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Land Rights: A Powerful Foundation for Climate Action and Justice

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Disclaimer

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Executive summary

Land rights play a critical dual role in addressing both climate action and climate justice. Secure land tenure is not only key to enabling effective climate responses but also for ensuring justice for vulnerable and marginalized communities disproportionately affected by climate change. The following key messages highlight the connection between rights and climate adaptation, resilience, financing and justice:

Land rights as critical components of climate justice:

1 **Land rights as a pillar of climate justice:**
For marginalized groups secure land tenure is essential to climate justice. It empowers communities to protect their lands from displacement and exploitation by carbon market projects, ensuring they are not excluded from climate benefits or burdened with disproportionate impacts.

2 **Ensuring equitable access to climate finance through land tenure:**
Access to climate finance mechanisms, such as the Loss and Damage Fund, is often contingent on the legal recognition of land rights. Where both formal and customary land rights are recognised, communities can recover more quickly from climate-induced losses and damages.

Land rights as critical components of climate action:

3 **Land rights as a safeguard for human mobility:**
Secure tenure is essential for communities facing climate-induced displacement, migration, or relocation. Land rights protect vulnerable groups from displacement, ensuring they have a secure base to rebuild their lives, and facilitate smoother transitions in cases of planned relocations.

4 **Land rights as a safeguard for climate adaptation:**
Secure land tenure enables vulnerable communities to invest in long-term climate adaptation strategies, such as sustainable agriculture, agroforestry, and water management. Without secure tenure, communities face increased vulnerability and risk maladaptation, hindering their ability to build resilience to climate impacts.

In conclusion, integrating secure land tenure into frameworks such as the Rio Conventions is essential to ensuring that climate interventions such as carbon sequestration projects, afforestation initiatives, and land restoration efforts do not displace vulnerable communities or exacerbate existing inequalities. By securing land rights, particularly for peasant women, Indigenous Peoples, and other marginalized groups, these interventions can promote equitable access to resources, long-term sustainability, and greater climate resilience.

Background

Climate change and climate action have significant implications for land use and land rights. Countries worldwide have cumulatively pledged one billion hectares of land – an area more than four times the size of India – for carbon dioxide removal (Dooley et al., 2022). Approximately 633 million hectares of land will need to be converted to forest from current uses such as cropland or pasture. This has significant impacts on the livelihoods and rights of the land users. Despite the risks of such commitments on critical livelihood needs, implementation strategies emphasize predominantly technical solutions, overlooking the central role of land rights, particularly for vulnerable rural communities (IPCC, 2019).

Land governance systems that recognise and secure land rights are crucial to ensuring the effective and just implementation of climate initiatives (Schreuder and Horlings, 2022). Land rights include both formal rights, legally codified and recognised by national or international law, and customary and other informal rights, acknowledged by local communities though not legally codified. Both types of rights are legitimate when upheld by local customs, national laws, or international frameworks such as the FAO's Voluntary Guidelines on the Responsible Governance of Tenure (VGGTs) (FAO, 2012; UNCCD, 2017).

The VGGTs, adopted by the UN Committee on World Food Security in 2012, provide an internationally recognized framework for improving land governance. Incorporating the VGGTs into global climate strategies can help prevent land conflicts and ensure that climate initiatives respect the rights of existing land users, promoting more inclusive and sustainable solutions (FAO, 2022a). The guidelines emphasize the need to recognise all legitimate tenure holders, urging states to protect these rights, even in the absence of formal documentation. As large-scale climate interventions, such as afforestation and carbon markets, come into effect, the VGGTs will become an essential tool to safeguard the rights of local land users and prevent displacement (FAO, 2012).

Tenure security plays a central role in this. Securing land tenure not only ensures that land rights are protected but is critical for the realisation of the right to food and secure livelihoods. Tenure security is a keystone of climate resilience as it enables communities to invest in long-term land management practices such as agroforestry and reforestation, which are vital for both carbon sequestration and climate adaptation (FAO, 2012).

The relationship between land rights, climate justice and climate action is complex and multifaceted. Globally, 2.5 billion people rely on community-managed territories, yet only ten percent of this land is legally recognised, despite these communities managing over 50 percent of the world's land area (Pearce, 2016). Secure land rights for rural and Indigenous communities are crucial not only for environmental protection but also for climate justice. Secure land tenure provides the stability needed for communities to adopt adaptive agricultural practices and other resilience-building activities (Santini, 2022).

