

Going into COP26 and getting it right

Forests, agriculture, ecosystems and nature for climate change mitigation and adaptation

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Key messages

- Forests, trees and the transformation of agriculture remain a proven mitigation and adaptation pathway, which must receive substantially more support in terms of funding and capacity development.
- Protecting and restoring habitats is a powerful way to boost resilience to the impacts of climate change.
- There can be no solution to land degradation or the problems caused by unsustainable agricultural, forestry and fisheries systems without explicit recognition of rights.
- Any solutions in the forests and agricultural space must seek to deliver multiple benefits, thereby exploiting to the full extent the potential of trees and the (agro-)ecosystems concerned.
- Conversion of natural forest, (tropical and temperate) peatlands, wetlands, grasslands and other ecologically well-adapted 'natural' and high-carbon systems must be halted immediately.
- The search for climate-relevant solutions in the forests and agricultural space must factor in uncertainty and complexity.
- Scientific knowledge and practical needs must be reconciled, e.g., by providing guidelines and tools for monitoring and evaluation, programme and project management, and financing mechanisms adapted to complex, multilevel and long-term, 'transformational' endeavours.

Forests, ecosystems and nature at COP 26

Global heating is continuing largely unabated. An analysis by the United Nations Framework Convention on Climate Change (UNFCCC) secretariat concludes that, taken together, the recent submissions of Nationally Determined Contributions (NDCs) by countries will lead us towards a future that is 2.7°C hotter than today (UNFCCC 2021b). This is far above the 2°C or even 1.5°C limit that would avert the most dangerous consequences of climate change for both people and nature (IPCC 2018).

As the global climate conference (COP26) gets underway in Glasgow, it is expected to place significant emphasis on the essential contributions of forests, ecosystems and nature (Box 1).

Nature is one of the UK COP26 Presidency's four priority COP26 goals (UK COP26 2021); deforestation and land-use will be a theme of the World Leaders Summit (WWF 2021); and the issue of forests and land continues to be a sticking point in the negotiations related to Article 6 of the Paris Agreement.¹ Concerns have been raised about the gap between pledges and their realization; on the efficiency, effectiveness and permanence of landscape restoration; and on the over-reliance on nature to offset unabated emissions from other sectors. These concerns point to underlying issues of the lack of recognition of rights; unequal access to resources; lack of genuine involvement of all actors in decisions; lack of planning, capacity, finance and support to achieve the massive transformations required; and powerful interests maintaining the status quo.

¹ In addition, the High-Level Climate Champions and Marrakech Partnership will dedicate a day to water, oceans and coastal zones (5 November), and another to land use (6 November).

Box 1. Summary of the most important possible outcomes of COP26

- **High-level COP decision on the key role of nature and land use towards the 1.5°C goal;**
- **An Article 6 outcome that may or may not include forests, ecosystems and nature, with further rules to be adopted;**
- **Proposed new agenda item on forests linked with non-market-based approaches;**
- **Enhanced collaboration between consumer and producer countries on reducing the impacts of supply chains and trade on deforestation through the Forest, Agriculture and Commodity Trade (FACT) Dialogue;**
- **Institutional arrangements to address agriculture under UNFCCC and to implement Koronivia Joint Work on Agriculture outcomes that include agroecological approaches;**
- **Global emphasis on post-COVID green recovery based on social inclusion and rights;**
- **Recognition of the importance of healthy soils for climate change mitigation and adaptation, food and nutrition security, and ecosystem restoration;**
- **New announcements on finance from public, private and philanthropic sources.**

Transformational change is needed to move away from business as usual that drives deforestation and degradation, as well as to shift discourse, narratives and inequitable power relations among actors (Atmadja et al. 2021). However, urgency must not override the imperatives of equality and justice (Larson et al. 2021). Such change requires shifting away from designing blueprints for change or searching for silver bullets, and ensuring the women and men of Indigenous and local communities are included as 'eye-level' partners and fellow change-makers, rather than project beneficiaries.

