Land Governance

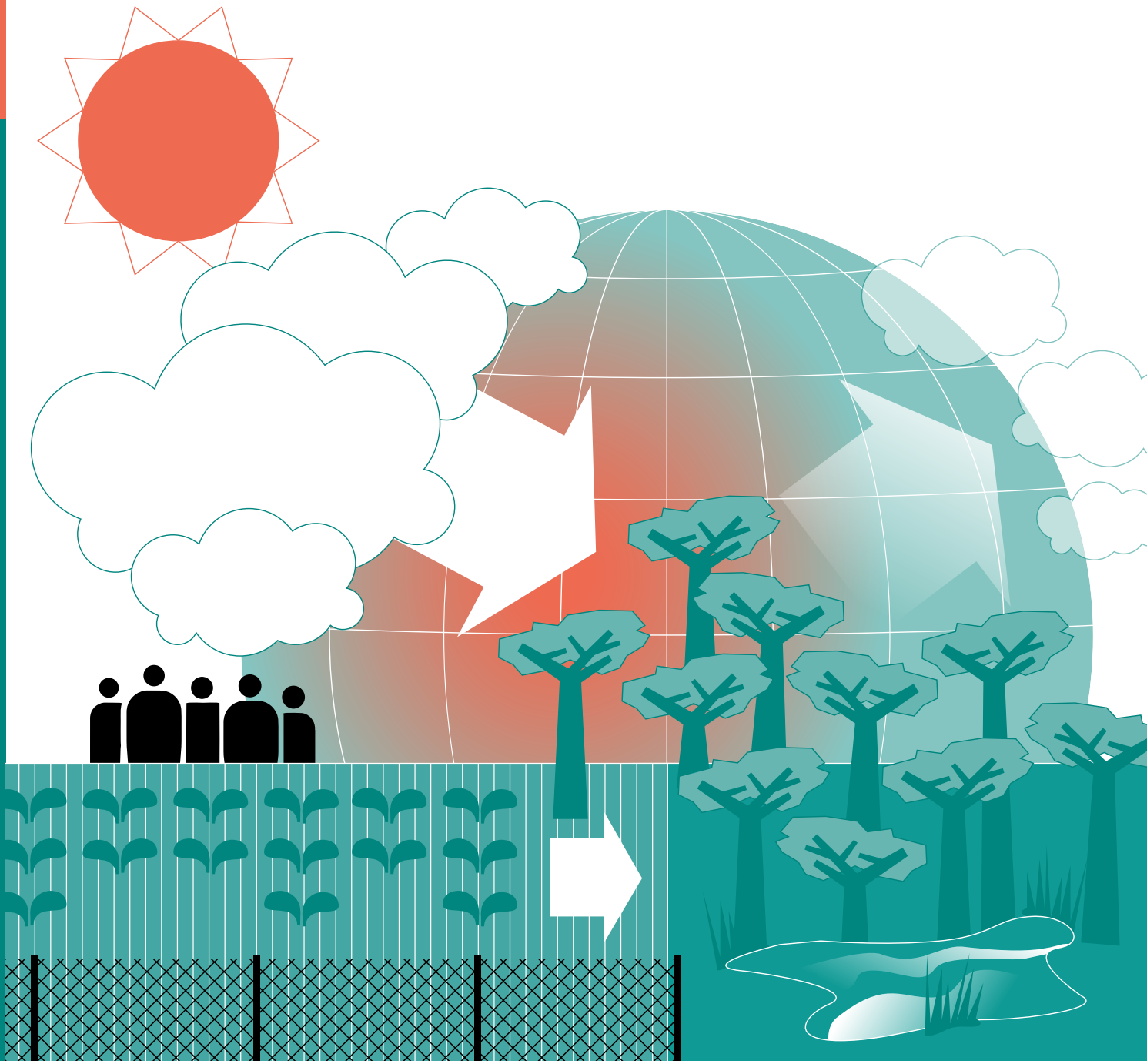
Publication Series Land Tenure and Climate

1

May 2024

The Elephant in the Room

Land Governance Challenges of Climate Change Mitigation



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Publication Series Land Tenure and Climate **1**

The Elephant in the Room

Land Governance Challenges of Climate Change Mitigation

May 2024

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Land Governance – Land Tenure and Climate

Abstract

This article underscores the pivotal role of land in mitigating climate change and stresses the connection between reducing emissions and safeguarding the rights of communities. While industrialised countries acknowledge their responsibility to increase emissions reductions, the effects of mitigation and adaptation on land use affect millions of people, particularly in the Global South. Delivering on all governments' commitments to land-carbon dioxide removal (CDR) would encompass 1.2 billion hectares of land, triggering significant and large-scale trans-formations of land use, including afforestation initiatives, which though crucial for carbon offsetting are criticized for displacing communities. The success of climate action depends on effective governance more than on any other factor. This article argues that while climate action may affect land rights, good governance can facilitate just and equitable transitions and socio-economic opportunities. Case studies from the Democratic Republic of Congo and Colombia illustrate the delicate balance that must be struck between environmental protection and governance, emphasizing the need for holistic strategies that safeguard both ecosystems and the rights of indigenous and rural communities.