As the pressures of climate change intensify, integrating land rights into climate action is key to achieving both climate justice and sustainable development. Responsible land governance, combined with secure land tenure, ensures that climate actions protect the rights of local land users while promoting equitable and sustainable land use (IPCC, 2019). This paper applies this dual lens to explore intersections between land rights, climate justice, and climate change responses.

The dual role of land rights in relation to climate change

In examining the role of land rights within the context of climate change, we have identified two essential aspects. First, **land rights are essential to climate justice** as they address the historical and ongoing injustices faced by marginalized communities who are disproportionately affected by climate change. Climate justice emphasises the fair distribution of the benefits and burdens of climate change and the policies designed to combat it (UNFCCC, 2015). Ensuring that communities have secure land rights is not only a matter of equity but also a means of empowering them to participate in and benefit from climate mitigation and adaptation efforts.

Second, **land rights are a key component of an effective response to climate change** because secure land tenure can incentivize sustainable land management practices and enhance resilience. When individuals and communities enjoy legal recognition and/or protection of their legitimate land rights, they are more likely to engage in conservation activities such as reforestation and sustainable agriculture, which contribute to climate change mitigation and adaptation. Thus, integrating land rights into climate strategies is crucial both for achieving justice and enhancing environmental outcomes.

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Objectives of this discussion paper

The complex interplay between land rights, the impacts of climate change, and climate action is a central issue in both the responsible land governance and climate change agendas. This interaction is evident at multiple levels:

- **Local level:**
  where climate impacts directly affect land rights, altering access and control for vulnerable communities.

- **National level:**
  where commitments to climate action are pledged and planned, often involving land-based interventions.

- **Global level:**
  where climate agreements are negotiated and **climate finance** is allocated, often involving mechanisms that impact land use, such as carbon sequestration.

Recognising and securing legitimate land rights addresses the immediate needs of those most affected by both climate change impacts and the actions taken to mitigate or adapt to these changes. It also serves as a bridge between the climate change discourse and responsible land governance (Narain, 2022). The recognition of these linkages is vital for ensuring that climate actions respect the rights of land users, especially Indigenous Peoples and local communities.

Methodology

The content and analysis presented in this discussion paper are drawn from a combination of relevant **literature** and **expert consultations**. The literature review includes academic papers, policy briefs, international guidelines, and reports from global organisations. Consultations were conducted with key stakeholders, including experts in the four areas of climate change impact and justice: adaptation, loss and damage, carbon markets, and human mobility.

Objective of the paper

This discussion paper analyses the various linkages between land rights and climate action. It is the first step in a three-stage process, which will include consultations and the development of a policy paper. The paper is structured around the following key themes:

1. **Land rights as a critical component of responses to climate change:**
   This section focuses on the role of land rights in adaptation and loss and damage.

2. **Land rights as a critical component of climate justice:**
   This chapter focuses on the implications of insecure land rights on communities vulnerable to climate change, particularly in terms of carbon markets and human mobility.

3. **Land rights in the context of international agreements and the Rio Conventions:**
   This final chapter addresses the role of land rights in international climate frameworks.

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Land rights as a critical component of climate justice

Climate justice contextualizes climate action by acknowledging and making considerations for the unequal impacts of climate change on low-income, marginalized and otherwise vulnerable populations. As such, the discussions on climate justice place least responsibility on these vulnerable populations and most responsibility on nations and corporations that have historically contributed most to the climate crisis (e. g., by emitted greenhouse gases).

Land rights are a critical component of climate justice. This section focuses on how secure land rights serve as a protection mechanism for vulnerable communities against the negative impacts of climate change. Secure land rights can safeguard livelihoods in the face of climate change impacts. For example, secure land rights can help communities in **carbon market projects to** maintain control over their land, gain better access to financial benefits, and implement sustainable land management practices that contribute to carbon sequestration and long-term climate resilience. Furthermore, secure land rights and especially responsible land governance play a crucial role in managing **human mobility**. In cases of climate-induced displacement, responsible land governance in host communities can reduce or even avoid resource conflicts between the host community and the displaced community.

