolstered by flawed or imperfect forest carbon accounting systems, contribute significantly to global emissions.³⁸

Despite these impacts to forest ecosystems, industrial logging in primary and old-growth forests continues in many boreal and temperate countries as “sustainable forest management.”³⁹ For example, in **Sweden**, nearly one-fourth of unprotected old-growth forests have been clear-cut from 2003-19.⁴⁰ In the **United States**, while national figures on clearcutting are not available, activists have stated that it is likely that hundreds of thousands of hectares are currently slated to be clearcut.⁴¹ **Canada** has the third-highest rate of intact forest landscape loss in the world, behind only Russia and Brazil, and large-scale clear-cutting, including in primary and old-growth forests, is common practice.⁴²

Strengthening policies on degradation and forestry

Notably in the EU and the United States, governments have recently taken strides to strengthen national policies to limit—to some extent—degradation and the deforestation of old-growth forests:

- Recent policy measures, such as the **EU's** 2021 Forest Strategy, highlight the need to protect primary and old-growth forests and to transition away from clearcutting. In March 2023, the European Commission published two sets of guidelines on the Forest Strategy, one on biodiversity-friendly afforestation, reforestation, and tree planting, and another on defining, mapping, and strictly protecting all primary and old-growth forests.⁴³ The Commission also adopted guidelines on “closer-to-nature” forest management. Moreover, the EU's Regulation on deforestation-free products (EUDR) prohibits the trading of timber produced on land that has been deforested or degraded, whether in the EU or elsewhere (see **Section 4.2**, below). In July 2023, the European Parliament passed a proposal for a nature restoration law, which would put in place recovery measures that will cover at least 20 percent of the EU's land and 20 percent of the EU's sea areas by 2030, and all EU ecosystems in need of restoration by 2050. Under the new rules, member states would regularly submit national restoration plans to the Commission showing how they will deliver on the targets.⁴⁴
- **China** likewise revised its forestry law last year to strengthen the forest protection efforts, while its Forestry and Grassland Protection and Development Plan (2021-25) also deployed comprehensive protection of natural forests as one of its priorities. China has been implementing the Natural Forest Protection Program over two decades, and reports indicate this has led to reducing natural forest harvesting by a cumulative 332 million cubic meters.⁴⁵
- In the **United States**, in 2021 President Joe Biden announced the goal of conserving 30 percent of U.S. lands and waters by 2030. In April 2022, President Biden signed an Executive Order expanding federal efforts to address forest conservation, including mandating the government map and monitor mature and old-growth forests on federal lands and develop a threat management strategy. The United States Department of Agriculture (USDA) Forest Service issued a Wildfire Crisis Strategy and Reforestation Strategy, which aims to build a framework to accelerate reforestation efforts, address current reforestation needs, prepare for future events, and comply with the REPLANT Act (2021).⁴⁶ Furthermore, the USDA issued the Memorandum on Climate Resilience and Carbon Stewardship, which outlines key actions for the Forest Service, including identifying forests at risk and assessing their current management practices, analyzing and addressing potential data gaps, and developing a decision support tool to improve carbon stewardship, wildlife habitat, watersheds, and outdoor recreation.

4.2. Demand-side measures and international engagement to address deforestation and forest degradation abroad

4.2.1. Adoption of demand-side measures

An increasing number of countries are developing demand-side measures to restrict the import of products linked to deforestation and forest degradation, with the EU this year becoming the first government organization to introduce such measures. However, effectiveness of these measures will depend on robust implementation and support for developing countries to comply.

Recent trade-related demand-side measures

Countries that import over two-thirds of illegal timber exports by volume⁵² have enacted laws to ensure the legality of timber imports in their markets. (Figure 4.2). Notable recent developments include:

- The EUDR, which entered into force in June 2023 (Box 4.2), aims to prevent products linked to deforestation or forest degradation from being placed in or exported from the EU market. While much of the focus around the EUDR has been on addressing deforestation in the tropics, it also marks the first time that demand-side measures have been adopted that explicitly apply to industrial logging practices in countries of the Global North by addressing the conversion of primary forests to planted forests. While this does not capture the full breadth of what constitutes logging-driven degradation (see Chapter 2), it marks a significant turning point in global forest policy.⁵³
- **Switzerland** has adopted a new Timber Trade Ordinance (TTO), which entered into force in January 2022. The ordinance prohibits the placing on the market of illegally harvested timber and timber products and requires operators to exercise due diligence when importing or exporting such products.⁵⁴ The ordinance is aligned with the EU Timber Regulation and covers the same product scope and risk assessment criteria.

HOW DO WE ASSESS PROGRESS?

Progress towards forest goals requires countries to address deforestation by implementing demand-side measures and regulations and addressing deforestation linked with international trade.

DEMAND-SIDE MEASURES AND REGULATIONS: Export-driven demand accounts for about 25 percent of agriculture-driven deforestation globally, and at least 35 percent of agriculture-driven deforestation in Asia and Latin America.⁴⁷ Demand-side measures to incentivize the protection, sustainable use, and management of forests within supply chains are an important part of efforts to address deforestation and forest degradation, especially when combined with other forms of international engagement (i.e., bilateral and multilateral cooperation and trade).

While demand-side measures are important in addressing deforestation and forest protection, they can also lead to risk of leakage (where efforts to reduce deforestation in one area or under one policy result in unintended consequences that lead to increased deforestation in other areas) especially when they focus on specific areas or niche markets. Complementing demand-side measures with other initiatives (such as international cooperation and partnerships, trade agreements) can help prevent leakage.⁴⁸ This chapter assesses laws and policies designed to address unsustainable demand for forest products and/or deforestation-risk commodities.

INTERNATIONAL TRADE: Over the past three decades, there has been an unparalleled effort to promote trade liberalization worldwide, resulting in the implementation of hundreds of regional trade agreements (RTAs). According to the World Trade Organization (WTO), there are 360 RTAs in force as of 1 August 2023—as opposed to a mere 32 in 1993.⁴⁹

Trade liberalization has many benefits: The reduction of trade barriers has the potential to increase economic and social welfare in participating countries, notably by increasing competition between domestic and international industries and therefore lowering prices, improving product quality, and giving producers and consumers access to a wider market and a greater variety of products. International trade can also reduce prices for consumers and encourage innovation and technological progress, including through the international transfer of knowledge, practices, and technology. In the past thirty years, the development of RTAs worldwide therefore held significant promise for driving economic growth and enhancing productivity, especially in developing countries.

However, a recent study shows that from 2001 to 2012, tropical developing countries experienced a significant increase in deforestation rates in the three years following the entry into force of an RTA. This was due to substantial land conversion linked to increased international demand for agricultural commodities and higher values of agricultural land following the removal of tariffs.⁵⁰ Studies show that when RTAs are backed by effective environmental provisions aiming to protect forests and/or biodiversity, no changes in net annual deforestation can be observed following trade liberalization. This suggests that well thought-out RTAs can effectively mitigate the potential adverse effects of international trade on deforestation.⁵¹ This chapter assesses how trade agreements have sought to include provisions/measures to prevent deforestation and promote sustainable trade practices in forest products.

- The New Zealand Parliament passed the Forests (Legal Harvest Assurance) Amendment Act 2023 in May 2023. The law aims to prevent the import and export of illegally harvested timber and timber products, and to promote sustainable forest management and trade.⁵⁵
- China prohibited the purchase, process, or transport of illegal timber in 2019, and requires all timber operators and processors to keep a standing book or ledger for entry and exit of raw materials and timber products. Four years later, however, implementing regulations are still “under development” with little evidence of movement in the legislative process, and the country still imports the same volume of high-risk timber as it did a decade ago.⁵⁶

Beyond timber, a number of jurisdictions are considering or recently enacted legal frameworks to address imports of forest-risk commodities. The most significant development in this regard is the enactment of the EUDR (see **Box 4.2**). Meanwhile in the **United States**, the FOREST Act, which was introduced into Congress in 2021 and would prohibit the importation of any product made wholly or in part of a covered commodity produced from illegally deforested land, remains under consideration.⁵⁷ In the **United Kingdom**, the Environment Act of 2021 makes it illegal for large companies to import forest risk commodities produced on land illegally occupied or used, though regulations needed for these obligations to come into effect are yet to be adopted.⁵⁸ These three jurisdictions—the EU, United States, and the United Kingdom—collectively account for 31 percent of imported deforestation driven by agricultural commodities.

BOX 4.2. OUTSTANDING QUESTIONS ON OPERATIONAL IMPLEMENTATION OF THE EU DEFORESTATION REGULATION

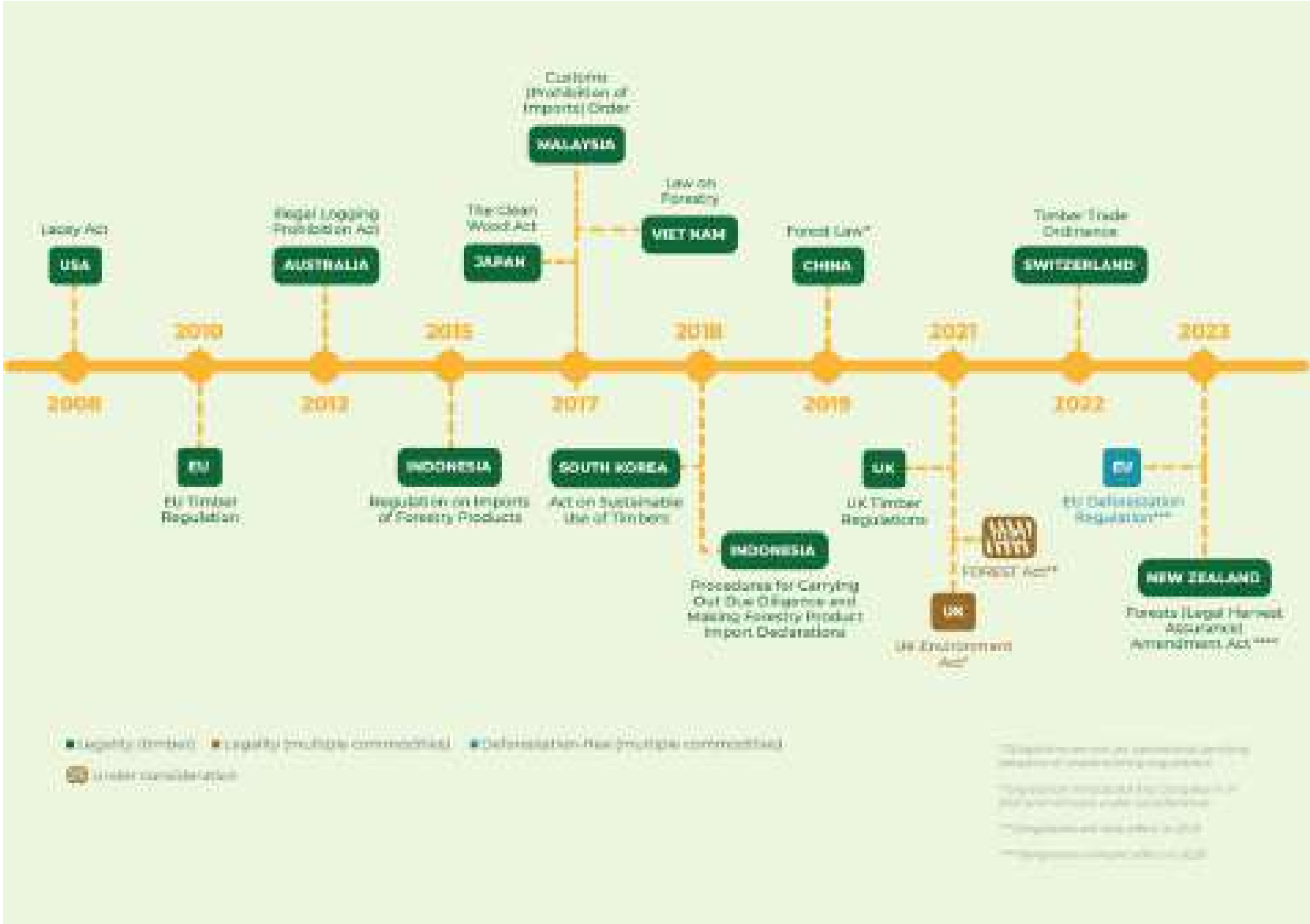
The European Union (EU)'s Regulation on deforestation-free products (EUDR) entered into force on 29 June 2023, marking the first time that a country or region stops products linked to deforestation or forest degradation from being placed on its market. The regulation is a significant advancement in demand-side policy. It requires companies to carry out risk assessment and eventually risk mitigation measures before placing a product on the EU market or exporting from it. The law will apply to companies from the end of December 2024 onwards.