Policymaker abstract

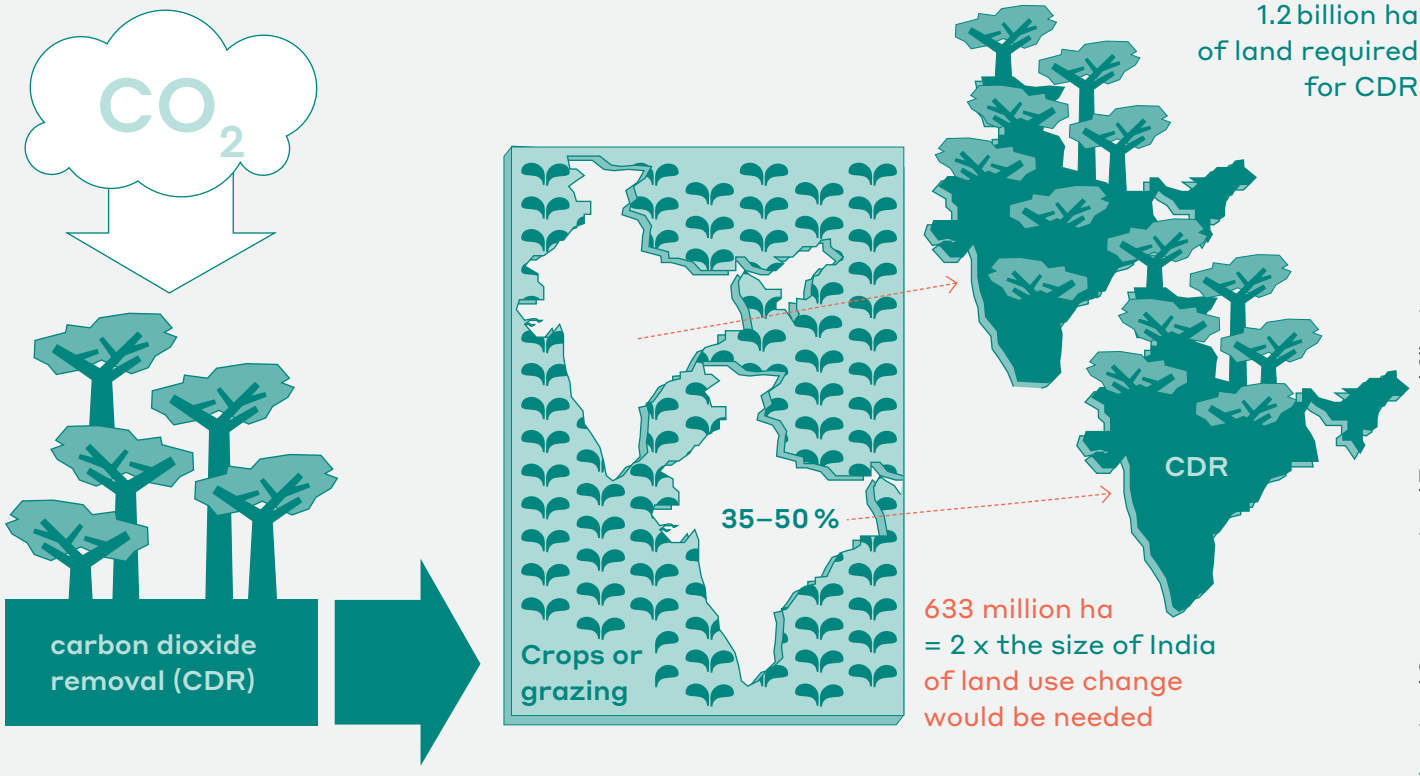
The achievement of global climate goals, particularly under the United Nations Framework Convention on Climate Change (UNFCCC) and the Rio Conventions in general, relies heavily on effective land and forest governance. This paper highlights the pivotal role of governance in safeguarding and restoring ecosystems and advocates for an institutional framework characterised by responsible governance of land tenure. Despite tacit acknowledgement of their importance, governance challenges remain the proverbial 'elephant in the room' in climate policy debates. Policymakers are urged to prioritise capacity building, redress power imbalances and promote transparency and participation. Central to these efforts is the strategic adoption of rights-based land governance frameworks and climate funds. The paper advocates for the incorporation of climate change programmes into existing structures and emphasizes the importance of principles such as Free, Prior and Informed Consent (FPIC). Strengthening local, subnational and national institutions is crucial for fostering accountability. This article urges policymakers to openly acknowledge and tackle governance challenges, proposing accessible financing mechanisms and increased international support. In doing so, policymakers can significantly contribute to effective land-based climate action in line with the Sustainable Development Goals, ensuring an equitable and sustainable implementation of climate targets under the UNFCCC and the Rio Conventions.

1 Why land tenure is essential to climate change mitigation

At the 27th conference of the parties to the United Nations Framework Convention on Climate Change (UNFCCC COP27) in Sharm El-Sheik, Egypt, UN Secretary-General Antonio Guterres re-emphasized that reducing emissions is the key to limiting global warming. Industrialized nations are the central actors who must take the lead (Guterres, 2022). Furthermore, Guterres stressed that climate change, which he described as "the defining issue of our age", requires that the global community of nations make a concerted effort to limit warming to 1.5 degrees Celsius.

While many countries in the Global South may not have significantly contributed to climate change, the mitigation and adaptation pathways adopted by international agreement have considerable implications for the lives and livelihoods of millions of people in those countries. The factor that has the significant and considerable impact on people, especially the rural poor, local communities, and Indigenous Peoples, is land-based carbon removal.

Climate change mitigation and adaptation measures will affect how and by whom land is used. According to the Land Gap Report, the combination of all governments' commitments in relation to land-based carbon dioxide removal (CDR) would require 1.2 billion hectares of land (Dooley et al 2022). This is approximately three times the area of the European Union. **633 million hectares, an area about twice the size of India, would be used for multiple purposes or undergo changes in land use and transition from existing practices such as agriculture or grazing to forestry.** CDR through land use change would require the transformation of 35–50 per cent of the current global area devoted to cropland. (Dooley et al., 2022; www.ourworldindata.org) This means that less land will be available for agricultural purposes. At the same time, some areas will become unsuitable for the current agricultural practices, requiring farmers to adapt their approaches to farming.



Some land-based measures will also result in the direct displacement of populations. Protecting forest areas, for example, has caused the displacement of forest dwellers and forest users in the past (RRI, 2020). As forests store billions of tons of CO_2, deforestation and forest degradation are a major source of greenhouse gas emissions. Recent reviews of programmes aimed at reducing emissions from deforestation and forest degradation (REDD+) indicate that land- and forest-based climate change mitigation measures have the potential to harm the lives and livelihoods of communities and violate human rights (RRI, 2018; Rodriguez de Francisco et al., 2021) as well as negatively impact tenure security and wellbeing (Duchelle et al., 2017).

The current demand for land related to reforestation, afforestation, forest protection, land restoration projects and similar measures is likely to increase further. Several countries are launching initiatives to create carbon markets to help companies achieve their net-zero goals. Kenya, for example, is already an exporter of carbon credits and aims to become a global leader in this field. Kenya's president, William Ruto, was also a driving force behind the African Carbon Markets Initiative (ACMI) launched at COP27. However, carbon offsetting schemes have faced criticism for their negative impacts on Indigenous communities (Reuters, 2023) and for significantly exaggerating the carbon emissions they claim to offset (The Guardian, 2023).

Secretary-General Guterres concluded his speech in Sharm El-Sheik by emphasizing the importance of involving all social actors in climate responses while respecting and protecting human rights. He also highlighted a critical but under-acknowledged issue:

»that the effectiveness of mitigation efforts and their impact on people's lands and lives depend on the quality of governance.«

Good governance in this context involves implementing processes that balance different and potentially diverging interests and objectives, such as trade-offs between food production and afforestation or the need for swift implementation versus the rights of Indigenous Peoples and local communities. While global leaders recognize the crucial role of Indigenous Peoples and local communities in mitigation and the need to protect their legitimate rights (UKCOP26), it is doubtful whether the necessary governance measures are in place at global, national, and sub-national levels to protect these rights and facilitate environmental stewardship by local communities and Indigenous Peoples.