Here we summarize important insights and resources to support all decision makers in their work, related to the four overarching COP26 goals of net-zero emissions, adaptation, finance and collaboration (UK COP26 2021).

COP26 goal 1: Net zero – Secure global net zero by mid-century and keep 1.5 degrees within reach

The aim to achieve net-zero emissions by mid-century is derived from the Paris Agreement – a balance between anthropogenic greenhouse gas emissions through emitting sources and their removal through sinks. The net-zero goal not only requires massive reductions in the use of fossil fuels but also unprecedented action in the land sector – the only sector in which a carbon sink can be grown (Mollins 2021). The World Leaders Summit in the first week of COP26 is expected to place emphasis on halting and reversing deforestation. A high-level COP decision will be negotiated as a key outcome of COP26 and is expected to highlight the importance of land use, agriculture, forests, nature and ecosystems, and to operationalize the COP25 provision on the need to address biodiversity loss and climate change in an integrated manner.

Countries and companies around the world have made net-zero pledges, attracting praise for those who are seeking to make real and permanent deep emissions cuts to support the achievement of the Paris Agreement goal, and criticisms for those seeking to use 'net zero' and 'carbon neutrality' approaches to simply offset their way out of their climate responsibility.

Finance for the protection and restoration of natural ecosystems urgently needs to be scaled up, but there is significant controversy and opposition around the use of nature-based carbon credits to offset ongoing emissions. Carbon offsets can delay urgently needed emissions reductions, and there is the risk of reversals – i.e., the claimed emission reductions can re-enter the atmosphere in the future. While nature-based carbon offsetting methodologies seek to put in place 'pools' and 'buffers' to address such risks, these systems are largely untested (Chagas et al. 2020).

The inclusion of carbon credits to contribute to the achievement of net zero created through 'avoided emissions' has also come under scrutiny in recent months. This is an important development related to 'nature-based' emission reductions including REDD+, whereby carbon credits may be created through the avoidance of emissions by reduced deforestation and forest degradation. Mark Carney, the UN Special Envoy on Climate Action and Finance and initiator of the Taskforce on Scaling Voluntary Carbon Markets, recently said that avoided emissions should not count towards achieving net zero (Shankleman and Rathi 2021), despite the final report of the Taskforce conflating emissions avoidance and emissions reduction (TSVCM 2021).

In addition to the challenges associated with the permanence of nature-based emission reductions and net zero, many of the countries and companies making

pledges to achieve net zero do not have adequate plans and roadmaps that detail exactly how this will be achieved, nor are there any frameworks in place for tracking progress or holding those who make pledges to account.

If Goal 1 of COP26 is to be achieved, the UK and parties involved in the negotiations will need to address these challenges to ensure that real and permanent absolute emission reductions are achieved alongside a very significant increase in ambition. Negotiations related to Article 6 should not allow for land-based carbon offsetting, and the new mechanism must support international cooperation to enhance ambition and reduce emissions. Further, equity challenges to net zero as raised by the Like-Minded Developing Countries Ministerial Statement need to be addressed: the Paris goal is a global one, and not all countries should be expected to achieve net zero by mid-century as a matter of equity (LMDC 2021).

COP26 goal 2: Adaptation – Adapt to protect communities and natural habitats

The recent IPCC assessment report clearly shows that the impact of climate change is anticipated within the decade, with unprecedented extreme climate events all over the globe (IPCC 2021). Efforts to improve adaptation and resilience are urgently needed to cope with this growing climate emergency. Adaptation at COP26 is framed around increasing ambition and action to: support those most vulnerable to the effects of climate change to avert, minimize and address the loss and damage that is already occurring; improve early warning systems; and build resilient agriculture. One prominent focus is the role of nature to achieve resilience. Protecting and restoring habitats is a powerful way to boost resilience, as flourishing ecosystems reinforce sustainable farming approaches and support billions of lives worldwide. To allow mutual learning, all countries are encouraged to develop 'adaptation communication', which summarizes ongoing actions, the challenges they face and the kind of help needed.