Partnerships for governance strengthening: The EUDR requires companies to conduct due diligence along their supply chains to ensure that the commodities were not grown or raised on land that was deforested or degraded after 31 December 2020, and that they have been produced according to the producer country's laws. Producer countries' laws are understood as including legislation pertaining to land use rights; environmental protection; human rights protected under international law and the principle of free, prior, and informed consent (FPIC), including as set out in the UN Declaration on the Rights of Indigenous Peoples. The European Commission is tasked with developing a comprehensive EU strategic framework for partnerships with producer countries and engaging in a coordinated approach with producer countries, or subnational entities, via the use of existing and future partnerships, such as structured dialogues, administrative arrangements, and existing agreements, as well as joint roadmaps. However, it is unclear how this “strategic framework” will look and whether it will include mechanisms to support strengthening rights and governance in producer countries.

Respect for IPs' and LCs' rights: Many civil society organizations called for the EUDR to ensure the protection of customary tenure rights in accordance with international law.⁵⁹ However, the final version of the EUDR only requires that companies comply with national laws. Since national legislation is often unclear or conflicts with customary law or international law, using it as the basis of regulation risks creating legal confusion for companies and competent authorities. Nonetheless, the regulation does define a country's national legislation as including human rights protected under international law and the principle of FPIC. It remains unclear how such a definition would apply where national legislation is inconsistent with international human rights law or has yet to incorporate the rights protected by the United Nations Declaration on the Rights of Indigenous Peoples. The EUDR also requires risk assessment to take account of the presence of Indigenous Peoples (IPs) and the existence of their claims to land ownership, to ensure consultation and cooperation in good faith with communities and the existence of duly reasoned claims by IPs based on objective and verifiable information regarding the use or ownership of the area used for the purpose of producing a relevant commodity.

Legal remedies: In addition to providing for compliance mechanisms and penalties to be administered by competent national authorities, The EUDR provides that any person or company with a sufficient interest (as determined by the national Member State law) shall have access to administrative or judicial procedures to review the legality of the decisions, acts, or failure to act of the Competent Authorities under the EUDR. The EUDR does not, however, foresee access to legal remedies to achieve redress or compensation of people or communities who have been harmed. Substantive concerns can be submitted, anonymously if so required, to the Competent Authority who will need to respond to the concerns raised within 30 days.

Figure 4.2. Increasingly diverse landscape of legislation aimed at regulating imports of forest-risk commodities



Source: Original elaboration

Opposition to demand-side measures

While civil society has broadly welcomed the EUDR and called for its full implementation,⁶⁰ there has been significant opposition by EU trading partners such as Indonesia, Brazil, and Canada:

- **Indonesia** stated that the policy is discriminatory and hinders trade, especially for the palm oil industry, which has made efforts towards improving sustainability.⁶¹ However, Indonesian environmental organizations have stated that the government's opposition to the EUDR contradicts its commitment to protect the forests to mitigate climate change.⁶²
- **Brazil** has labeled the EUDR “protectionist” and criticized it for punishing producers that have complied with national laws. Brazil's agriculture minister stated that while Brazil cannot interfere in a decision taken by the EU, operators in Brazil will continue to act in accordance with Brazilian legislation.⁶³ Many Brazilian civil society organizations did, however, support the regulation and even pushed for the EU to adopt stricter provisions.⁶⁴
- **Canada** indicated to EU lawmakers that it supported standards that applied to the tropics, but, pointing to regeneration requirements as evidence of its sustainable practices and claiming there is no internationally agreed definition of degradation, stated there is no “one size fits all” approach and lobbied for measures that would limit the applicability of the regulation to boreal forests (see **Canada case study**).⁶⁵
- The **Like-Minded Group** of Countries^d requested that the EU consider producer countries' concerns in the implementation of the EUDR, calling for more engagement with producer countries in formulating clear and detailed implementing acts and guidelines. In a joint letter, they have stated the EUDR disregards local circumstances and capabilities, national legislations, certification mechanisms, local efforts to fight deforestation, and multilateral commitments of producer countries.⁶⁶

Similarly, smallholder organizations in Indonesia and Malaysia have expressed concerns with the burden the EUDR places on Indigenous and local smallholders that engage in farming related to the targeted

commodities and products.⁶⁷ However, some smallholders associations, such as the Serikat Petani Kelapa Sawit (SPKS—Palm Oil Farmers Union), said in a press release that the regulation “could be a great opportunity” to benefit from the EU market by providing deforestation-free products and have expressed that they already have some capacity to build the traceability required by the EUDR while expressing the need for significant EU support for compliance, specifically for capacity building and strengthening of institutions.⁶⁸

The EU has responded to these concerns by assuring trading partners that it will undertake continuous dialogue with them regarding the implementation of the EUDR. As part of this approach, on June 29 2023, the European Commission, Indonesia, and Malaysia agreed to set up a Joint Task Force to strengthen the cooperation for the Implementation of EU's Deforestation Regulation.⁶⁹

Beyond the EUDR, Canada has also opposed other legislation that would set baseline sourcing standards to prevent purchases in products tied to deforestation, forest degradation, and Indigenous rights.⁷⁰ This opposition has included coordination with logging industry representatives, most notably the Forest Products Association of Canada.⁷¹ For example, Canada lobbied against the inclusion of boreal forests in the New York Tropical Deforestation-Free Procurement Act, and also lobbied against a similar bill in California.

Public procurement measures

Several countries are also strengthening public procurement measures to address commodity-driven deforestation linked to domestic demand. These measures aim to increase demand for legal and sustainable products and reforming domestic markets through providing support and capacity building for small and medium enterprises. A 2022 report by Chatham House found that 7 countries (out of 19 countries assessed) have public procurement laws relating to timber, and another 3 have procurement policies for the purchase of particular types of wood-based products.⁷² As of 2020, more than 30 countries had developed a procurement policy specific to timber, and many more had adopted green procurement strategies or policies that include requirements for timber products.⁷³ For example, the

^d The Like-Minded countries are: Argentina, Brazil, Bolivia, Colombia, the Dominican Republic, Ecuador, Ghana, Guatemala, Honduras, Indonesia, Côte d'Ivoire, Malaysia, Mexico, Nigeria, Paraguay, Peru, and Thailand.

public procurement laws adopted in **Cameroon** in 2020 introduced the requirement for purchase of legal timber. **Ghana** and **Vietnam** are in the process of developing policies on the purchase of legal timber and sustainable public procurement, respectively.⁷⁴ **Colombia** is implementing a strategy to standardize and monitor public procurement through a single virtual platform, including public procurement of legally sourced wood.⁷⁵

At the subnational level, the New York legislature passed the New York Tropical Deforestation-Free Procurement Act in 2023, requiring state contractors to ensure their purchases are not tied to tropical deforestation, primary forest degradation, or Indigenous rights violations. The bill is now awaiting the governor's signature. In 2022, Colorado's governor signed an executive order advising state agencies to avoid purchasing products tied to tropical or boreal deforestation, primary forest degradation, or Indigenous rights' violations.⁷⁶

Corporate due diligence legislation

There is also an increasing trend toward adopting legislation on corporate due diligence. For instance, **France** adopted a due diligence law in 2017, known as the Duty of Vigilance law (Devoir de Vigilance). The law requires large companies to carry out human rights and environmental due diligence, both internally and of its subsidiaries, subcontractors, and suppliers. In early 2023, **Germany's** due diligence law came into effect. It obliges corporations to conduct due diligence to ensure human rights and environmental protection in their global supply chains. The EU is also debating a directive on mandatory corporate due diligence on human rights and environmental issues—the proposed Corporate Sustainability Due Diligence Directive. While the focus of these corporate due diligence laws is broader than deforestation, they are complementary to those focusing on restricting imports of forest-risk commodities and would still place some obligations that would support forest protection.

4.2.2. Addressing deforestation in trade agreements

There have been increased efforts over the last two decades to include deforestation-prevention and biodiversity protection provisions in trade agreements. However, the impacts of these provisions on forest protection is not always clear, and in some cases they are points of

contention, as exemplified by ongoing negotiations between the EU and the Mercosur bloc.

Inclusion and efficacy of environmental provisions in Regional Trade Agreements

From 2000 to 2020, Regional Trade Agreements (RTAs) have increasingly included provisions aimed at preventing deforestation, promoting sustainable trade practices in forest products, and protecting biodiversity (**Figure 4.3**). As of 2020, 51 agreements contained measures to prevent deforestation or to protect biodiversity, with 78 percent signed after 2005.⁷⁷

RTAs which include strong environmental and forest protection provisions have, nevertheless, not always proven to be effective in addressing deforestation. For example, the **United States-Peru** Trade Promotion Agreement (U.S.-Peru TPA) includes an Annex on Forest Sector Governance that requires Peru to increase enforcement efforts in national parks and Indigenous areas and to provide civil and criminal liability for a list of actions that undermine sustainable management of Peru's forest resources.⁷⁸ However, the TPA has led to no observable decreases in deforestation; in fact, there appears to have been increased logging and deforestation in densely forested areas.⁷⁹

Similarly, the **Indonesia-European** Free Trade Association (EFTA-Indonesia CEPA) outlines commitments to uphold standards on environmental protection, promote the use of forest products certification schemes, and use timber legality assurance systems.⁸⁰ However, of all the EFTA countries, only Switzerland grants tariff preferences for palm oil imports that demonstrate compliance with the provisions through third-party certification.⁸¹ In addition, most palm oil imported to the country is already certified, and the Swiss market accounts for no more than 0.03 percent of Indonesia's palm oil exports, so the RTA likely had a negligible impact on deforestation rates.

Ongoing negotiations on the EU-Mercosur free trade agreement

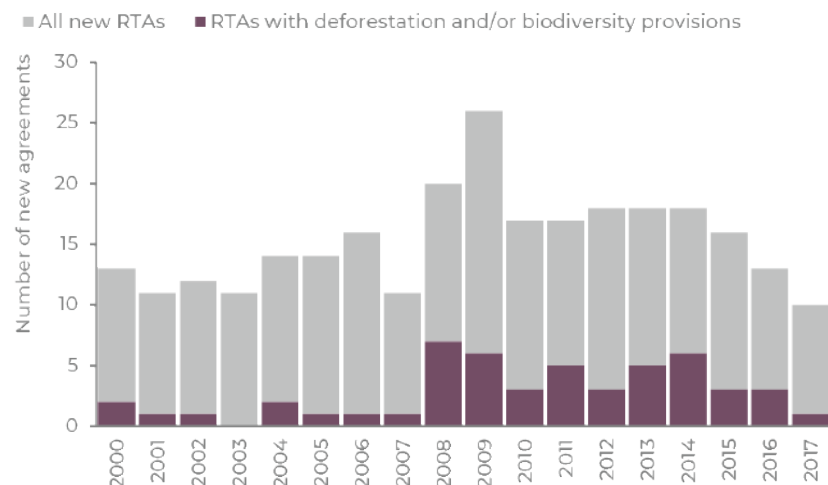
The above examples indicate that stronger forest protection provisions are likely to be needed to offset the impacts of RTAs on deforestation. However, negotiating these provisions is challenging, as highlighted by the European Union-Mercosur free trade agreement (the "EU-Mercosur RTA"), which was agreed on in 2019, but has not yet been ratified.