Land governance implications of climate change mitigation

Examining the effects of current climate change mitigation measures on land use and governance raises concerns about protecting rights and livelihoods. It also reveals how governance, especially in land management, can significantly enable land-based climate change mitigation and promote fair economic and social changes.

As highlighted above, using land to mitigate climate change has significant implications for current land users and their legitimate land tenure rights. The process of fairly transforming land use poses an enormous governance challenge to states and state actors, communities, and Indigenous Peoples who depend on the land and live in or adjacent to forests. Millions of people, many of whom live in places where state actors lack resources and where poverty or conflicts undermine government programmes, will have to adapt their lives and livelihoods. They will require considerable structural support to make this transition successful.

The implications of land-based and natural climate solutions depend on where they are implemented. Different types of land-based mitigation measures will have different socio-economic impacts.[1] While measures that require populations to relocate or change their livelihoods raise concerns, it is essential to recognize that these can also increase land value. The potential for better ecosystem services, more biodiversity, and sustainable land management practices can make land more valuable. Therefore, it is crucial to assess both the challenges and opportunities that come with these solutions.

Governments, implementing agencies, donors and multilateral organisations must ensure that the governance challenges of just and equitable climate transitions are overcome. They must establish and enforce rules and procedures related to climate change mitigation measures that protect people's legitimate tenure rights and livelihoods while ensuring that climate change mitigation measures are effective. This requires strengthening key actors from the government, civil society, and the private sector, as well as building capacities to coordinate, lead and implement these measures with the ultimate goal of enabling effective governance.

Objectives and outline of the paper

This paper focuses on how government commitments impact measures to address climate change through land use and forestry-based climate change efforts. It demonstrates the need to ensure an enabling environment and advocates for climate change mitigation measures that respect human rights.

The following section outlines the overall land requirements for climate change mitigation. It discusses some of the key implications for communities and governance. Section 3 takes a more detailed look at countries with high potential for implementing natural- and land-based climate solutions, while Section 4 discusses some of the governance challenges encountered in these countries. Section 5 presents two case studies that demonstrate the specific governance challenges associated with natural, land-based climate change mitigation efforts. Lessons are then drawn for fair and equitable transitions. The final section summarizes the arguments presented in this paper and highlights key lessons for policymakers and implementers.

2 Spending above budget – land demand and commitments

Growing land demand for mitigation measures

Land use has significantly contributed to global warming and continues to do so (IPCC, 2023). While the reduction of emissions is crucial to mitigating climate change, the management, protection and restoration of land, including forests and soils, is essential if global warming is to be kept within the 2-degree limit set out in the Paris Agreement. The increased demand for land, driven by climate change policies, has led countries to commit extensive land areas for mitigation measures. Insufficient progress in reducing greenhouse gas emissions (IPCC, 2023), the limited readiness of technological solutions for carbon sequestration (IEA, 2020)[2],

1 In addition to the mitigation measures pledged by states, companies are often unable or unwilling to reduce their emissions, opting instead to offset their carbon emissions through forest protection or afforestation programmes in the tropics. The Guardian revealed that many carbon-offset certificates issued by one of the largest global certifiers are likely to be 'Phantom Credits', meaning that they do not represent real emissions reductions while significantly affecting how the land is used (The Guardian 2023). The investigation by The Guardian, Die Zeit and SourceMaterial indicated that 94 per cent of the assessed credits did not benefit the climate.

2 In a recent report, the International Energy Agency stated that "Two-thirds of the cumulative emissions reductions from CCUS through to 2070 in the Sustainable Development Scenario relative to the Stated Policies Scenario come from technologies that are currently at the prototype or demonstration stage" (IEA, 2020, p. 92).

and increased reliance on so-called nature-based-solutions (Schmitz et al., 2023) could further increase demand for land. As the world realises that comprehensive technological solutions such as carbon capture, use, and storage (CCUS) may not be as promising as once hoped, the demand for land will likely grow even more.

Around one-quarter of the climate change mitigation contributions countries have already committed to will come from land-based options (Yesil et al., 2020). Forest protection, afforestation, and reforestation are central mechanisms for land-based mitigation. Afforestation means planting trees in an area that did not previously have tree cover, while reforestation refers to the restocking of woodlands. Afforestation and reforestation are to be used on a large scale as they hold a high potential for a "net temperature reduction" (Fuss et al., 2018). These measures are applied mainly in tropical areas due to higher productivity and a "local cooling effect from evapotranspiration" (Fuss et al.,2018).

Regional concentration of land-based restoration commitments

The land demand for climate change mitigation is concentrated in countries in the Global South, in regions historically least responsible for global warming. The land pledged for restoration by countries in sub-Saharan Africa is seven times the size of Kenya. Some countries have even committed more land on paper than is physically available (Sewell et al., 2020). For instance, Benin has pledged 16,287,760 hectares, yet the country's actual size is only 11,276,000 hectares. Burundi, with an area of 2,568,000 hectares, has committed 2,694,6000 hectares. While accounting factors may have contributed to this over-commitment, it underscores the substantial challenge posed by land-based pledges associated with the Rio Conventions.

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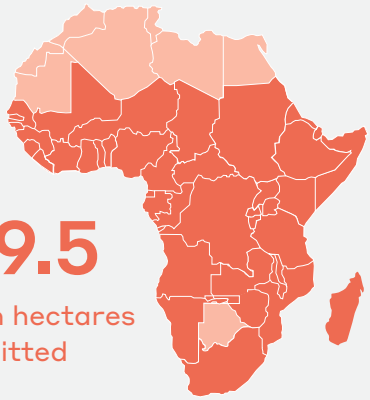


129.5

million hectares committed

Southeast Asia and sub-Saharan Africa are two regions that face severe forest loss and land degradation. However, these regions also hold significant land and forest management potential, including ensuring sustainable use, preventing erosion, and enabling multiple uses. Additionally, there are opportunities for forest protection to halt further loss and proactive restoration efforts to restock forests. Brazil and Indonesia intend to reforest 12 million hectares of forest by 2030. AFR100, the African Forest Landscape Restoration Initiative, is a country-led effort to restore more than 100 million hectares of land in Africa by 2030. However, despite their potential, such large-scale restoration initiatives continue to be hampered by challenges including issues with forest governance, competition over land for agricultural use, and financial constraints (Dockendorff et al., 2020). Moreover, extensive tree-planting efforts raise significant concerns regarding tenure rights. In many Southeast Asian and sub-Saharan African countries, people who use or live on the land have precarious tenure rights and limited alternatives for generating income and sustaining their livelihoods.