CIFOR-ICRAF focuses on showcasing the crucial role of forests and trees for adaptation, at different scales and across levels. Forests and trees serve as important safety nets for communities, as many forest products are more resilient to climate variability and extremes than crops. CIFOR-ICRAF provides significant evidence on the crucial role of trees on farms and of forests to protect soil, regulate water, and help reduce the risks from cyclones and sea-level rise. Understanding resilience calls for multidisciplinary. CIFOR-ICRAF combines different approaches to identify the best adaptive pathways for

people and ecosystems. These include agroecological approaches, Ecosystem-based Adaptation, Nature-based Solutions, transformative adaptation, and rights-based approaches. In the face of the current climate urgency, incremental adaptation is not enough, and transformative adaptation plans and policies are urgently needed. CIFOR-ICRAF's work clearly shows that the pathway to resilient societies flows through several major shifts and transformations. These include accelerated action and enhanced ambition for: the protection and restoration of ecosystems and biodiversity; the protection of livelihoods from climate change loss; adaptive learning between regions and countries; upscaling of resilient solutions; the protection of rights; and the acceleration of the transition to a sustainable and climate-resilient agriculture.

A proposal from Bolivia seeks the inclusion of new agenda items, including to hold a stocktake on the financial support and means of implementation for alternative policy approaches, such as joint mitigation and adaptation approaches for the integral and sustainable management of forests, under Article 5, and linked with the non-market-based approaches under consideration in Article 6 (Vargas 2021). CIFOR-ICRAF work on mitigation-adaptation synergies suggests important efficiency gains from joint approaches. Exploring synergies and trade-offs is important. Moreover, the dichotomy is artificial when it comes to agriculture and forestry, leading to inefficient measures, the fragmentation of institutions, and competition around funds. Trees and forests – if well-managed – can bridge mitigation and adaptation and achieve multiple objectives.

While most of the emphasis of Article 6 is on mitigation and carbon markets, it also offers provisions that support adaptation actions and include non-market-based approaches. More emphasis is expected in Glasgow on non-market-based approaches to international cooperation. These have significant potential to unlock finance, technology and capacity building, and are important in relation to forests, ecosystems and nature. Climate finance and support for conservation, protection and restoration of ecosystems is primarily non-market-based, and continued efforts to establish forest carbon markets have not grown as rapidly as anticipated over the last decade (Donofrio et al. 2021).

CIFOR-ICRAF work on Indigenous Peoples' and local communities' (IPLCs) rights and justice demonstrates challenges to both the effectiveness and equity of forest-based solutions when design and implementation fail to promote social inclusion – whether purposefully or not. The rights and contributions of IPLCs must be central to climate change discussions, decision making and actions. There is a disproportionate effect of climate change on IPLCs, who did little to contribute to the current crisis

yet are suffering from its impacts – and from actions to address it – in the territories they steward. This recognition is reflected in the UNFCCC's Local Communities and Indigenous Peoples Platform (UNFCCC 2021a) and in the draft Green Climate Fund Guidance concerning land use and ecosystems (Dumas-Johansen et al. 2021).

During Climate Week 2021, philanthropists agreed to raise funding for rights-based approaches to ecosystem protection by USD 5 billion through the Protecting our Planet Challenge (PND 2021), and COP26 may further similar announcements. However, by the end of Article 6 negotiations in Madrid, all references to human rights had been deleted from the draft text, raising concerns from IPLC and civil society organizations, as well as by Parties during several of the informal virtual sessions held since. The refusal to include such concerns in the draft contravenes recent progress in the UN, including the recognition of a stable environment as a human right and the introduction of a Special Rapporteur on the promotion and protection of human rights in the context of climate change. Furthermore, the COVID-19 pandemic confirmed IPLCs' experiences of unequal access to rights and resources, catalysed by the relaxation of environmental and social safeguards for post-pandemic reconstruction activities in some countries and attacks on environmental and/or land rights defenders by different actors interested in their territories and resources.