The agreement includes a “trade and sustainable development” chapter, which recalls the participating countries’^e commitment to achieving the goals of the Paris Agreement. However, in its original iteration, this chapter did not include any binding or enforceable sustainability or traceability requirements—even for high-risk products such as beef.⁸² Following opposition to the agreement due to fear that it will incentivize further deforestation in Mercosur countries,⁸³ in 2022 the European Commission made a new proposal to the Mercosur countries, aiming to improve enforceability of the trading partners’ climate commitments; for example, by allowing the enforcement of trade sanctions in case of default. Mercosur countries have strongly criticized this proposal, and no final agreement has yet been reached between the two blocks as of August 2023.⁸⁴

New China-Brazil cooperation

Even if the ongoing negotiations succeed in implementing stricter sustainability requirements as part of the EU-Mercosur RTA, international trade will remain a threat to the Amazon. This is especially relevant for Brazil, which exports a third of its agricultural exports to China—more than twice the amount it exports to the EU.⁸⁵ Increasing demand from China for beef, soybean, and other commodities has been driving deforestation rates in Brazil in recent years.⁸⁶ In April 2023, **China** and **Brazil** announced that they intend to cooperate more closely in the future to eliminate illegal logging and better regulate exports from Brazil.⁸⁷ Although it remains to be seen how China and Brazil will effectively collaborate and what the actual impact of this will be in the future, the joint announcement holds significant promise for forest conservation in the Amazon, and climate change mitigation efforts at large.

Figure 4.3. Number of new Regional Trade Agreements with deforestation or biodiversity provisions, 1990-2017



Source: Abman, R., Lundberg, C., Ruta, M. (2021).

^e Argentina, Brazil, Paraguay, and Uruguay—Mercosur’s founding countries—are full members. Bolivia, Chile, Colombia, Ecuador, Guyana, Peru, and Suriname are associate members.

4.3 Effective and equitable implementation of laws to ensure detection, prosecution, and just enforcement of penalties on forest crimes

4.3.1 Just enforcement of forest laws

Better enforcement of forest laws has led to reduced deforestation in a number of tropical countries, notably Indonesia, Brazil, Cameroon, Côte d'Ivoire, and the Republic of the Congo. However, corruption and weak governance continue to facilitate high levels of illegality as well as human rights violations across a number of other countries.

Results of improved enforcement

Enforcement of forest laws has improved in some tropical countries, such as Brazil and Indonesia, leading to decreased deforestation. In Indonesia, effective implementation of existing laws and policies continues to drive decreasing deforestation. In June 2023, **Indonesia's** environment ministry officials pointed to control of fires and limiting new clearance permits on primary forests and peatlands has contributed to the fall in deforestation. However, civil society groups have questioned the government's claim that deforestation is decreasing, since the government's figures do not include land cleared for industrial tree plantations.

In **Brazil**, according to data by Brazil's National Institute of Space Research, deforestation in the Amazon rainforest decreased by 42 percent during the first seven months of President Lula da Silva's administration, compared to the same period in 2022.⁸⁸ This is a striking contrast to the sharp increases in deforestation that occurred under the previous administration, which dismantled environmental agencies, attempted to weaken conservation laws, and rolled back recognition of the rights of IPs. The 2023 deforestation rates mirror the major decreases in deforestation during President da Silva's

HOW DO WE ASSESS PROGRESS?

Implementation of laws is a key component of forest governance. Failure to implement or ensure compliance with forest laws can demotivate actors implementing sustainable practices, deny governments revenues, and undermine the rule of law. It is important to note that implementation can be complicated by factors such as corruption and the shadow economy. For instance, INTERPOL has estimated the global cost of corruption in the forestry sector to be in the order of USD 29 billion annually.⁸⁹

This section assesses the following:

JUST ENFORCEMENT OF FOREST LAWS: While law enforcement is key for protection of forests, it must be just and equitable so that the activities of those protecting forests and whose cultures and livelihoods are dependent on forests are not criminalized. This chapter assesses measures taken by countries to justly implement legal and policy frameworks around forests and enforce penalties on forest crimes and the implications of the enforcement on deforestation.

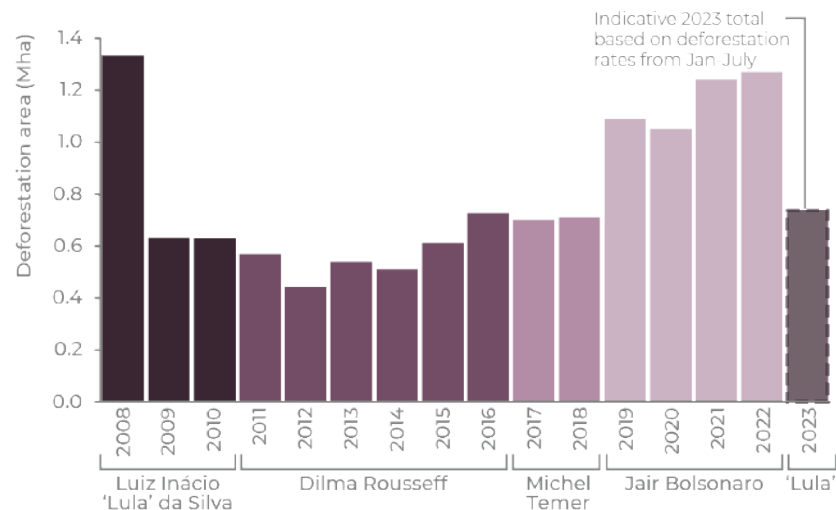
RISK OF ILLEGAL LOGGING: Countries with strong governance systems and rule of law tend to have better enforcement of regulations, clearer land tenure systems, and transparent decision-making policies—all of which contribute to reducing the occurrence of illegal deforestation. This chapter assesses efforts by countries to improve overall governance systems and the implication of the improved governance on tackling illegal forest activities.

COOPERATION TO FIGHT FOREST CRIMES: This chapter assesses how governments are cooperating at the international and regional levels to fight forest crime, particularly in detection and prosecution of forest crimes and capacity building of law enforcement agencies.

first presidency (**Figure 4.4**). These trends provide strong evidence of the impact of political leadership on addressing deforestation and enforcing forest laws.

Under the new Amazon Security and Sovereignty Plan, the Brazilian government intends to work with the other Amazonian countries to strengthen border areas.⁹⁰ The plan includes measures such as: (i) the creation of the National Public Security Force's Environmental Operations Company; (ii) establishment of integrated river and terrestrial bases to strengthen public security services in the region; and (iii) modernization of barracks that belong to police forces operating within the states of Acre, Amapá, Amazonas, Maranhão, Mato Grosso, Pará, Rondônia, Roraima, and Tocantins to enable them to better carry out their operations.

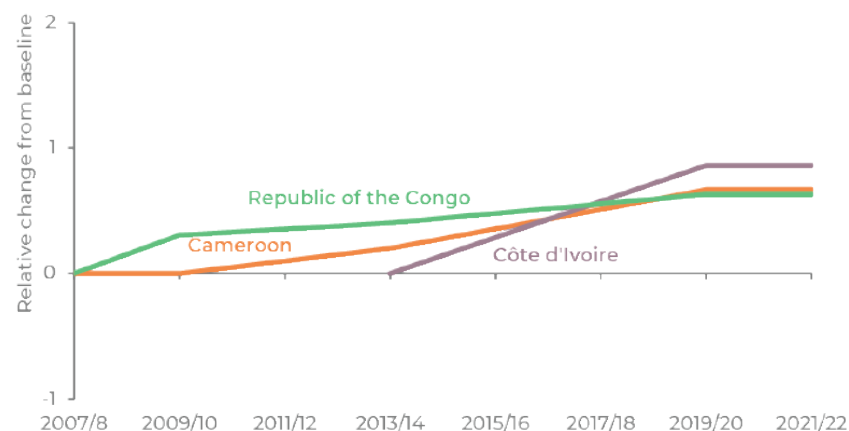
Figure 4.4. How deforestation in the Brazilian Amazon has evolved under different presidents, 2008-2023



Source: Climate Focus elaboration based on data obtained from Instituto Nacional de Pesquisas Espaciais (INPE), Amazônia Legal—PRODES (Desmatamento), PRODES completo em formato matricial—Geotiff (2000/2022), <http://terrabrasilis.dpi.inpe.br/downloads/>. Inspired by a similar figures in Mendes, K. (2022) [Despite 11% drop in 2022, Amazon deforestation rate has soared under Bolsonaro](#), *Mongabay*.

Recent analysis also shows some progress in the enforcement of forest laws in **Cameroon, Côte d'Ivoire, and the Republic of the Congo** over the past decade (**Figure 4.5**)⁹¹ Progress can be attributed to improvements in the legal frameworks clarifying the type of responses (administrative actions or judicial sanctions) to deal with non-compliance, and better application of enforcement actions in relation to forest production and environmental protection.⁹² FLEGT VPAs have supported some improvements in the compliance and enforcement of forest legislation in the three countries. Despite some advances in law enforcement, much remains to be done in the three countries to clarify mandates and responses to non-compliance in the forest sector and consistently apply enforcement measures.

Figure 4.5. Improved then stalled in compliance, promotion, and enforcement Cameroon, Cote d'Ivoire and the Republic of the Congo in African



Note: The graph shows the magnitude of change in the Forest Governance Index score for each country within a given year compared to that country's initial baseline. It is important to note that this does not reflect the absolute Forest Governance score for each country and as such should not be interpreted as implying a comparison between the three countries, except in terms of how governance has evolved in each. A closer look at the data shows that governance improvements are notably reinforced when coupled with and accompanied by political processes.

Source: European Forest Institute (2023)

4.3.2. Risks of illegal logging and deforestation

Corruption and poor governance continue to lead to high risks of illegal deforestation in many tropical forest countries. Risks in the implementation of forest monitoring continue to limit the availability of quality data on the scale of illegal activities.

Corruption's connection to illegality

Corruption continues to be widespread in some forest countries, contributing to illegal deforestation and other forest crimes:

- A report by Forest Trends links the increasing deforestation in the tropics, including high levels of illegality in the Andean Amazon, to corruption and weak law enforcement.⁹³
- In **Venezuela**, recent investigation by InSight Crime into illegal mining shows the country has had the fastest-growing deforestation rate in the Amazon. It also revealed that armed groups control, regulate, and, in some cases, directly run mining hotspots. Many of these armed groups are backed by elements of the government, who share in profits in return for impunity and integrating illegal mines into the state-controlled supply chain.⁹⁴
- A 2021 investigation by the Environmental Investigation Agency shows how corruption has fueled trade of illegal timber from **Cameroon** to **Vietnam**.⁹⁶ According to the report, Vietnamese companies bribed Cameroonian authorities to mask the origin of illegal timber to seamlessly enter the Vietnamese supply chain.

In many cases, corruption and weak governance also create environments of violence against and criminalization of environmental defenders, IPs, and LCs (see **Section 4.4.3** below).