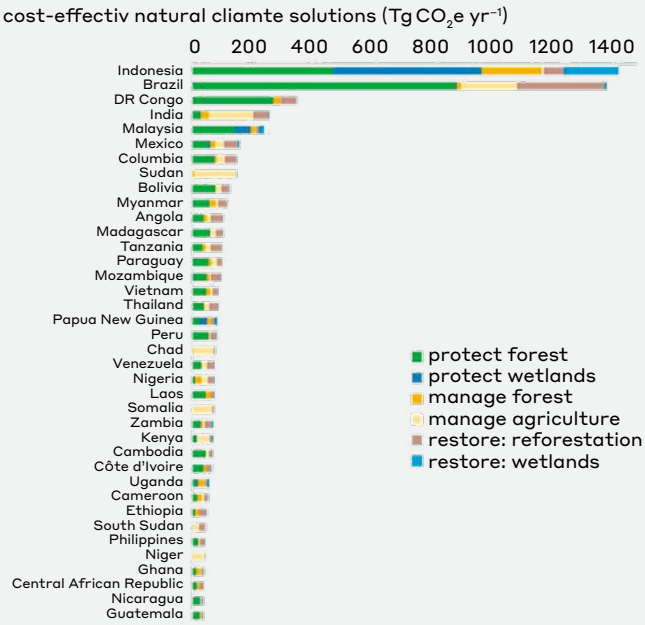
The heavy reliance on land-based CDR are the result of net-zero pledges that focus more on future removals than immediate emissions reductions (Dooley et al., 2022). In other words, limited emissions reductions in advanced economies are meant to be offset by nature-based approaches in countries of the Global South and by future carbon capture.

3 Countries with high NCS potential – promise and challenges

Key natural climate solutions (NCS) include reforestation, avoided forest conversion (deforestation), forest management, avoided wood fuel use, planting trees in croplands, conservation agriculture, avoided grassland conversion, coastal and peat area restoration, and changes in grazing management (Griscom et al., 2017). Whether these solutions result in climate-positive land use change depends on how governments implement them. Implementers must tailor their strategies to the socio-economic, political and cultural contexts, which pose significant challenges.

Of 79 tropical countries and territories, four large countries – namely, Indonesia, Brazil, the Democratic Republic of the Congo and India – hold over 50 per cent of the potential for cost-effective natural climate solutions. In these countries, every dollar invested in natural climate solutions such as land and forest protection, restoration, and management is expected to yield the highest impact. However, certain NCS measures could also negatively impact social and economic development, including food security. In models of land-based mitigation, the highest negative impact on food security came from afforestation policies. Sub-Saharan Africa is particularly at risk from shocks caused by such policies (Fujimori et al., 2022). Yet, two-thirds of the most cost-effective NCS potential is estimated to derive from mitigation pathways involving forest land.

Based on 2020 average carbon prices, the cost-effective potential of afforestation and reforestation was calculated to be around 300 million hectares globally (Sewell et al., 2020). However, social costs and food security effects were not considered in this



Cost-effective naural climate solutions (Griscom et al., p. 8)

calculation. Competition between agricultural activities and mitigation measures can, for instance, adversely affect production. For example, increases in global carbon prices would generally enhance the potential for cost-effective mitigation, such as through price hikes in emission trading systems. This would expand the total area where natural, land-based climate solutions are warranted. Consequently, the scale of potential trade-offs between NCS, food security, livelihoods and other land use would grow.

In some countries with significant potential for NCS, there are serious challenges linked to human rights, the safety of rights defenders, and shrinking civic space. For instance, the Democratic Republic of Congo, Colombia, and Brazil, which possess substantial cost-effective potential for forest-based measures, frequently experience conflicts over land tenure that often escalate into violence. Land defenders in these countries often face serious threats to their personal safety (Global Witness, 2022). Furthermore, the tenure rights of specific groups, such as Indigenous Peoples, are fragile and challenged. While the feasibility constraints and prevailing modes of governance vary depending on the context, land use and tenure security remain central concerns across these diverse settings.

4 Specific governance challenges in countries with high NCS potential

A substantial portion of the global cost-effective potential for climate change mitigation is in countries facing severe economic, political, and social challenges. Implementing effective climate policies and measures fairly and equitably is a major concern in these contexts. Various factors, including socio-economic and institutional aspects, affect the feasibility of implementing climate change mitigation measures (Roe et al.,2021, p. 6051).

Eighty per cent of the cost-effective potential for natural climate solutions is held by just 20 countries, ranked by NCS potential (Griscom et al., 2020, p. 6). However, many of these top cost-effective countries (see Fig. 1) face serious governance challenges. This means that the implementation of climate change mitigation measures is likely to be hindered by governance challenges such as limited state presence in certain areas and limited capacities by state actors, including limitations in setting and enforcing rules (limited statehood), corruption, lack of transparency, violent conflicts, and dysfunctional or overburdened justice systems.

Furthermore, the potential role of civil societies in governance processes varies significantly depending on the context. It is often constrained by shrinking civic space and democratic backsliding (Sharp, Diepeveen, Collins, 2023). Therefore, the specific land governance challenges per country will likely vary and require targeted solutions.

High land management potential – low restoration potential	India, Kenya, Chadd, Somalia, Nigerr, Gabon, Zimbabwe, Botswana, Sudan, Nigeria
High land protection potential – low management potential	Colombia, Vietnam, Paraguay, Indonesia, Malaysia, Brazil, DR Congo, Madagascar, Bolivia, Papua New Guinea
High land restoration potential – low protection potential	Ethiopia, Burundi, Togo, Guinea, Timor, Leste, Rwanda

Fig. 1: Cost-effective natural climate solutions potential
Adopted from Griscom et al., 2020

Key countries with the potential for cost-effective mitigation score low on important governance indicators, as shown in the table below. This raises important questions regarding how trade-offs between climate change mitigation, rights protection, livelihoods and food security can be minimized.

Fig. 2 Governance indicators for high potential NCS countries

Country	NCS mitigation potential	Corruption Perceptions Index (CPI)	WGI[3] Political stability/absence of violence	WGI Government effectiveness	WGI Rule of Law
DR Congo	Protect	19.0/100	8.49/100[4]	3.85/100	3.85/100
Ethiopia	Restore	39.0/100	4.25/100	31.25/100	29.33/100
Indonesia	Protect	38.0/100	27.83/100	65.38/100	46,63/100
Brazil	Protect	38.0/100	28.77/100	35.10/100	42.31/100
Colombia	Protect	39.0/100	17.45/100	52.40/100	35.58/100
Kenya	Manage	30.0/100	13.21/100	38.94/100	38.94/100

Based on: Transparency International 2022, World Bank 2022

3 Worldwide Governance Indicators 4 By comparison, Denmark scores above 90 on all indicators, except political stability/absence of violence where the score is about 80.