However, there is another dimension to consider: many of these communities, who have contributed minimally to the climate crisis, now see their legitimate rights jeopardized as part of efforts to combat climate change. This further emphasizes the need to recognize and secure their land rights, not only to protect them, but also to ensure that climate solutions do not exacerbate existing inequalities (IPCC, 2022).

Land rights and carbon markets

Carbon markets facilitate the trade of carbon credits, each of which represents a tonne of carbon dioxide (or its equivalent in other greenhouse gases) that has been sequestered or avoided in some way. These markets are broadly classified into compliance and voluntary markets.

- Compliance markets are regulated by mandatory national, regional, or international carbon reduction regimes, such as the European Union Emissions Trading Scheme.

- Voluntary carbon markets enable all actors, including businesses and individuals, to purchase carbon offsets on a voluntary basis to meet their climate goals (Crook, 2024).

While carbon markets have become an integral component of global climate governance, they are fraught with challenges related to their design, transparency, regulation, as well as concerns over the environmental and social impacts of their implementation (see Betz et al., 2022; Pearse & Böhm, 2015).

Land-based measures, such as reforestation, afforestation and avoided deforestation, play a prominent role in carbon markets. However, these measures can intensify an already increasing demand for land, thereby raising concerns regarding the risk of land grabbing or 'green grabbing' (IPES-Food, 2024). Moreover, the substantial land use changes associated with such interventions can have significant implications for the land rights and tenure security of local communities. This is particularly relevant in many countries of the Global South, where the majority of the population, especially the rural poor, lack secure and recognised rights to land, relying instead on informal customary systems. These systems are more likely to be disregarded or violated than formal, state-sanctioned systems (Knox et al., 2011; Unruh, 2008).

Key concerns in carbon markets

Many observers have raised concerns about the environmental integrity of carbon market projects, questioning their transparency and accountability (see Betz et al., 2022; Sovacool, 2023). Robust standards for measurement, reporting and verification are needed to determine actual emissions reductions, ensure the permanence of carbon sequestration, and prevent carbon leakage as well as negative environmental outcomes of associated land use changes (Lebling et al., 2024). However, particularly within the Voluntary Carbon Market, corruption, fraud and inconsistencies in quantification methodologies and verification protocols have resulted in fraudulent or worthless credits being issued (Greenfield, 2023; West et al., 2023). This calls into question the overall efficacy of carbon markets (Pande, 2024). Carbon markets have also raised concerns regarding the ethics and justice of allowing companies from the Global North to use people in the Global South to offset emissions without fair compensation or consideration of local realities (Lyson & Westoby, 2014).

Carbon credits at the cost of secure land and livelihood

In addition to overstating their ability to reduce emissions, many carbon offset projects have had detrimental impacts on Indigenous Peoples and local communities (Dunne & Quiroz, 2023) These impacts are often related to land demand and land use changes, specifically for land-based projects that require large tracts of land to generate greater amounts of carbon credits (IPES-Food, 2024; Sovacool, 2023). The demand for land to sequester carbon from the atmosphere can cause significant land use changes, disrupting local communities' livelihoods and increasing the risk of conflicts over land, especially in contexts where communal lands are inadequately recognized (Dooley et al., 2022; Betge et al, 2024; Streck, 2020). This land demand may even involve instances of

green grabbing (i. e. where lands are appropriated under the guise of climate action or environmental conservation) (Cavanagh & Benjaminsen, 2014). Insecure land tenure exacerbates these risks, leaving local populations vulnerable to market forces and power dynamics (Unruh, 2008; Hunsberger et al., 2017).

Communities with insecure land tenure are particularly vulnerable to losing access to and control over their land. Without legal recognition and protection of their land rights, they risk exclusion from benefit-sharing arrangements, decision-making processes, and even forcible removal from their lands (Lofts et al., 2021). This not only leads to social and cultural disruption but also undermines the credibility and effectiveness of carbon market projects. Many carbon market projects have failed as a result of land disputes and land use conflicts (e. g., see Twidale, 2023; Fabio, 2023; Mukpo, 2023). The most effective means to prevent this failure is providing robust land rights safeguards and applying responsible approaches to land governance.