Data from Forest Trends' Illegal Logging and Associated Trade (ILAT) Risk Score shows that there has been little change in countries' relative governance score or ranking from 2019-21.^f Countries such as **Myanmar**, the **Democratic Republic of Congo (DRC)**, and **Papua New Guinea** were ranked as relatively high-risk of illegal logging in 2021, while Canada, the **United States**, **Germany**, **Sweden**, and **Finland** were ranked relatively low-risk (**Figure 4.6**)^g

National risk scores tend to evolve slowly, due to institutional and bureaucratic inertia and the gradual nature of factors that lead to positive change, such as building of political will, capacity, and consensus; developing legal processes; and reforming land tenure. From 2019 to 2021, governance indicators in the ILAT assessment saw very little change.

Improved monitoring on illegal deforestation is essential for strengthening enforcement, but collecting such data is extremely challenging (Box 4.3). That said, while strategic planning, consistent monitoring, and adaptive management can support effective and sustainable change over time, the most rapid changes in forest governance indicators tend to occur after a political regime change, where political will at most senior levels invigorates action (or in reverse, when a new administration rolls back efforts to reform or strengthen forest governance). Brazil provides the most notable recent example of illegal deforestation reduction under a new president (see **Section 4.3.1**).

BOX 4.3. IMPROVING DATA COLLECTION AND MONITORING FOR FOREST GOVERNANCE

Monitoring and gathering data on illegal deforestation and the enforcement of laws and policies in forested areas pose significant challenges. Forests cover vast and remote regions, making it logistically challenging to monitor and validate data obtained from satellite and AI technologies. The clandestine nature of illegal deforestation makes monitoring even more daunting, with witnesses often reluctant to report due to fear, distrust of law enforcement, or personal involvement. Additionally, assessing the impacts of governance initiatives, typically influenced by numerous factors such as market forces and land use changes, is hampered by resource constraints, data fragmentation, and a lack of transparency across various agencies, research institutions, and NGOs.

While valuable case studies do exist, they often represent snapshots in time rather than continuous real-time monitoring. These studies tend to focus on a limited number of high-profile countries, leaving significant gaps in information for vast forested areas globally. NGO and industry case studies, while informative, can be subject to criticism for potential bias or oversimplification. Relying on local data or extrapolating from case studies has clear limitations.

Given these challenges, experience has shown that the most effective approach is to develop monitoring systems that enhance local-level implementation by providing real-time feedback, accountability, and early issue identification.⁹⁵ These systems should also generate reliable, aggregated data for national-level analysis. To achieve this, dual-purpose systems should prioritize transparency at all levels of forest management, standardize data collection, and establish capacity-building mechanisms. Fostering collaboration and data sharing among multiple stakeholders involved in data collection, reporting, and analysis is essential for comprehensive and effective forest governance.

^f Forest Trends' Illegal Logging and Associated Trade (ILAT) Risk Score attempts to aggregate 12 existing robust indices of national-level political, governance, economic and corruption indices to provide an average relative governance and corruption ranking for countries globally, which are augmented with Preferred by Nature's Timber Risk Score (available for 12 countries). [Detailed methodology](#).

^g It is important to note that it is possible to source illegal wood from a well-governed, "lower-risk" country and it is also possible to source legal wood from a "higher-risk" country. As such, risk scores can only give an indication of the likely level of illegal logging in a country and ultimately speaks to the risk that corruption and poor governance undermines rule of law in the forest sector, helping to raise flags for the need to conduct more extensive due diligence processes.

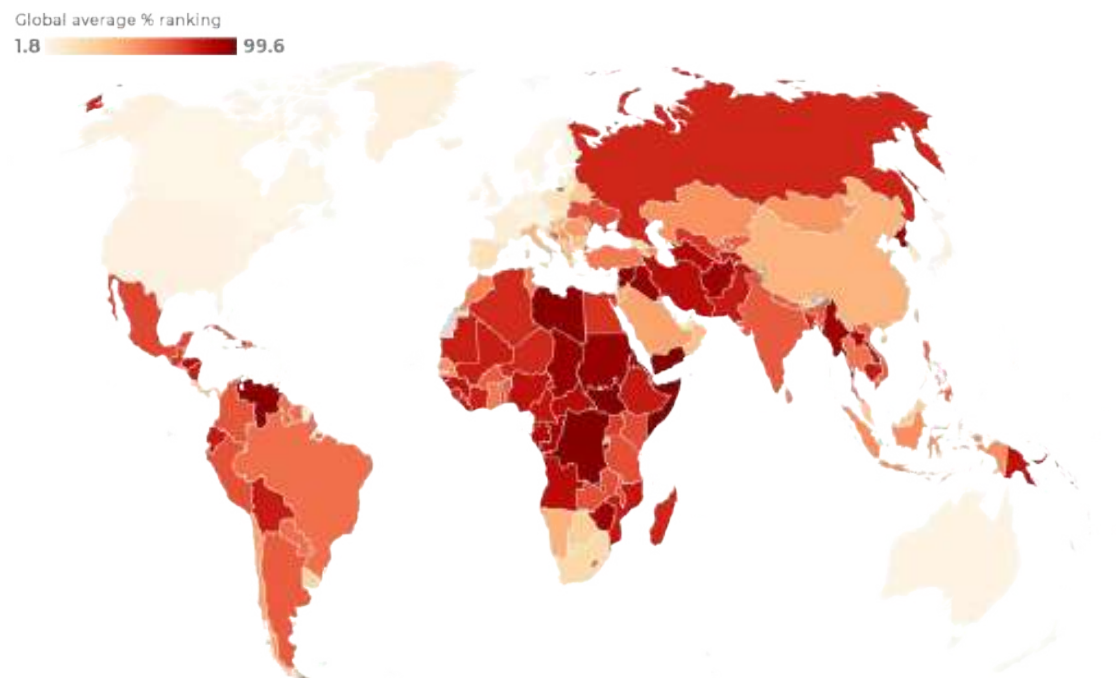
4.3.3. International cooperation on fighting forest crime

There are increasing efforts to enhance international cooperation on fighting forest crime. However, these initiatives are new and it remains too early to assess how effective they will be.

Across the globe, countries are joining forces in an effort to combat forest crimes such as illegal logging, illegal land clearing, and laundering of illegally harvested wood:

- In August 2023, the governments of **Norway**, the **United States**, and **Gabon**, together with the UN Office for Drugs and Crime and a range of NGOs and IPs' organizations, adopted the Vancouver Statement on Nature Crime and formed the Nature Crime Alliance.⁹⁷ The Alliance aims to provide a new, multi-sector approach to fighting criminal forms of logging, mining, wildlife trade, land conversion, and fishing. Members commit to working together to raise political will, mobilize financial commitments, and strengthen operational capacities to fight nature crime.⁹⁸
- Also in August 2023, **eight Amazonian countries** adopted the Belém Declaration, in which they pledged to tackle illegal activities that are driving the large majority of deforestation in the Amazon.⁹⁹ The Declaration establishes, among other things, the Amazon Alliance to Combat Deforestation, which is intended to promote regional cooperation in combating illegal deforestation and strengthening the implementation of forest legislation. The areas of cooperation will include exchange of technologies, experiences, and information regarding the prevention, monitoring, and control of deforestation, as well as building the capacities of forest managers and rangers.

Figure 4.6. High risks of illegal logging across much of Africa, Asia, and Latin America



Note: This map shows relative risks of illegal logging and associated trade across countries. Data is from Forest Trends *Global Illegal Logging and Associated Trade (ILAT) Risk Data Tool*, which aggregates 12 existing robust indices of national-level political, governance, economic and corruption indices compiled by the World Bank, UN agencies, independent surveys and other primary data, to provide an average relative governance and corruption ranking for countries globally, and augment these with, Preferred by Nature's Timber Risk Score (available for 12 countries).

Source: Climate Focus elaboration based on data from Forest Trends *Global Illegal Logging and Associated Trade (ILAT) Risk Data Tools*

4.4. Recognizing, respecting, and protecting the rights of Indigenous Peoples and Local Communities

4.4.1. Legal recognition of IPs' and LCs' lands

There has been some progress made in the legal recognition of IPs' and LCs' land, including in key tropical forest regions. However, progress remains slow, and globally at least 1.375 billion hectares of lands which IPs, and LCs have customary or historic claims to have not yet been legally recognized by national governments.

IP and LC tenure security

A recent report by RRI shows an increase in the area of land IPs, Afro-descendent Peoples (APs), and LCs have legal rights to in at least 39 of the 73 countries studied (**Figure 4.7**).¹⁰⁰ As of 2020, 800 million hectares (7.2%) of global land area is designated for IPs, APs, and LC communities and 1.264 billion hectares (11.4%) is owned by them. This reflects an increase of 103 million hectares since 2015, when communities had designation rights to 785.7 million hectares (7.1%) of the global land area and owned 1.176 billion hectares (10.6%).

- The report notes that although **Asia** appears at first glance to have the highest area of IP and LC ownership of any region, at 476.2 million hectares, the vast majority of this is land in **China**, covered by the country's pasture contract system and collectively owned forestland. Across the rest of Asia, only 0.8 percent of land is owned by IPs and LCs.^h However, countries such as the **Philippines**, **India**, and **Indonesia** have made small but significant progress. For example, from 2015 to 2020, over 800,000 hectares of Ancestral Domains were titled in the

^h This data excludes China, where nearly 98 percent of all recognised community land in Asia is.

ⁱ The right of IPs to give or withhold their free, prior, and informed consent (FPIC) for decisions affecting them is enshrined in international law, including in the UN Declaration on the Rights of Indigenous People. While non-Indigenous LCs do not enjoy the same rights under international law, many organizations, including the United Nations, consider applying FPIC to other communities as best practice. See, for example, <https://www.fao.org/3/i6190e/i6190e.pdf>

HOW DO WE ASSESS PROGRESS?

LEGAL RECOGNITION OF IPs' AND LCs' LANDS: IPs and LCs manage at least half of the planet's land and are proven, effective forest stewards.¹⁰¹ It is necessary to strengthen tenure security of IPs' and LCs' lands through the legal recognition of their rights to land and resources, and to protect their lands against encroachment from outsiders. This chapter assesses whether governments have adopted and implemented laws that recognize a broad set of IPs' and LCs' rights, limit public interest exceptions, and provide access to mechanisms to enforce those rights. Particularly, this chapter focuses on:

STRENGTHENING AND PROTECTING IPs' AND LCs' RIGHTS: Tenure security, consistent and equitable laws and policies, government support for communities, and protection of IPs' and LCs' rights are equally important to safeguard people and forests. Other measures for empowering IPs and LCs include providing finance to support their communities and livelihoods, and strengthening their capacity to monitor and respond to illegalities on their lands. This chapter assesses the adoption and implementation of measures to secure IPs' and LCs' rights, including the guarantee of FPIC for the development of policies that affect them and commercial and conservation or restoration projects on their land.ⁱ

THREATS TO ENVIRONMENTAL DEFENDERS: Violence against environmental and Indigenous rights defenders often follows confrontation with powerful political-business alliances, which are frequently in collusion with military, paramilitary and police forces, non-state armed actors, and criminal groups. This chapter assesses the prevalence of violence against environmental rights defenders globally. It also assesses how governments are using the law to criminalize protests and justify arrests, as well as how companies are using Strategic Lawsuits Against Public Participation (SLAPPs) against environmental rights defenders.

Philippines and the land owned by Scheduled Tribes and Other Traditional Forest Dwellers in India increased from 100,000 hectares to over 2.4 million hectares.

- **Latin America** has historically had the highest proportion of forest area that is recognized as owned by or designated for IIPs, APs, and LCs (36.25%), but communities in many countries faced significant threats to their tenure security during the 2015-2020 period.
- On the other hand, **Middle Eastern** and **North African** countries have yet to establish legal frameworks for the recognition of community-based land ownership.