Tenure governance challenges

In addition to emissions reduction, the most effective results in terms of limiting global warming are achieved through natural climate solutions, particularly afforestation and reforestation in tropical regions. However, adverse social outcomes of climate change mitigation policies are more likely in contexts with high poverty levels, corruption, and economic and social inequalities (Markkanen/Anger-Kraavi, 2019). Therefore, the concentration of land-based climate change mitigation efforts in countries marked by relatively challenging socio-economic and political environments poses a significant risk.

Despite some positive progress, land-based mitigation and restoration measures frequently fall short of adequately involving and protecting local communities and Indigenous Peoples and recognizing their legitimate land tenure rights. Climate-related funding, for example, does not sufficiently consider the effects on local populations. A recent evaluation by the Green Climate Fund (GCF) identified significant gaps regarding human rights, gender, and equity in GCF's environmental and social safeguards (Annandale et al., 2020). REDD+ investments have been heavily criticized for negative impacts on local communities and Indigenous Peoples (Barletti/Larson, 2017; Kill, 2022), and recent studies on REDD+ impacts suggest adverse effects on local resilience (Reem Hajjar et al., 2021).

Monitoring of previous REDD and REDD+ programmes reveals concerning trends that could recur in other land-dependent climate mitigation measures: the exclusion of legitimate land users from participation and consultation, inadequate compensation, human rights violations in forced evictions and displacements of indigenous and local populations, and the degradation of biodiversity due to poor land management practices (CIFOR 2017, 2015).

In sub-Saharan Africa, many land-based mitigation measures will be implemented on land with contested legal status.

Approximately 1.4 billion hectares in sub-Saharan Africa (60 per cent of the total land area) are governed by custom rather than law. However, in most countries, less than 10 per cent of the land is designated for Indigenous Peoples and local communities.

Furthermore, the legal status of land can change based on government decisions without community involvement. In Latin America, despite large portions of the Amazon rainforest being designated as protected indigenous areas, conflicts over land use are widespread. Over three-quarters of all documented attacks on land activists occur in Latin America (Global Witness, 2022). This is due to limited state capacities in the Amazon region and high levels of poverty, corruption, and inequality, which are believed to strongly influence adverse outcomes of climate change mitigation policies (Markkanen/Anger-Kraavi, 2019). While specific issues vary by country, governance challenges will ultimately determine the effects and effectiveness of land-based climate change mitigation.

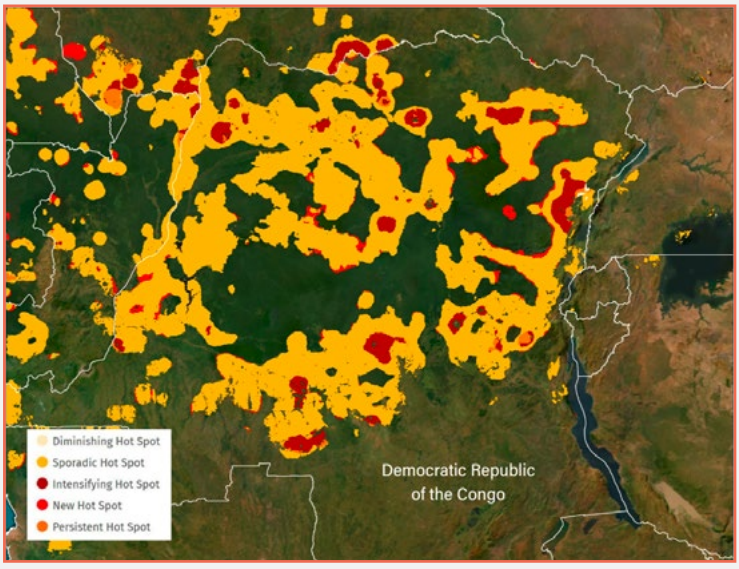
5 Case studies of land-based climate governance

The Democratic Republic of Congo and Colombia both have very high forest protection potential as they host significant portions of the world's two largest tropical forests, the Amazon rainforest and the Congo Basin rain-forest. At the same time, the two countries face very serious governance challenges, particularly in areas where climate change mitigation measures are to be implemented. This section outlines key challenges and potentials associated with mitigating adverse effects and facilitating effective land and forest-based climate change mitigation.

Democratic Republic of Congo

Often referred to as the "lungs of Africa", the Congo Basin spans six countries and is currently the world's largest carbon sink forest (World Bank, 2022b). With 126 million hectares of forested area (World Bank, 2020), the Democratic Republic of the Congo is home to nearly two-thirds of the Congo Basin (Norway's International Climate and Forest Initiative, 2022), storing eight per cent of global forest carbon stocks (World Bank Group, 2021). In addition, DR Congo has the highest level of biodiversity on the African continent (UN Environment Programme, 2011). From 2000 to 2021, DR Congo lost 17.1 million hectares of forest, resulting in 10.5 gigatonnes of CO_2 emissions (Global Forest Watch, 2020). This data indicates that DR Congo is a key area for climate change mitigation efforts.

Democratic Republic of Congo



Diminishing Hot Spot
Sporadic Hot Spot
Intensifying Hot Spot
New Hot Spot
Persistent Hot Spot

Primary forest loss emerging hot spots, 2002–2023 (Harris et al. 2017). New hot spots represent new patterns of statistically significant loss in 2023.

Source: Global Forest Watch, World Resources Institute, 2024

The Congo Basin is considered an area of high potential for cost-effective climate change mitigation (Griscom et al., 2020), drawing the attention of international donors. However, the calculations underlying this "high cost-effective potential" do not adequately consider governance-related challenges and their potential negative consequences. The Federal Republic of Germany and other countries are involved in forest protection in DR Congo through the Congo Basin Forest Partnership. This partnership aims to protect the Congo Basin and its forests by providing adequate financial compensation through international climate budgets (Ruck, 2022). However, this initiative is not without controversies, including those related to politicization, co-optation by elites, and limited involvement by the affected communities.

While natural climate solutions in DR Congo are very promising in theory, the governance challenges are immense. The Congo Basin is the scene of multifaceted crises, including forced displacement, violent conflicts, and political instability (Nagabathla et al., 2021). DR Congo ranks 166th out of 180 countries on the Corruption Perceptions Index (Transparency International, 2022). In the World Bank Governance Indicators, it scores poorly in all areas, specifically and notably in regulatory quality, government effectiveness, and the rule of law (World Bank, 2022). The country has faced serious governance challenges for many decades, including civil wars and the persistent presence of armed groups operating across borders, especially in the northeast. The situation is compounded by widespread illegal resource extraction involving numerous external actors, including multinational companies and neighbouring states. The government struggles to establish functional institutions, and citizens do not perceive the state as supportive of their needs.