It is imperative that initiatives understand the rights and justice concerns at play in intervention areas; those that do not actively address inequalities are likely to reinforce conditions of unequal rights and access to resources (Brockhaus et al. 2021). For example, promoting processes that are not gender responsive can undermine efforts to achieve gender equity (Elias et al. 2021), increasing tensions and risks between social and environmental objectives that can challenge the success of climate actions (Jhaveri 2020). Although IPLC women face significant barriers to rights, participation and benefits, climate action rarely addresses gendered barriers (Brockhaus et al. 2021). When women hold secure rights to land and to decision-making over it, efforts to tackle climate change are more successful (Jhaveri 2020). Likewise, young people's needs and aspirations must be a key part of the conversation and of decision-making processes over climate action (World Agroforestry 2021a). Youth are acting globally by creating movements, researching, informing others and restoring their landscapes.

Voluntary standards for results-based payments vary in their approach to rights, and they may be a way to ensure not only that rights are upheld but also that access gaps to recognized rights are narrowed. While applauding efforts to 'do better', we should remain vigilant of more permissive efforts moving away from 'doing no harm' to 'doing no net harm'.

COP26 goal 3: Finance – Mobilize finance

Developed countries made a promise, all the way back in 2009, to deliver at least USD 100 billion in climate finance per year by 2020; they have fallen well short of the target. While G7 countries have reaffirmed their existing commitment through to 2025, this will be a major point of contention going into the COP. A tense dynamic has been set from the outset, following the Climate Finance Delivery Plan released before the event which shows that this USD 100 billion per year will not be achieved until at least 2023 (Wilkinson and Flasbarth 2021). In fact, climate finance needs are estimated to be far beyond USD 100 billion a year, and donor countries will need to show commitments to greater climate finance than the current targets. Linked to this, there are questions about project quality, which requires more robust transparency and accountability mechanisms to ensure funds are used effectively.

Finance related to forests, ecosystems and nature is a key part of the climate finance debate, with new initiatives being announced, including those related to leveraging private sector finance. It is expected that through net-zero initiatives such as the Marrakech Partnership's² Race to Zero, investors will begin to shift finance away from deforestation and invest in protection and restoration. CIFOR-ICRAF work on the financial inclusion of small and medium enterprise shows that, in the Global South, financial infrastructure and access to finance are often limited.

Article 6 remains a major area of unfinished work concerning the Paris Rulebook. It provides for countries to support one another through international cooperation, including related to finance and support for mitigation and adaptation. While it does not specify any type of market mechanism, it has been interpreted by many to be a new market mechanism, despite the provisions that also specify non-market approaches to cooperation. The Coalition for Rainforest Nations is the most vocal group of countries seeking to include forest carbon trading in an Article 6 outcome to enhance REDD+ finance flows, especially from the private sector. References to land use and forests are included in the negotiating text produced in Madrid. For example, the draft text concerning the new Mechanism to be established under Article 6.4 includes a provision for carbon crediting periods related to forestry and land-use-related activities. The text also includes a few areas where it is proposed that systems be put in place to address 'reversals' within project design, likely to come only from land-based projects.

² Marrakech Partnership for Global Climate Action

A major announcement on finance and forests in recent months was the Lowering Emissions by Accelerating Forest finance (LEAF) Coalition launched by the UK, United States and Norway, together with a range of large global companies. The LEAF Coalition seeks to support companies in reducing emissions in their supply chains, as well as to support countries in the sale of forest-based carbon credits to companies to achieve net zero. Countries that have now signed up include Brazil, Burkina Faso, Costa Rica, Ecuador, Guyana, Mexico, Kenya, Nepal, Nigeria, Papua New Guinea, the Democratic Republic of the Congo, Uganda and Zambia (LEAF Coalition 2021). It is expected that announcements will be made during COP26 related to specific arrangements to be entered into between the initiative and these countries, as the initiative has undertaken an assessment and vetting process through applications for participation during late 2021.