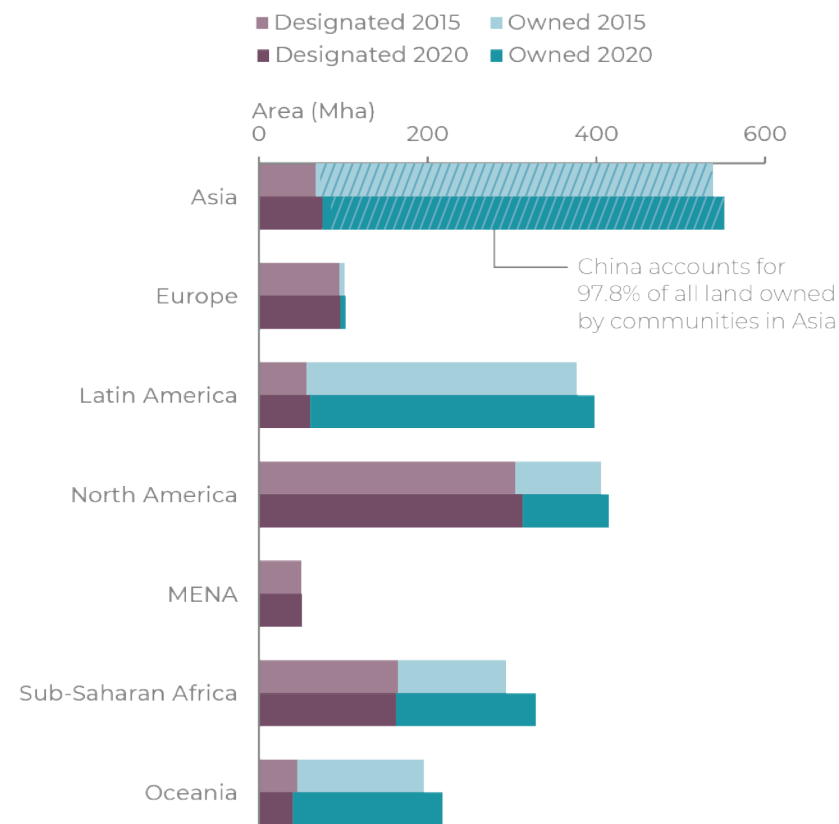
- **Sub-Saharan Africa** witnessed the most notable acceleration of legal recognition of IPs' and LCs' community land rights from 2015 to 2020, mainly from legal recognition from **Kenya** and **Liberia**.¹⁰²
- Across countries in the **Global North**, progress in recognizing IPs' and LCs' land rights was mixed; **Canada** and the **United States** saw incremental gains, including a commitment from Canada's federal government of USD 592 million in funding for Indigenous-led conservation projects over the next seven years,¹⁰³ and in the United States, a court-ordered Land Buy-Back Program for Tribal Nations. None of the three Nordic countries in the study (**Finland, Norway, Sweden**) recognized any additional areas for IPs. Meanwhile, the total area owned by or designated for IPs in **Australia** increased by 22 million hectares, the second largest absolute increase of any country in the study.

Despite these improvements, large areas of IPs', APs', and LCs' lands still lack legal recognition. Across 49 countries where estimates were available, RRI found that IPs, APs, and LCs have customary or historic claims to at least 1.375 billion hectares of lands that have not yet been legally recognized by national governments.

There are also several ongoing and implemented reforms and measures in tropical forest countries to legally secure land owned by IPs, APs, and LCs.

- In October 2022, **Colombia's** government adopted an ambitious agrarian reform and intends to provide formal titles to 10 million hectares of land to IPs, APs, LCs, and peasant families. The government has already announced the titling of 680,000 hectares, including ten new Indigenous Reserves covering nearly 300,000 hectares.¹⁰⁴
- **Brazil's** government has demarcated six new Indigenous territories covering over 612,000 hectares. The demarcation includes processes such as analyzing the demand of the Indigenous population, the delimitation of the physical territory, and the registration of the Indigenous land in a notary's office.¹⁰⁵
- In **Peru's** Loreto and Madre de Dios regions, evidence suggests that the government has been granting titles to Indigenous communities, but many communities still lack titles, and overlapping claims abound. Communities do not have rights to subsoil resources, such as oil and minerals, and can use forest resources but cannot own them.¹⁰⁶

Figure 4.7. Limited progress in legal recognition of the land tenure rights of Indigenous People, Afro-descendant Peoples, and Local Communities, 2015-2020



Source: Forest Declaration Assessment elaboration based on data from Rights and Resources Initiative. (2023). [Who Owns the World's Land?: Global State of Indigenous, Afro-descendant, and Local Community Land Rights Recognition from 2015-2020](#).

- In **Indonesia's** Maluku region, much of the forest is managed by communities under a customary system, while in the Lampung province of Sumatra, the expansion of commercial plantations led to a tenure reform under which communities manage state forest areas. However, overlapping claims are a source of conflict in both places.¹⁰⁷

Tenure security for other populations

Tenure insecurity also remains a critical global concern beyond IP and LC lands. In a 2018 Prindex survey covering both urban and rural populations in 33 countries,¹⁰⁸ 29 percent of respondents indicated they do not perceive home rights as secure. Notably, 38 percent do not possess legal documentation confirming their formal tenure, and 10 percent have faced eviction. This complex landscape is shaped by factors such as eviction's pronounced impact on renters and rural populations, alongside variables like rights awareness, education, and trust in local governance.

It is worth noting that efforts to enhance tenure security often focus on strengthening legal rights, yet formalization alone does not improve tenure security. Certain factors such as incomplete primary education and a history of eviction undermine the effectiveness of the formalization process. Additionally, the survey highlights that lower-income individuals and women generally feel less secure about their land, underscoring that variations across groups should be considered separately when assessing tenure security and designing interventions.

4.4.2. Respecting and protecting IPs' and LCs' rights

Within the past year, there have been significant positive developments in protecting IPs' and LCs' rights in a number of countries, most notably in Brazil. However, in other countries there have also been attempts to weaken IPs' and LCs' rights. In many countries, even where there are existing legal frameworks for the protection of IPs' rights, implementation remains weak.

Advancements in rights protection

Within the past year, there have been significant positive developments towards protecting IPs' and LCs' rights in the DRC, Australia, and Brazil.

- In November 2022, the DRC enacted a law on the Promotion and Protection of the Rights of the Indigenous Pygmy Peoples.¹⁰⁹ This law formally acknowledges the defined rights of the Pygmy people, and ensures their right to FPIC in matters involving land use by governmental bodies and industries.
- At the end of 2023, Australia will hold a referendum on Indigenous recognition that proposes a constitutionally recognised advisory body representing Indigenous people, a positive development in the fight for recognition of Indigenous rights in the country.¹¹⁰
- Since coming into office in early 2023, Brazil's President Lula da Silva has issued several measures to protect the rights of IPs and reversed "anti-Indigenous-Peoples' rights" measures from the Bolsonaro administration, including annulling a Bolsonaro-era decree that encouraged mining on Indigenous lands and protected areas,¹¹¹ although the Senate has sought to reverse this.^j President da Silva also created the Ministry of Indigenous Peoples in 2022, led by an Indigenous leader, Sônia Guajajara. The responsibilities of the Ministry include managing the entity responsible for protecting Indigenous lands (known as FUNAI), and developing and implementing policies for the protection of Indigenous lands and rights.

Other proposed legislation to protect Indigenous rights have been unsuccessful. In September 2022, Chileans voted on a proposed new constitution, which ultimately failed to pass. The proposed constitution would have established some of the most comprehensive Indigenous rights globally, including establishing the rights of over two million Indigenous peoples in Chile to self-govern their territories and establish independent legal systems.¹¹²

Weak recognition and rollbacks

However, there have also been attempts to weaken IPs' and LCs' rights in some countries. In Brazil, the Congress has worked against the current president to weaken the powers of the newly-created Ministry of Indigenous Peoples in June 2023 by, for instance, preventing the Ministry from legalizing the boundaries of new Indigenous territories, as well as to adopt a bill that would weaken Indigenous rights.¹¹³ Measures to strip protections of IPs were

^j At the time of writing (October 9, 2023), the Senate had passed Bill 2903/2023, which would open Indigenous lands to mining. Indigenous groups are calling on President Lula to veto the bill. Fasolo, C. & Soares, M. (2023, October 5). [Civil society wants a full veto on the Temporal Framework Bill](#). *Instituto Socioambiental*.

also being discussed in Peru, through a bill intended to be introduced to Congress in 2022 (PL 3518/2022). The bill was, however, rejected by congressional commissions before it could reach Congress.¹¹⁴

In many countries, even where there are existing legal frameworks for the protection of IPs' rights, the implementation has been weak. To cite just a few examples:

- In the **Philippines**, despite the existence of the Indigenous Peoples' Rights Act of 1997, there have been weak protections on the ground for IPs. For instance, IPs continue to be displaced from their lands and the right to FPIC is continuously violated and undermined.¹¹⁵ The process of obtaining and having secure title to lands, known as Certificates of Ancestral Domain Titles, is expensive, complicated, and does not guarantee tenure security.
- In March 2023, two United Nations bodies¹¹⁶ found that the government of **Panama** had violated the rights of IPs, especially in the context of a project to build the country's Fourth Electrical Transmission Line. The Panamanian government failed to ensure IPs' territorial rights, the right to FPIC, as well as the right to maintain their traditional ways of life, livelihoods, and culture.¹¹⁷
- In a handful of **Indonesian** states, logging, plantation, and mining companies are continuing to operate or engage in conflicts with IPs and LCs after their operating permits were targeted for revocation by the government. Little information is available on how the permit revocations are carried out.¹¹⁸

4.4.3. Violence against and criminalization of environmental defenders

Environmental defenders—many of them Indigenous—continue to face violence, harassment, and criminalization for seeking to protect their lands and forests from outside

incursions. 194 killings of environmental defenders were recorded in 2022, making them the most targeted of all categories of human rights defenders last year.

Violence against environmental defenders

Environmental defenders—many of them Indigenous—continue to face violence, harassment, and criminalization for seeking to protect their lands and forests from outside incursions. In 2022, IPs' and environmental rights defenders were the most targeted of all categories of human rights defenders (**Figure 4.8**), per data from Frontline Defenders (which records threats reported by human rights defenders included in the organization's protection programs) and data from the Human Rights Defenders Memorial (which records verified killings of defenders).^k

In 2022, 194 environmental, land, and Indigenous rights defenders across 15 countries were killed, accounting for 48 percent of all recorded killings of human rights defenders last year. 22 percent of all human rights defenders whose murders were recorded in 2022 were Indigenous people. 88 Indigenous defenders recorded as being killed across Brazil, Colombia, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Peru, Philippines, and Venezuela. **Colombia** was the deadliest country for environmental and Indigenous rights defenders, with 88 murdered over the course of 2022.¹¹⁹

This data aligns with the 2023 Global Witness report on threats against land and environmental defenders, which found that Colombia had the highest murders of environmental and land defenders.¹²⁰ More than a third (36%) of the defenders that Global Witness recorded as murdered were IPs, while 7 percent were Afro-descendants and more than a fifth (22%) were small-scale farmers.¹²¹

Frontline Defenders also recorded 174 cases of other violations against IPs' and environmental rights defenders. Arrest and detention, and legal action were the most prominent forms of violations, followed by physical attacks and death threats (see **Figure 4.8**).¹²²

^k The HRD Memorial is a joint, global initiative by a network of human rights organizations including: ACI-Participa (Honduras); Amnesty International; Comité Cerezo (Mexico); FIDH; Front Line Defenders; Global Witness; Human Rights Defenders' Alert—India; Karapatan (the Philippines); OMCT; El Programa Somos Defensores (Colombia); Red TDT (Mexico); and UDEFEGUA (Guatemala). For more information see: HRD Memorial, <https://hrdmemorial.org/>.