Limited governance is already a challenge in urban areas and even more so in rural contexts. Even where institutions have been set up, their performance is often undermined by limited professionalism and corruption (BTI, 2022)[5]. Case studies show problematic relationships between citizens and government institutions but also illustrate how populations and individuals, sometimes together with administrators and customary actors, develop alternative modes of governance (Raeymaekers et al., 2008). Any measures related to climate change must consider the specific governance conditions.

All actors in DR Congo are acutely aware of the complexities associated with forest-based mitigation efforts and identify the lack of capacities among actors, including state actors, as a major obstacle (Brown et al., 2011). Respondents from three Congo Basin countries, including DR Congo, emphasized the need for more awareness of the necessary conditions for successful emissions reduction efforts and indicated a lack of capacity to raise awareness among all affected stakeholders (Brown et al., 2011). Furthermore, the implementation of forest-based emissions reduction programmes relies on international experts, as highlighted by a government respondent from DR Congo, who noted the lack of human resources and funds in most government departments to fulfil their everyday responsibilities.

While the strong focus on land-based and, specifically, forest-based mitigation measures in DR Congo has serious implications for land use and tenure rights, the state of tenure rights in the country is complex and challenging. Incoherencies in the legal system and tensions between statutory and customary land governance systems persist, and many actors lack orientation to overcome existing land governance challenges (Betge, 2019).

Mai-Ndombe as a testing ground

Mai-Ndombe province, located in western DR Congo, covers 9.8 million hectares of forest and was re-established as a province in 2015. It is a major recipient of forest-based climate funding. However, governance issues and infringements on tenure rights make its climate change mitigation efforts highly precarious (RRI, 2018). Mai-Ndombe supplies agricultural products and wood, making the forest an essential source of income for both locals and outsiders (RRI, 2018). Numerous REDD+ programmes are being implemented in the province, with many nominally adopting community-oriented approaches by working with local development committees comprised of community members. While Mai-Ndombe province is largely free from violent conflict and the influence of armed groups, land tenure is a volatile issue, often leading to inter- and intra-communal tensions and conflicts. State actors frequently make land-related decisions without consulting legitimate rights holders.

In DR Congo, land use planning is generally perceived as arbitrary, with state authorities often failing to communicate among themselves and other stakeholders. Communities in Mai-Ndombe view insecure tenure and uncertainty about tenure rights as significant sources of conflict (RRI, 2018: 27). Tenure insecurity is also caused by chiefs who sometimes allocate land arbitrarily or contrary to community interests (RRI, 2018). Land prices in Mai-Ndombe are rising, and land is increasingly treated as a capital asset.

Furthermore, the creation of protected areas has led to conflicts and evictions in the past. Communities perceive these interventions as infringements on their rights and livelihoods (RRI, 2018). Women, especially those belonging to indigenous groups, experience particularly severe tenure insecurity due to a lack of anti-discrimination laws and discriminatory customs. This is also

5 The Bertelsmann Transformation Index ranks DR Congo 125th out of 137 states on the Governance Index (BTI, 2022). https://bti-project.org/en/reports/country-report/COD.

evidenced by the low rates of women's participation in public life (RRI, 2018).

Given that the necessary national governance structures for implementing REDD+ were largely non-operational and provincial-level governance structures were dysfunctional, REDD+ programmes in Mai-Ndombe were initiated within a context where basic safeguards and structures were non-existent. This included a lack of monitoring instruments, which increased the risks for all stakeholders (RRI, 2018). Mai-Ndombe served as a testing ground for REDD+ implementation in DR Congo. Risks, however, were underestimated, additional conflicts were created, and local communities sometimes experienced hardship. REDD+ implementation was not adapted to the local context and failed to adequately involve local stakeholders (RRI, 2018).

Land governance to facilitate mitigation measures

In the Congo Basin forests, insufficient attention to the land governance challenges arising from forest protection measures and the social and economic effects on local populations pose a serious risk to the sustainability of climate change mitigation and social and political cohesion. Land is already a critical factor in many ongoing violent conflicts in DR Congo (Betge, 2019). Displacement is a common occurrence, and marginalized groups and individuals often lose out, with women and ethnic minorities among those most easily targeted and disenfranchised. There already are more than five million internally displaced people in DR Congo (UNHCR, 2023).

Land- and forest-based mitigation measures that displace populations or negatively affect their access to resources, livelihoods and cultural identity are likely to create resistance and discontent that can undermine the objectives of such programmes.

Inclusive and participatory land governance approaches have the potential to foster broad community support and effective forest protection.

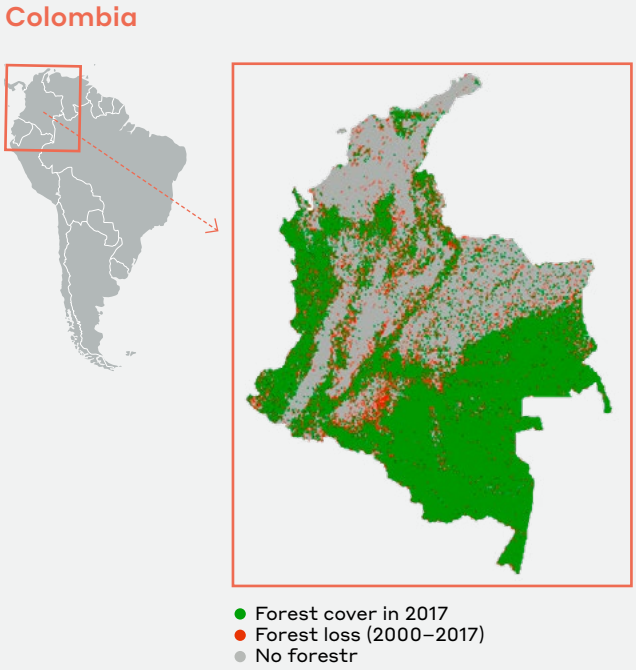
In summary, land governance challenges in DR Congo stem principally from three issues:

1. Limited capacities of state and civil society actors
2. Incoherent land laws and policies
3. Ongoing land-related conflicts

While these issues are not unique to DR Congo and do not represent the entirety of concerns in relation to land governance and climate change mitigation, they are three key factors that are insufficiently acknowledged and addressed by those designing and deciding climate change mitigation strategies. These issues are crucial to the success or failure of land-based mitigation efforts.