COP26 goal 4: Collaboration – Work together to deliver

The UK leads an initiative to enhance collaboration between consumer and producer countries: the Forest, Agriculture and Commodity Trade (FACT) Dialogue. Several virtual meetings, co-chaired by the UK and Indonesia, served to develop a roadmap towards sustainable supply chains in agriculture and forestry, currently subject to internal consultations and to be launched at COP26. The roadmap will cover four areas: trade and market development; support to smallholders, including through policy reforms and measures to improve the security of livelihoods and access to markets; traceability and transparency; and research, development, and innovation in agriculture and forests.

The Koronivia Joint Work on Agriculture (KJWA) was established at COP23 (2017) to address issues related to agriculture, in light of the vulnerabilities of agriculture to climate change and approaches to addressing food security. The COP had requested the Subsidiary Body for Scientific and Technological Advice and the Subsidiary Body for Implementation to jointly address the issue and report back on progress and outcomes at COP26.

At COP26, given the importance of agriculture and food systems for emissions reduction and adaptation, a decision that paves the way for immediate concrete actions complementary to NDCs and National Adaptation Plans (NAPs) is highly desirable. Agreement is needed on technical priorities and movement to develop the institutional modalities within UNFCCC necessary for concrete implementation of KJWA outcomes on the ground. Technical priorities should support the transformation of agriculture and food systems, including

agroecological approaches that contribute to mitigation and adaptation, and thereby resilience (Atta-Krah et al. 2021). The role of trees in delivering solutions across multiple sustainability dimensions such as health, environment and the sociocultural realm can be adapted and customized to different landscapes to ensure healthier diets are available and are culturally acceptable to communities, while also supporting biodiversity, ecosystem functions and climate change mitigation and adaptation. CIFOR-ICRAF work on soil health has shown the large potential for restoration and regenerative production using agroecological approaches, as well as how the development of robust tools to monitor ecosystem health can support their implementation. Connecting UN Food Systems Summit outcomes – including the agroecology coalition and global soils hub – to the UNFCCC process going forward is vital for agriculture to be fully integrated into climate change action.

In addition to the procedural aspects of a decision on agriculture, there is a need to define the objective of any future work and draw on the substantive outcomes and findings of the work programme in doing so. Possible outcomes and ways forward include: a COP decision establishing new workshop topics and continuation of the work; continued work on agriculture under a different modality, for example through the CMA,³ or the cessation of work on agriculture (Urrutia and Siemons 2020). Given the importance of agriculture for many parties and the time it took to arrive at the establishment of the KJWA, it is likely that there will be a follow up to the KJWA. One issue of particular interest is if, and how, the KJWA could in future integrate the links between land uses, including the links between agriculture and forestry.

As per Articles 4 and 5, which encourage collaborative partnerships, particularly for developing countries, CIFOR-ICRAF has developed a critical partnership platform in the form of the African Orphan Crops Consortium (AOCC) to enable and empower African national agricultural systems by making provisions for high-end genomics technologies for trees and crops of African importance, and by building capacity to use them through the African Plant Breeding Academy (AfPBA). These underutilized 'orphan' trees and crops have a very high capacity to mitigate climate change, build sustainable agricultural production systems, and provide good nutrition connecting with the outcomes of the UN Food Systems Summit.