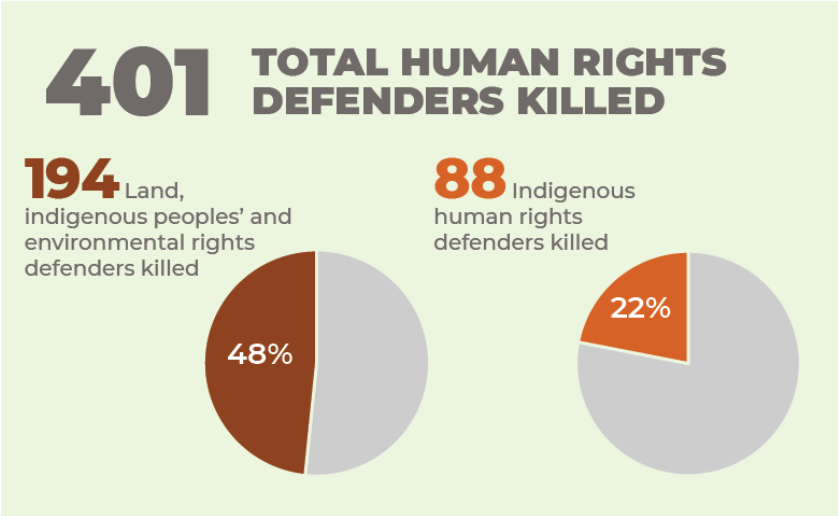
Furthermore, a recent study also shows that violence against women defenders is concentrated among mining, agribusiness and industrial conflicts, predominantly in Latin America, Asia and Africa. The **Philippines** has the highest rates of women environmental defenders murdered, with 19 of 81 cases reported in the Environmental Justice Atlas taking place there, followed by Colombia, Brazil, Mexico, and Honduras. Additionally, women environmental defenders experience high rates of violence regardless of countries' governance accountability and gender equality, per the same study.¹²³

Leveraging the courts to silence opposition

Companies have leveraged Strategic Lawsuits Against Public Participation (SLAPPs) against environmental and Indigenous rights defenders. For instance, in 2022, the company BUK d.o.o in **Bosnia and Herzegovina**

launched three defamation lawsuits targeting women human rights defenders following their public campaign against the environmental impact of the company's hydro-power plants on the Kasindolska river.¹²⁴

Figure 4.8. Environmental, land, and Indigenous Peoples' right defenders the most targeted category of human rights defenders in 2022



Note: The number of threats presented here reflect threats reported as part of Front Line Defenders' urgent actions and approved grant applications. In some cases, multiple threats may be reported as part of a single grant application, which reflects the reality of many human rights defenders facing multiple threats. In the case of both killings and other threats, Environmental, land, and Indigenous Peoples' right defenders were more targeted than any other category of defenders in 2022.

Source: Climate Focus elaboration based on data from Human Rights Defenders Memorial. (2023). [HRD Memorial](#); and Front Line Defenders. (2023). [Global Analysis 2022](#)

4.5. Transparency, public participation, and access to justice

4.5.1. Transparency, access to information, and participation in forest decision making

There have been positive steps toward enhancing transparency and participation in forest-related decision making in several tropical forest countries. However, progress has largely been driven by processes like FLEGT VPAs or REDD+, and momentum of implementation has recently waned following a reduction in political push from these processes or projects.

Improved transparency and accountability systems in some countries

Transparency and accountability systems across several tropical countries have improved over the past decade, with better availability of and access to forest-related data and legal texts. EFI's Forest Governance Index reveals a clear trend within **Cameroon, Côte d'Ivoire**, and the **Republic of the Congo** of increasing transparency, access to forest-related information, and the participation of stakeholders in forest-related decision making as well as monitoring legality and identifying irregularities in timber trade and regulations in the past decade (**Figure 4.9**).¹²⁵ This trend is underpinned by legislation that allows citizens greater access to forest-related information and by information increasingly being made publicly available. This progress on transparency often takes place within the context of forest policy processes such as FLEGT VPAs and REDD+ and in countries in which these processes are carried out, such as **Ghana** and **Indonesia**.

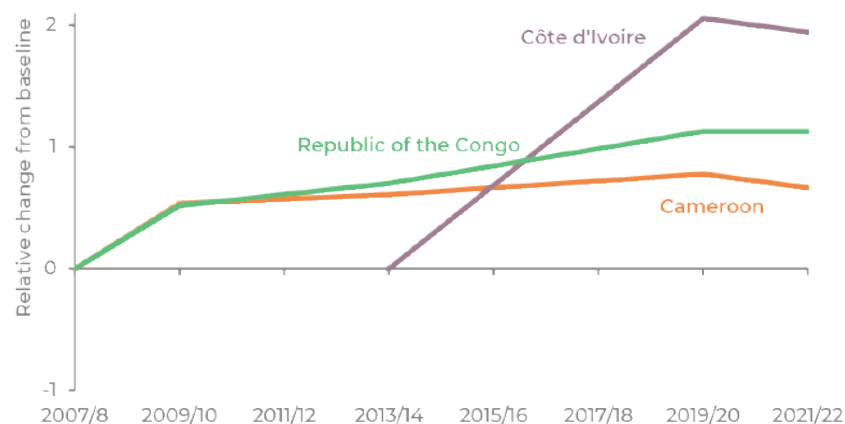
The Republic of Congo, for instance, adopted the Forest Code 2020. The country's Forest Code was developed with extensive civil society engagement and introduces the requirement for participation of civil society and IPs and LCs. The policy also legally recognizes the role of civil society's independent forest monitoring.¹²⁶

HOW DO WE ASSESS PROGRESS?

TRANSPARENCY, ACCESS TO INFORMATION AND PARTICIPATION: IPs and LCs living in forest areas play a critical role in stewarding and managing forests sustainably. It is therefore critical to include forest-dependent communities, civil society, and the general public in decision-making about forests and forest lands, including shaping and implementing laws and policies. We assess measures taken by countries to enhance public access to forest-related information and implement participatory forest-decision-making which ensures FPIC.

ACCESS TO JUSTICE AND THE ROLE OF JUDICIAL SYSTEMS: Access to justice is a key component for the proper implementation of laws. Access to justice gives citizens, IPs, LCs, and civil society a crucial mechanism to challenge government decisions, as well as ensure their rights are respected. We assess whether governments are addressing access to justice in the context of forest issues: ensuring citizens have judicial and quasi-judicial systems available to them, have legal standing to access those systems, and do not face unreasonable legal or financial barriers to accessing the systems.

Figure 4.9. Gains in transparency have recently stalled or been reversed in Cameroon, Cote d'Ivoire and the Republic of the Congo



Note: The graph shows the magnitude of change in the Forest Governance Index score for each country within a given year compared to that country's initial baseline. It is important to note that this does not reflect the absolute Forest Governance score for each country and as such should not be interpreted as implying a comparison between the three countries, except in terms of how governance has evolved in each. A closer look at the data shows that governance improvements are notably reinforced when coupled with and accompanied by political processes.

Source: European Forest Institute (2023)

Despite these advancements, EFI's assessments show that the extent and frequency of dialogue with stakeholders can vary greatly throughout the policy process. Moreover, the use of more accessible forest-related information to influence decisions in the forest sector declined in Cameroon, Côte d'Ivoire, and the Republic of the Congo between 2020 and 2022.

Broadly speaking, EFI's analysis of forest governance data indicates that advancements have been made towards enhancing legal frameworks and establishing mechanisms to effectively execute legal responsibilities, though sustaining gains requires ongoing efforts. Progress is often driven by political will supported by processes like FLEGT VPAs or REDD+, along with targeted support projects. Nevertheless, the momentum of implementation often wanes following a reduction in political push from these processes or projects.

There has also been positive progress in other tropical forest countries to improve transparency and participation.

- In **Brazil**, the President issued a decree in 2023 focusing on increasing transparency and resuming social participation in decision-making processes of the National Council on the Environment and the Deliberative Council of the National Environmental Fund (FNMA).
- **Amazon countries** also established the Amazon Indigenous Peoples Mechanism, which aims to strengthen and promote dialogues between Amazon governments and Indigenous peoples regarding matters relevant to Indigenous peoples.¹²⁷
- In **Ecuador**, citizens recently voted on a referendum on whether to leave a large oil reserve found within the Yasuní National Park in the ground. With over 55 percent of the votes, the people of Ecuador voted in favor of banning all new oil wells and phasing out existing concessions in the Yasuní park, Ecuador's largest park, and home to the Tagaeri and Taromenane people who live in voluntary isolation.¹²⁸ Additionally, the inhabitants of the Metropolitan District of Quito voted in favor of stopping the advancement of mining exploitation in the Chocó Andino—a territory of 287,000 hectares also declared a natural reserve by UNESCO.¹²⁹

Developments on the Escazú Agreement

Other developments like the Escazú Agreement¹³⁰ have the potential to greatly enhance public access to forest-related information and participation. As of 2023, 15 Latin American and Caribbean countries have ratified the Agreement, with **Belize** and **Grenada** ratifying the agreement in early 2023.¹ Positive news also comes from **Colombia**, where the Agreement was approved only 63 days into the administration of the Government of Gustavo Petro.¹³¹ Similarly, during the COP2 on the Escazú Agreement, **Chile** presented its Roadmap for the implementation of the Agreement, whose main component is the development of a Participatory Implementation Plan for Escazú (PIPE).¹³² This plan will evaluate, with significant participation of the civil society, the gaps, opportunities, and priority measures for the full and effective incorporation of the Escazú Agreement at the national level. In Argentina, the Ministry of Environment and Sustainable Development has announced the start of the public consultation for the implementation of the Escazú Agreement.¹³³ In a disappointing development, in **Costa Rica** after four years without progress, lawmakers voted to remove the Agreement from the country's legislative agenda.¹³⁴

Declining overall democracy levels

A recent study by the V-Dem Institute shows that advances in global levels of democracy have reduced over the last 35 years. By 2022, 72 percent of the world's population was living in autocracies as compared to 46 percent in 2012. It is also worth noting that in 20 percent of the countries in this study (40 countries), governments are increasing their control over civil society organizations. Furthermore, freedom of expression has declined in 18 percent of the countries (34 countries).¹³⁵

Mixed progress in North America

Despite often having higher levels of overall governance, stakeholder participation and transparency in forest decision making are often lacking in developed countries. For example, in **Canada**, reports suggest that there has been limited and selective stakeholder engagement in the country's process of developing a national definition of "forest degradation."¹³⁶ Canada's Environment Commissioner also found in 2023 that Canada is not transparently reporting emissions from the logging sector in its National

¹ The Agreement has been signed by 24 countries but only 15 have ratified. The following countries have ratified: Antigua and Barbuda, Argentina, Belize, Bolivia, Chile, Ecuador, Guyana, Grenada, Mexico, Nicaragua, Panama, Saint Vincent and the Grenadines, Saint Kitts and Nevis, Saint Lucia, and Uruguay.

Inventory Report.¹³⁷ And while the country highlights its low rates of deforestation, it does not report on degradation, including the impacts of logging and other industries on forest quality, which is a more relevant metric in the context of the country's extensive forestry operations.¹³⁸

In contrast, the **United States** released its first inventory of mature and old-growth forests on federal lands in April 2023, marking meaningful progress toward transparency on the status of and threats to these high-integrity forest areas. The U.S. Government will continue updating this inventory and is now conducting an analysis of threats to these forests.¹³⁹

4.5.2. Access to justice and the role of judicial systems

There has been a sharp increase in public interest litigation seeking to protect forests and IP and LC rights, some of which have led to positive outcomes in the protection of forests and Indigenous land rights. In addition, Cameroon and Côte d'Ivoire have established oversight bodies to monitor government bodies responsible for forests, but they are often not transparent in sharing their findings.