Colombia

With around 59 million hectares of forest, comprising over half of the country's total land area (Food and Agriculture Organization, 2020), Colombia ranks among the world's most biodiverse countries (MinAmbiente, 2019), being home to almost 10 per cent of the planet's known species (World Bank, 2022). Over the past several decades, Colombia has faced extensive deforestation, losing an area larger than Costa Rica between 1990 and 2017 (Norwegian Ministry of Climate and Environment, 2020). Colombia boasts significant cost-effective potential for natural climate solutions, including extensive forest protection and substantial reforestation potential (Griscom et al., 2020). By 2030, the country aims to achieve zero hectares of deforestation in natural forests while restoring 963,000 hectares. Some researchers view Colombia as one of the most promising candidates for natural climate solutions (Griscom et al., 2020).



Li'evano-Latorre; Brum, Loyola, 2021, Forest cover in Colombia from 2017 and forest loss between 2000 and 2017.

However, Colombia faces significant challenges in achieving its climate objectives. The country has experienced recurrent waves of conflict in recent decades, resulting in a weakening of the rule of law, especially in some rural regions where millions of people have been displaced (ICTJ, 2009). The peace accord between the Colombian government and the Fuerzas Armadas Revolucionarias de Colombia (FARC) guerrillas did not pacify the country, and violence persists to this day (IISS, 2022). Violent events and fatalities have increased in the Amazon region in recent years, with environmental defenders particularly at risk (IISS, 2022).

With a Gini coefficient of 0.50 (2017), Colombia has the second-highest level of land ownership inequality in the Americas (after Brazil), affecting land-use practices for all landholders (World Bank, 2019; Armenteras et al., 2019). Despite the country's high potential for climate change mitigation measures and relative political stability, environmental governance remains highly challenging, particularly in the Amazon region. Smallholder farmers are targeted by law enforcement as environmental offenders, while large-scale cattle ranchers and armed groups responsible for significant forest and environmental damage face minimal challenges from the authorities (Rodríguez-De-Francisco et al., 2021). Following the departure of the FARC from forest areas where they used to hide from state forces, opportunistic actors quickly moved in, resulting in extensive deforestation. This led to a 44 per cent increase in deforestation after the peace agreement (Rodriguez de Francisco et al., 2021).

Deforestation and tenure conflicts in Guaviare

While state actors and the designers of programmes targeting deforestation in Colombia view smallholder farmers as a primary threat to the Amazon Forest, recent studies indicate large cattle ranchers are the main drivers of extensive and ongoing deforestation, especially in former FARC-controlled areas (Rodriguez de Franciso et al., 2021). Guaviare is one of the country's deforestation hotspots, with deforestation caused by Praderización, an illegal practice involving deforestation and the establishment of de-facto property rights through fencing and grazing to demonstrate productive land use, and subsequent legalization facilitated by political connections (Rodriguez de Franciso et al., 2021, p. 4) Such practices have been common in Guaviare for years, leading to the displacement of local communities who are then replaced by large cattle ranches owned by regional and national elites (Rodriguez de Franciso et al., 2021). The displacement of communities in Guaviare also increases the likelihood of violent conflicts over land.

The interconnection of deforestation and land appropriation raises concerns about the effectiveness of climate change mitigation programmes in stopping deforestation. These programmes even have the potential to incentivize further illegal land appropriations. In Guaviare, different types of land claims by different groups are often superimposed (CIFOR 2018) and create complicated tenure situations

that require adaptive and responsive governance institutions. Historically displaced and marginalised groups, including campesinos, indigenous and Afro-Colombian populations are in conflict with political and commercial actors. For programme designers and implementers from outside the region (or the country), the complexity of the situation makes developing effective programmes very challenging.

Strong institutions needed

Recent efforts at forest protection and reforestation through REDD+ have been hampered by a lack of regional governance and limited adaptation to post-conflict settings (Vivid Economics, 2021). Tenure rights recognition and enforcement are very limited in rural areas in Colombia (Sánchez, 2019). Future efforts at land- and forest-based climate change mitigation in Colombia will likely face similar challenges to those experienced under previous REDD+ programmes, including insecure land tenure, weak institutions, displacement, and high levels of illegality.

Deforestation in Colombia is clearly related to weak local institutions (Streck et al., 2015). Colombians generally have low levels of trust in their government and public institutions and believe many of these to be corrupt (DANE, 2022; Freedom House, 2022; OECD, 2021; Pring & Vrushi, 2019, cited in Climate Analytics & NewClimate Institute, 2023). The co-optation of climate mitigation schemes by criminal groups, corrupt local politicians, or local elites is likely and poses a risk to social cohesion and stability as well as mitigation targets.

It is vital to empower civil society and local communities to address local lack of governance capacities and the risk of corruption undermining mitigation efforts. At the same time, state institutions must bolster their ability to handle complex environmental programmes, deal with local conflicts and resist external pressures. Access to environmental information for local and indigenous communities must be ensured to enable better land and environmental governance. Many Latin American countries guarantee such information rights through the Escazú Agreement[6], which also aims to ensure access to justice and protect environmental defenders. Colombia finally ratified the agreement in late 2022.

As in the case of DR Congo, capacity building is a key concern. However, given the specific challenges in Colombia outlined above, the focus must be on the capacities of local communities to be aware of and claim their rights and to engage effectively and, where possible, cooperatively with state actors and other stakeholders. Knowledge of rights, capacity to self-organize, document rights infringements, and protect themselves against threats and violence are essential tools for local communities and Indigenous Peoples to defend their legitimate land rights and effectively contribute to climate change mitigation efforts. This also requires financial support directly to these communities and their representative organisations.

6 The Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean, better known as the Escazú Agreement (Spanish: Acuerdo de Escazú), which originated at the 2012 United Nations Conference on Sustainable Development, is an international treaty signed by 25 Latin American and Caribbean nations designed to protect environmental activists.

6 Acknowledging the elephant in the room

The ability of the global community of nations to limit global warming to 2 degrees and achieve the objectives defined in the UN Framework Convention on Climate Change hinges on lands and forests. The same applies to the agendas agreed to by the parties to the two sister conventions on biodiversity (UNCBD) and land degradation (UNCCD). Governance, particularly the governance of land, is the common denominator that enables the protection and restoration of nature and ecosystems. Given the pivotal role of land and forests in the climate change agenda, it is imperative to establish adequate institutional frameworks that allow for climate and sustainability governance with responsible tenure governance at its core.