³ The CMA is the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (<https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-serving-as-the-meeting-of-the-parties-to-the-paris-agreement-cma>)

Conclusions

We conclude with six broad recommendations, based on CIFOR-ICRAF work over four decades, to guide the various high-level decisions expected from the World Leader Summit and from COP on land use, agriculture, forests, nature and ecosystems:

- 1. Forests, trees and the transformation of agriculture remain a proven mitigation and adaptation pathway and must receive substantially more support in terms of funding and capacity development.** Agroecological approaches that support biodiversity while delivering resilient and productive outcomes are a promising pathway. Agroforestry and trees outside forests, recognized in many countries' NDCs, must become a central plank of mitigation and adaptation strategies, recognizing that more is needed in terms of political and institutional support, infrastructure and capacity development than 'simply planting trees'. CIFOR-ICRAF and partners have provided case studies and evidence at scale that can guide policy making and investment in both emissions reduction and context-specific adaptation solutions (Angelsen et al. 2018).
 - 2. Protecting and restoring habitats is a powerful way to boost resilience to the impacts of the changing climate.** This helps build natural storm and flood defences, and flourishing ecosystems can reinforce sustainable farming approaches and support billions of lives worldwide. Planning and more finance are needed for early warning systems and flood defence, and to build resilient infrastructure and agriculture to avoid further loss of life, livelihoods and natural habitats.
 - 3. There can be no solutions to land degradation or to unsustainable agricultural, forestry and fisheries systems without explicit recognition of rights.** This includes tenure and use-rights of farmers, forest-users, pastoralists and fisher folk, the rights of women and youth for equal recognition and pay, and their 'eye-level' inclusion in decisions. While there are several ways of assuring rights and improving empowerment, CIFOR-ICRAF recommends considering norms of stewardship as a promising pathway to achieving the positive transformation required.
 - 4. Any solutions in the forests and agricultural space must seek to deliver multiple benefits, thereby exploiting, to the full extent possible, the potential of trees and the (agro)-ecosystems concerned.** CIFOR-ICRAF has developed several models that are, for instance, nutrition-led but which also deliver multiple benefits for climate, livelihoods and biodiversity; or models that are energy-led but also deliver multiple benefits for climate, nutrition
- and livelihoods. We are also developing forest-based bioeconomy approaches as new pathways for mitigation (CIFOR-ICRAF 2021). Separating mitigation and adaptation makes no sense in land use; it is critical to explore synergies and ways to surmount trade-offs, which are essential elements of ecosystem-based approaches. It is important to recognize that solutions must be developed for specific contexts, so that they are well adapted and resilient. Carbon farming approaches that do not deliver multiple benefits are likely to fail, as are tree-planting campaigns that do not consider the value and investment in trees over their life cycle in the context of the human-ecological systems they are planted in. Restoration needs to consider the future climate. This requires inclusive, rigorous, transparent and structured learning approaches, which CIFOR-ICRAF has successfully pioneered, such as the Global Tree Knowledge Platform (World Agroforestry 2021b) and Climate Change Atlas for Central America (World Agroforestry 2021c; Africa version to come).
- 5. Conversion of natural forest, (tropical and temperate) peatlands, wetlands, grasslands and other ecologically well-adapted 'natural' and high-carbon systems must be halted immediately.** Many of these contain large amounts of 'irrecoverable' carbon that must be kept intact to avoid further acceleration of global warming without control. As natural stocks, they do not often appear in national accounting and are thus in danger of being lost from sight. There are sufficient areas of converted and degraded landscapes that can be harnessed for restoration purposes, and CIFOR-ICRAF and partners have demonstrated – over millions of hectares and in millions of households – the efficacy of these approaches.
 - 6. The search for climate-relevant solutions in the forests and agricultural space must factor in uncertainty and complexity.** The best way of doing this is to co-develop solutions at the scales of landscapes with the people in those landscapes, at all the nested scales. A corollary to this is that technology-led solutions are unlikely to be successful if they emerge from reductive approaches that do not adequately consider complexity and uncertainty. Any search for solutions must emerge from partnership approaches that explicitly include the aspirations and empowerment of women, youth and marginalized communities.
- CIFOR-ICRAF can be reached at COP through our exhibition booth in the Blue Zone, at the Global Landscapes Forum on Climate from 5 to 7 November, and at our various side events and other events.

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