Court cases to defend forests and rights

The judicial system has an important role to play in protecting forests and improving access to justice for IPs and LCs, and courts are increasingly utilized to address deforestation. The total number of climate change court cases has more than doubled since 2017 and is growing worldwide, according to a 2023 UNEP report.¹⁴⁰ While most of these cases have been brought in the US, climate litigation is taking root all over the world; approximately 17 percent of cases are reported in developing countries, including Small Island Developing States. Many of these cases are aimed at forest protection. In particular, **Brazil** has seen a significant number of forest-related climate cases (**Box 4.4**).¹⁴¹

Several other countries have recently seen forest- and rights-related lawsuits brought before courts:

- In 2023, communities in the Intag Valley of **Ecuador** won an important legal victory after a court ruled to halt copper mining in one of the world's most biodiverse forests.¹⁴²
- In **Indonesia**, in West Papua, Indigenous defenders have filed a lawsuit over palm oil company forestland grab by a Malaysian-owned palm oil

company. The lawsuit calls for the revocation of a permit issued by the Papua provincial government to PT Indo Asiana Lestari (PT IAL) covering traditional Indigenous land.¹⁴³

- Three First Nations in Ontario, **Canada** also filed a lawsuit in fall 2022 against the province alleging ongoing degradation of their territories has violated their treaty rights.¹⁴⁴

There are also several victories for activists defending targeted of companies seeking to silence them through strategic legal action against public participation (SLAPP) suits:

- In September 2023, the Jakarta Administrative Court upheld a decree by the government to uphold Indigenous land rights by rejecting a lawsuit that had been filed by two oil companies. The two oil companies, PT Kartika Cipta Pratama and PT Megakarya Jaya Raya, sought to overturn a decree by the Minister for Environment and Forestry which required the companies to refrain from further clearing of forested land for oil palm plantations.¹⁴⁵ According to Greenpeace, the decision could potentially save 65,415 hectares of Indonesia's pristine rainforest.
- In a further positive development, in Germany, the Korindo group has agreed to end a long-running lawsuit that intended to silence a civil society campaign to protect rainforest in Indonesia's Papua province.¹⁴⁶

BOX 4.4. FOREST-RELATED CLIMATE CASES CURRENTLY PENDING BEFORE COURTS IN BRAZIL

In *PSB et al. v. Brazil (on Deforestation and Human Rights)* (2022) seven political parties in Brazil brought an action against the federal Government for failing to implement the national deforestation policy, thereby contributing to climate change. The claims were based on fundamental constitutional rights, including the right to a healthy environment, the rights of Indigenous Peoples, and the rights of present and future generations.

In *The Planet v. Bolsonaro* (2021), a communication was filed to the Office of the Prosecutor of the International Criminal Court (ICC) in 2021 requesting an investigation into former Brazilian President Jair Bolsonaro for his role in crimes against humanity resulting from ongoing deforestation and related activities in the Amazon rainforest.

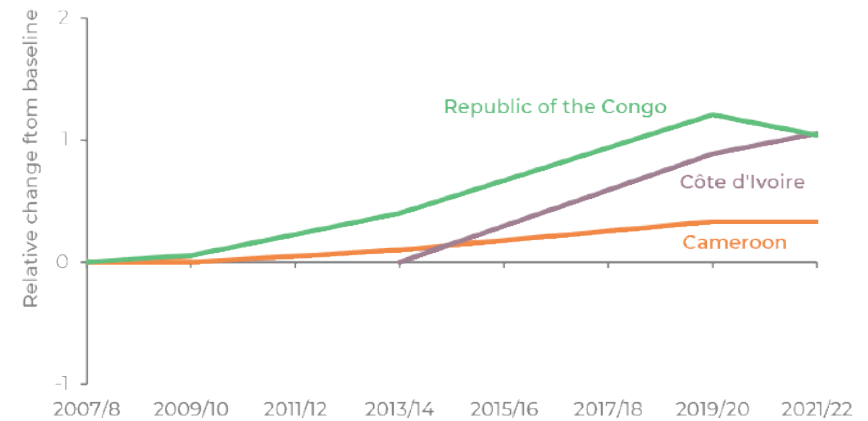
In *Institute of Amazonian Studies v. Brazil* (2022), as of April 2023, the plaintiffs are seeking recognition of a fundamental right to a stable climate for present and future generations under the Brazilian Constitution as well as an order to compel the federal Government to comply with the national climate law. The plaintiffs have alleged that the federal Government has failed to adhere to its action plans to, among others, prevent deforestation and mitigate climate change.

Access to justice and accountability

The forest governance assessments conducted by EFI in Cameroon, Côte d'Ivoire, and the Republic of the Congo show a growing acknowledgement and enhanced effectiveness of civil society's engagement in monitoring to detect irregularities in the legality of forest use and management. For example: **Côte d'Ivoire's** 2019 Forest Code formally recognizes the role of independent forest monitoring carried out by civil society. Similarly, in **Cameroon**, independent monitors have progressively expanded their geographical coverage; having more information available has allowed them to undertake more work.

EFI's data also sheds light on existing challenges regarding accountability within the forest governance frameworks of these countries (**Figure 4.10**). While each of the three countries has established a public entity entrusted with the oversight of government bodies responsible for the management and control of forests, the insights encapsulated within its reports remain inaccessible to the general public. Furthermore, while legal provisions exist for the establishment of complaints mechanisms—an integral component in upholding accountability and addressing grievances—these mechanisms either have not been set up or lack accompanying data on their utilization by citizens and their effectiveness in resolving complaints.

Figure 4.10 Improvements in accountability systems continue in Cote d'Ivoire but have stalled or been reversed in the Republic of the Congo



Note: The graph shows the magnitude of change in the Forest Governance Index score for each country within a given year compared to that country's initial baseline. It is important to note that this does not reflect the absolute Forest Governance score for each country and as such should not be interpreted as implying a comparison between the three countries, except in terms of how governance has evolved in each. A closer look at the data shows that governance improvements are notably reinforced when coupled with and accompanied by political processes.

Source: European Forest Institute (2023)

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Country case study

BRAZIL

Cautious optimism for sustained deforestation reduction

Strong law enforcement reduces Amazon deforestation during Lula's first months in power

Brazil reduced Amazon deforestation by 48 percent in the first eight months of 2023.¹ If this trajectory continues, it would put the country back on track to meet forest goals after the controversial presidency of Jair Bolsonaro (2019-22), who was heavily criticized for his environmental policy² and ended his government with a 60 percent increase in Amazon deforestation compared to the four previous years.³ There are high expectations⁴ that the new administration of Lula da Silva will repeat the success in reducing deforestation that was achieved during his first time in power, when deforestation was brought down from 27.8 million hectares in 2004 to seven million hectares in 2010.⁵

Enforcement agencies had been significantly weakened during the Bolsonaro government,⁶ and Lula was elected vowing to curb environmental crime.⁷ Although Amazon deforestation moderately slowed down from August 2021 to July 2022⁸, it accelerated again in the second semester of the year and reached record levels.⁹ This upward trend could be linked to the elections that occurred in October 2022, resulting in a rush for illegal exploitation of the region while enforcement was still weak.¹⁰ Stronger enforcement commenced almost immediately with the shift in government, and the police conducted large-scale operations that removed thousands of illegal miners¹¹ and cattle farms¹² from Indigenous lands. The government also established a special secretariat within the Ministry of Environment and Climate Change focused on combating deforestation, strongly centered on remote sensing technology.¹³

Political challenges and increased conversion in Cerrado

Brazil's case highlights how strong political will can go a long way in curbing forest loss, while also highlighting the challenges of reconciling forest goals with economic interests. Lula's own cabinet is split in balancing economic development and ecological protection, as exposed in a dispute over an oil drilling proposal off the basin of the Amazon River.¹⁴ Powerful pro-agribusiness interests in Congress have already imposed some setbacks on the environmental agenda in the first months of 2023.¹⁵ Subnational governments show different levels of engagement in reducing deforestation, with the state of Pará—which will host the COP30 climate conference in 2025¹⁶ and whose governor is an ally of President Lula—standing out as a leader.

While there is some improvement on the prevention of deforestation in the Amazon, there are also reasons for concern in the neighboring Cerrado biome, where conversion increased nearly 20 percent in the first eight months of the year.¹⁷ With fertile soil and good infrastructure, the region is particularly attractive for agriculture expansion and a natural leakage destination of the deforestation happening previously in the Amazon, especially because Brazil's Forest Code permits greater legal vegetation loss in the Cerrado compared to the Amazon.¹⁸ Experts also point out that land-use regulations promote extensive agricultural growth in Cerrado, especially soy and beef production, and that efforts to tackle illegal conversion in the biome are weak.¹⁹

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Country case study

JAPAN

Japan's forest footprint domestically and abroad

Planted forests at risk due to weak reforestation efforts

While total forest cover in Japan has remained stable since at least 2016,¹ low reforestation rates after harvesting of planted forests has raised concerns. Forests cover about 25 million hectares, which accounts for two thirds of the national land area.² About 40 percent of Japan's forests have been planted since the 1980s and half of them are aged above 50 years and have recently entered a harvesting period.² However, in recent years only 30-40 percent of newly harvested land has been replanted, due to low timber prices and high costs of reforestation.³

The government is developing and adopting several measures to promote replanting, such as low-cost planting techniques, shortened harvest rotation by fast growing trees, zoning of suitable areas for reforestation and for applying natural regeneration based on economic suitability.³ The J-Credit, Japan's carbon crediting scheme, is also used to promote replanting after harvesting planted forests.² It remains to be seen if these measures will be sufficient to shift the current trajectory.

¹ Global Forest Watch. (2023). [Japan Deforestation Rates and Statistics](#).

² Forestry Agency. (2023). [Annual Report on Forest and Forestry in Japan: Fiscal Year 2022 \(Summary\)](#). Tokyo, Japan: Ministry of Agriculture, Forestry and Fisheries of Japan.

³ Forestry Agency. (2020). [Promotion of reforestation](#). Tokyo, Japan: Ministry of Agriculture, Forestry and Fisheries of Japan.

⁴ Hoang, N. T., & Kanemoto, K. (2021). Mapping the deforestation footprint of nations reveals growing threat to tropical forests. *Nature Ecology & Evolution*, 5, 845-853. <https://www.nature.com/articles/s41559-021-01417-z>.

Due diligence for legality of timber products to be required within two years

Agricultural and forest products consumed in Japan are highly dependent on imports from foreign countries and indirectly support environmentally damaging practices in producer countries. For example, research indicates that Japanese imports of cotton and sesame have driven deforestation in coastal Tanzania, and timber imports pose risks to forests in Sarawak, Malaysia.⁴ Biomass residues are imported in large quantities to fuel biomass power plants that are supposed to generate sustainable energy, but environmental groups have raised concerns about the impact on forests and sustainability of this process.⁵

Although legal instruments to prevent imports of unsustainably produced agricultural commodities are not discussed, due diligence for legality of timber products will become mandatory within two years, as per the amendment of the Clean Wood Act,⁶ promulgated on 8 May 2023.⁷

International efforts to promote sustainable forest management

The government of Japan contributes to the promotion of sustainable forest management in developing countries by providing technical cooperation and financial assistance by bilateral cooperation and multilateral cooperation through international bodies. Continued actions are needed to reduce the deforestation footprint of Japanese consumption and contribute to the global efforts to stop deforestation by 2030, in line with its commitments to the G7 meeting and the Glasgow Leaders' Declaration on Forests and Land Use.

⁵ Giseburt, A. (2022, May 19). [As biomass burning surges in Japan and South Korea, where will Asia get its wood?](#) Mongabay.

⁶ Forestry Agency. (2023). [Outline of the law that partially amends the Act on Promotion of Distribution and Utilization of Legally Harvested Timber](#). Tokyo, Japan: Ministry of Agriculture, Forestry and Fisheries of Japan.