There is a growing recognition that successful climate change mitigation needs to follow rights-based approaches, exemplified by initiatives such as the Glasgow Leaders Declaration on Forests and Land Use (UKCOP 26). These approaches must involve stakeholders at multiple levels, especially Indigenous Peoples and local communities. Despite this, governance issues that hinder mitigation efforts still need much closer attention. In a recent report on progress towards the Sustainable Development Goals (SDGs), UN Secretary-General Antonio Guterres urged governments to strengthen national and sub-national capacities and empower governance institutions (UN, 2023).

Building capacity

Capacity building has been identified as a key requirement in the context of the UNFCCC process (UNFCCC, 2023). Uneven power balances between capacity-building providers and the recipients of this support, as well as among institutions within the respective countries, are also acknowledged as severe constraints to advancing the UNFCCC agenda (UNFCCC 2023). However, there has been limited large-scale and concerted action to address capacity issues in the context of efforts to mitigate climate change. Meanwhile, it is also important to build on existing structures and efforts to ensure the protection of rights and enable rights-based approaches in land and forest-based climate change mitigation.

Implementers and other stakeholders should leverage frameworks for rights-based land governance, such as the UN Food and Agriculture Organization's Voluntary Guidelines for the Governance of Tenure of Land, Fisheries and Forests (VGGT), which are rooted in binding human rights. To do this, actors require access to relevant knowledge as well as financial and material support through climate change funds and development funding aimed at achieving the Sustainable Development Goals (SDGs). These agendas and the ambition to leave no one behind are interrelated and interdependent.

Enhancing transparency

As shown above, policymakers and state authorities in countries with high potential for natural climate solutions often lack the capacity to manage land governance in a way that facilitates climate change mitigation while also protecting legitimate tenure rights. This can be attributed to factors such as understaffing in key ministries, financial constraints and limited expertise. Furthermore, there is a lack of clear options and pathways that directly show how to integrate climate change mitigation with the strengthening of tenure rights (Dooley et al., 2018). The result is all too often murky and insufficiently transparent decision-making processes within state authorities regarding land use planning, land allocation, and measures to protect land and forests in the context of climate change mitigation.

In contexts where powerful elites can co-opt or negate state authorities and

disenfranchise local communities, climate mitigation efforts are often further hindered by a lack of transparency in decision-making by state actors and limited public understanding of the aims of climate-related land programmes and the roles of different actors. A lack of transparency also limits the possibility of dealing with the negative consequences of land-based climate change mitigation programmes.

Increased transparency and participation, following the principle of free, prior and informed consent (FPIC), is a crucial step in enabling positive impacts of land-based climate change mitigation. TMG's work in mapping the effects of land degradation neutrality programmes in Benin, Malawi, Kenya, and Madagascar has revealed a limited understanding of the objectives and needs of local communities by state authorities. On the other hand, local communities typically have insufficient knowledge about the objectives and rationale of state actors and project implementers. Greater transparency on the side of state actors and external implementers is a first step towards facilitating positive impacts.

Enabling participation

Effective and constructive participation by relevant stakeholders in planning and implementing land-based climate change measures, firsts and foremost the affected communities, from an early stage, is key to achieving sustainable results.

The faster climate change mitigation measures are implemented, the greater the risks they pose for human rights and tenure rights of Indigenous Peoples, local communities, and all legitimate land rights holders. While guidelines for the responsible governance of tenure and the responsible implementation of land-related measures exist (for example, in the context of combating desertification) and should be applied in the context of climate change mitigation, there is a need for more targeted support. This should focus on enabling land-based climate change mitigation, safeguarding land tenure rights and protecting human rights. Effective and responsible land governance, based on monitoring land tenure rights and rights violations at the local level, is central to such efforts. To this end, local, sub-national and national institutions must be strengthened.

TMG has developed solutions that facilitate bottom-up, locally owned monitoring of tenure rights infringements. Such solutions enable data crowdsourcing rather than relying solely on top-down interventions, thus democratizing monitoring and incorporating participatory elements into monitoring and intervention frameworks. However, transparency and participation will only lead to useful results if key actors are consistently strengthened.

Fostering integrity

Climate finance can and should explicitly support the capacity strengthening of key government and civil society actors in the targeted areas. In a study by Brown et al. (2011), institutional representatives from three Congo Basin countries agreed that funds from REDD+ should be used for developmental goals and poverty reduction. At the same time, civil society representatives expressed concern about benefit sharing. They were not convinced that benefits would be shared fairly and equally among the relevant stakeholders – a prediction that appears to be validated by recent REDD+ experiences.

If key actors lack the legal and procedural knowledge to manage land-based interventions to the necessary standards, programmes are destined to fail. Equally, civil society organisations and local communities require sufficient knowledge to demand due process and hold state actors and third-party interveners to account. Strong actors can provide checks and balances that build the integrity of the institutions and individuals involved.

Who is accountable?

Power imbalances resulting from factors such as information deficits, unequal access to resources, limited transparency of decisions, and limited understanding of the unintended consequences of actions lead to a severe lack of accountability among key actors involved in climate change-related programmes. This extends from global-level decision makers through international implementing organisations via national governments down to local governance institutions.

A governance lens highlights key deficits that undermine programme sustainability and are potentially harmful to communities already suffering from the effects of climate change, exploitation, and marginalisation. Strengthening the capacities of local communities and civil society actors to engage with the state and external interveners is crucial for creating chains of accountability that can contribute to effective land-based climate change mitigation. Climate change programmes and climate change financing must pay much greater attention to the need for capacity strengthening. Making capacity strengthening a mandatory requirement of climate change programmes could be a first step in enabling greater accountability.

Open debate for timely results

While governance issues and the significant land demand of current climate change mitigation agendas remain the "elephant in the room" of climate change mitigation, openly acknowledging and addressing these challenges can significantly contribute to progress in both the climate change and the SDG agendas. Strengthening local actors, including communities and local authorities, will enable them to contribute to mitigation efforts while enhancing community resilience and improving governance, fostering overall welfare improvements and protecting legitimate rights. Institutional frameworks at national and sub-national levels must be built with the governance challenges resulting from the extensive land needs of the climate and SDG agenda in mind.

The parties to the UNFCCC should proactively address these issues and establish low-threshold funding mechanisms that facilitate capacity strengthening of and by relevant actors and institutions. These mechanisms should build on existing strengths and structures, addressing concrete governance challenges. Likewise, international actors should redouble their efforts to enable local organisations and sub-national state actors to drive the implementation of climate change mitigation measures.

TMG research has developed monitoring and reporting tools that enable greater accountability at various levels, complementing and strengthening the ongoing efforts of civil society and state actors. These tools can be used by various actors and are particularly suited to contexts with limited state capacity. Furthermore, they can be adapted and expanded to address governance challenges associated with land and forest-based climate change mitigation.

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