⁷ Forestry Agency: Overview of the Clean Wood Act, <https://www.rinya.maff.go.jp/j/riyou/goho/summary/summary.html>.

RECOMMENDATIONS

The Forest Declaration Assessment Partners have said it before:

A radical transformation of development pathways, finance flows, and governance effectiveness and enforcement is required to shift the world's trajectory to achieve the 2030 forest goals. Global economic models must be re-structured to value forests for the benefits that they provide over the long term, rather than for the superficial and short-term gain that comes with clearing them.

The first step toward progress on shifting the global forest trajectory is to clearly understand the problem and the efficacy of efforts already underway—which requires data. **The Forest Declaration Assessment Partners therefore urge the signatories of the Glasgow Leaders' Declaration, as well as other pledgers, to shine the spotlight on themselves.** They must ensure full transparency on the implementation of commitments, so that progress can be tracked and pledgers held accountable. Endorsers and signatories to forest commitments must set clear interim milestones and publicly available strategies to align their economic and development priorities with forests. The Partners also urge governments and companies to invest in data collection and actively report on restoration, forest regrowth, and forest degradation data, which is significantly lacking, making it difficult to track progress towards 2030 forest goals. Without data and transparency, progress will remain difficult—and pledgers will not be held accountable for their promises.

KEY:



Public sector recommendations



Private sector recommendations



Grassroots recommendations

Sustainable production & development



The Forest Declaration Assessment Partners call on governments to re-define “business-as-usual” for forests.

The world cannot sustain its “business-as-usual” exploitation and destruction of forests. Economic systems that rely on extraction and consumption of natural resources have already destabilized six of the nine planetary boundaries that comprise the Earth's life support system, including the boundary for land use.¹ Without a widespread, transformative embrace of alternative development models, the world will not meet its ambitious goals for sustainable development, climate, and nature.

Governments must build a regulatory and fiscal environment that mandates and incentivizes the protection, sustainable management, and restoration of forests and ecosystems. Governments should adopt and enforce stronger mandates for corporate action, disclosure, and accountability.

- Resources: [CDP's Principles for High Quality Mandatory Disclosure](#)

Governments must ensure their forest governance and regulations are ambitious, science-based, and rights-based. It is not enough to address forest risks at the margins; forest protection and sustainable use interventions must be bold and binding. These could include due diligence regulations, supply chain regulations, mandatory disclosure, moratoria, designation of “no-go” zones, and recognition and respect for Indigenous rights. These mandates should be comprehensive, covering all forest- and conversion-risk commodities, legal and illegal deforestation and degradation, human rights, and Indigenous Peoples' (IPs) and local communities' (LCs) rights.

Governments must encourage leading private-sector actors to continue their voluntary efforts to pioneer the development and implementation of best practices for deforestation- and conversion-free production and supply chains. Voluntary and collaborative efforts are essential for developing alternative economic models that recognize the true value of standing forests, as well as for demonstrating the potential and viability of forest-aligned production and economic approaches. Landscape and jurisdictional approaches, for example, can foster innovation while tackling the complexities of achieving sustainable commodity production.



The Forest Declaration Assessment Partners call on companies to urgently increase the scope and stringency of their efforts to

eliminate deforestation, ecosystem conversion, and forest degradation and violations of human rights, particularly those of IPs’ and LCs’, from commodity production and trade. Whether voluntary or mandated, corporate actions are essential.

Companies must support efforts by national and subnational jurisdictions and international bodies to develop holistic approaches to addressing forest and ecosystem loss and degradation. These include approaches where corporate action is enabled and supported by appropriate legislative and policy frameworks, trade standards, and financial instruments and incentive structures.⁹

Agricultural companies, forestry companies, and those sourcing from and financing them, should follow the best available guidance for setting goals, taking action and reporting on progress towards removing deforestation, conversion, human rights violations, and degradation from their supply chains. Where available, they should follow recognized sector- or industry-specific guidelines, and report on their progress and volumes through existing reporting frameworks.

Sectoral bodies, like trade and commodity associations, should expand the deforestation- and conversion-free movement to include domestic markets and small- and medium enterprises to reach a critical share of market coverage for all forest-risk commodities. They should also ensure the inclusion of standards addressing forest degradation.

- Resources: [The Accountability Framework](#)

Extractive companies, and those sourcing from them, should adopt biodiversity commitments and policies that address direct, indirect, and cumulative impacts on forests, other ecosystems, and ecosystem services following the mitigation hierarchy. Extractive companies should embed the necessary processes and mechanisms in their standard operations to realize these commitments, including systems for monitoring and transparent public reporting. Voluntary sustainability schemes targeting the mining sector should require site operators and downstream purchasers

⁹ Worldwide Fund for Nature (WWF). (2021). Call to action. October 12, 2022, <https://deforestation-free.panda.org/call-to-action/>.

to assess and manage not just the direct forest and ecosystem impacts of extraction, but the indirect and cumulative impacts as well.

- Resources: [The Initiative for Responsible Mining Assurance: Towards Sustainable Mining](#)

Companies in the agricultural, wood products, and extractives supply chains should also consider opportunities to conduct or invest in activities that support forest and ecosystem conservation and restoration not just within but also beyond their own supply chains.

These activities can mitigate business risks at landscape or jurisdictional scales, support climate and biodiversity targets beyond the company level, and provide benefits to affected stakeholders.

- Resources: [Forest-Smart Mining guidance for Nature-based Solutions](#)



The Forest Declaration Assessment Partners call on public, private, and grassroots actors to prioritize pro-active, transparent, and good-faith collaboration to leverage their relative strengths to reduce commodity-driven deforestation and degradation and work toward sustainable production and development.

Finance for forests



The Forest Declaration Assessment Partners call on financial institutions, companies, and governments to put their money where their mouth is. Forests still receive negligible funding compared to other global investments, and take low priority in

government spending. Public finance committed to activities that have the potential to drive deforestation or forest degradation (“gray” finance) continues to far outweigh finance committed to forest protection (“green” finance). We estimate that between 2010-21, gray public finance flows averaged over USD 46 billion per year, while green flows averaged just USD 2.2 billion per year. Even with recent finance pledges made in the wake of Glasgow Leaders’ Declaration, forest funding is still a drop in the bucket: only an additional USD 4 billion in public and private finance for forests per year

from 2021-27. There is still a yawning gap between current and needed finance for forests. Financial actors must invest in activities that nurture forests, not destroy them; and invest directly in the most effective forest stewards: IP and LCs.



Governments must prioritize efforts to redirect harmful subsidies and other incentives that drive deforestation and forest degradation.

They must align fiscal and financial policies with forest goals, and accelerate efforts to shift finance away from harmful activities. Crucially, they must also report on progress. They should prioritize the delivery of finance to high-impact activities, such as the protection and management of high-integrity forests. Public regulatory frameworks can create incentives for driving additional private finance towards these vital ecosystems.

Governments must recognize IPs and LCs as rights-holders and partners and create new finance mechanisms through processes that are locally led, fully transparent, and culturally-tailored.

Finance mechanisms should provide IPs and LCs direct access to finance, reduce dependency on donors, have fair benefit-sharing arrangements, and account for both short- and long-term needs.

Public actors should leverage the power of innovative financing mechanisms—while ensuring just and clear governance of these tools.

Market- and non-market based finance mechanisms, such as payment for ecosystem service schemes, debt-for-nature swaps, and carbon credits, can accelerate and diversify the delivery of finance to forests. At the same time, governments should develop, adopt, and advocate for governance frameworks that establish harmonized rules for public and private use of, and claims about, forest-based carbon credits that ensure additionality, prevent leakage, and do not undermine ambition toward decarbonization in other sectors.



Public and private sector actors must use forest-based carbon credits only for the purposes of addressing residual emissions or making additional climate change mitigation contributions, not in place of making direct emission reductions to achieve internal, science-based decarbonization targets.

Credits should be prioritized by their ability to meet essential social and environmental integrity criteria, and where possible, belong to a larger jurisdictional programme of activities.

- Resources: [Tropical Forest Integrity Guide](#)



Financial institutions and companies across sectors must recognize and act on the inherent risks presented by deforestation and forest degradation.

Measures and policies must be put in place to combat these risks, including developing full understanding of institutions' exposure and contribution to climate- and forest-related risks and impacts in the short, medium, and long term. Private sector actors must embed processes for identifying, managing, and mitigating risks into standard operations.

- Resources: [Taskforce on Nature-related Financial Disclosures \(TNFD\); CDP Forests; Sustainability due diligence obligations for financial institutions \(Climate & Company, Germanwatch and Rechtsanwälte Günther\); WWF's criteria for credible climate and nature transition plans for financial institutions; WWF's Call to Action to Ensure Transition to a Net Zero and Nature Positive Economy; Deforestation-free Finance: Finance Sector Roadmap; OECD-FAO Business Handbook on Deforestation and Due Diligence in Agricultural Supply Chains](#)

Financial institutions and companies must implement robust reporting requirements and mechanisms to bring forest risks to light and foster responsible investment.

For these measures to be truly effective, support and investment for compliance in producer countries is essential, as well as wider adoption of regulations in consumer countries.

- Resources: [WWF's Greening Financial Regulation Initiative](#) and [Sustainable Financial Regulations \(SUSREG\) Framework](#)

Forest rights & governance



The Forest Declaration Assessment Partners call on governments to adopt a rights-based, comprehensive, and resilient approach to forest conservation that prioritizes inclusive and participatory governance that endures through political shifts.

All countries share the responsibility to turn the tide on the unfolding tragedy of lost and degraded forests. Some geographies have demonstrated what it takes to make a difference: Brazil's turn to increased enforcement and the rapid downturn on Amazon deforestation in 2023, for example, or the European Union's striking advancements in both domestic and international forest policy.

Governments must adopt an inclusive and rights-based approach to forest and biodiversity conservation, working with IPs and LCs to expand

the protection of natural ecosystems in ways that respect their rights, knowledge, and livelihoods. They must secure IPs' and LCs' land tenure rights, including by developing and implementing clear and coherent laws that legally recognize and protect these rights, halting efforts to roll back rights, and clamping down on violence and threats against environmental and Indigenous rights defenders, including by State authorities. They must also embed the inclusive participation of forest-dependent communities in forest decision making into legal frameworks and ensure that IPs and LCs are consulted on and have consented to decisions around their forest lands.

Governments must structure reforms aimed at strengthening forest protections to ensure that reforms last beyond political cycles, respond to the needs and priorities of forest-adjacent communities, and enjoy popular support. They should invest in the capacity of civil servants at national and sub-national levels to implement reforms, and provide adequate finance, mandates, and training to agencies tasked with implementing and enforcing forest laws, while also ensuring adequate oversight to minimize risks of corruption and abuses of power. Finally, they should recognize and strengthen the role of civil society, IPs, and LCs in enforcing forest laws and ensure they have sufficient finances, mandates, and capacities to carry out this role.

Governments must focus on strengthening and aligning their existing forest legal frameworks and institutional capacities to meet their national targets and international commitments—rather than weakening them. Before amending forest frameworks, governments should assess the long-term implications of recent rollbacks for sustainable development and forest protections.

Governments should adopt demand-side policies that reflect the shared responsibilities of developed and developing countries, ensuring fairness and addressing deforestation and degradation in all—not just tropical—forests, while also applying the same or higher standards to their domestic policies. Furthermore, they should include resources for producer countries to strengthen rights and governance frameworks, initiatives for international collaboration, support for smallholders, and measures to address illegality.

¹Richardson, K., et al. (2023). Earth beyond six of nine planetary boundaries. *Science Advances*, 9(37), eadh2458. <https://doi.org/10.1126/sciadv.adh2458>.





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