Carbon rights

Carbon rights have emerged as a concept to describe the rights of certain stakeholders "to the benefits generated from carbon emissions reductions" by selling carbon credits on international carbon markets or through other Payments for Ecosystem Services (PES) schemes (Angelsen et al., 2018, p. 220). Carbon rights comprise two key components:

1. property rights related to the carbon sequestered, removed, and stored in biomass (e. g., land, trees, soil);
2. the right to the benefits resulting from the transfer of such property rights (FAO, 2022b).

Hence, carbon rights can help to define who should benefit from any tradable units, such as carbon credits, and how revenue should be shared among different stakeholders.

However, the concept lacks an internationally accepted definition or a clear legal taxonomy. Only a few countries having integrated it into their national legal systems (Streck, 2020). The concept has been criticized as intangible and for promoting an exclusively market-based approach to climate action (Karsenty et al., 2014). Carbon rights can be seen as legitimizing rent-seeking, encouraging governments to refrain from transferring property rights in order to maximize profits. In the context of land rights, Karsenty et al. (p. 28) further point out that "the emphasis placed on carbon rights cannot serve as a substitute for land tenure reforms, neither can it be an appropriate means for thinking about equity in the access of different rural communities to forest resources and public goods." Thus, it is unclear whether the concept of carbon rights offers clarity or merely adds further complexity to an already complex issue.

The importance of land rights safeguards in carbon market projects

Carbon markets, whether involving compliance or voluntary markets, should require that any land-based projects identify and document legitimate land and tenure rights holders (in accordance with national laws) prior to commencing the projects.

- This would serve several purposes. First, secure land rights provide a foundation for individuals and local communities to engage with and benefit from carbon credits, thereby enhancing their equity, effectiveness and sustainability (Hauer et al., 2023).

- Second, land). Land rights enable local communities to receive compensation for the use of their land and resources, access grievance mechanisms, and share the benefits of carbon market projects (Streck, 2020; Lofts et al., 2021).

Without explicit recognition and protection of land rights, carbon markets may exacerbate existing problems such as land grabbing, ignoring of local communities' self-determined priorities, their exclusion from land use decisions, and growing threats of human rights violations, criminalization, and conflict (Lofts et al., 2021). Safeguarding land rights can help to prevent conflicts over land and human rights violations. The full implementation of the principle of free, prior, and informed consent (FPIC) is one critical safeguard to ensure that local communities understand and agree to the terms of carbon market projects before they are initiated. FPIC respects the rights and autonomy of local communities, promoting transparency, accountability, and mutual trust (CIFOR-ICRAF, 2024).

Furthermore, secure land rights can enhance the environmental outcomes of carbon market projects. Individuals and local communities with secure land rights and tenure are more likely to adopt and invest in sustainable practices that preserve biodiversity and ecosystems functions critical to soil carbon sequestration (UNCCD, 2024). The recognition of land tenure rights, therefore, is not only a matter of social justice but also a pragmatic strategy to ensure that land-based carbon market projects are sustainable, credible, and locally appropriate.

Carbon standards and land rights

Carbon standards, also referred to as greenhouse gas crediting programsprogrammes, regulate the Voluntary Carbon Market by establishing the rules, requirements, and methodologies for developing carbon market projects, verifying carbon reductions, and certifying carbon credits for trading. Given the potential impacts of carbon market projects on local communities, all carbon standards incorporate principles for stakeholder engagement and safeguarding, including those related to land rights. Even though the core documentation of these standards incorporates safeguards for land rights, this does not necessarily translate into an effective protection of land rights in practice. Moreover, there are significant differences in how each standard addresses land rights and tenure arrangements. To explore these variations, we examined the two largest carbon standards – the Verified Carbon Standard and the Gold Standard – as well as the smaller Plan Vivo Standard in relation to their provisions for land rights and land tenure.

The **Verified Carbon Standard (VCS)** is the largest carbon credit standard, currently accounting for almost half of issued carbon credits in the Voluntary Carbon Market (Climate Focus, 2024). However, despite its market dominance, the VCS contains relatively few explicit provisions regarding land rights and land tenure. While it requires project developers to assess stakeholder claims to land, including both legal and customary rights, these references are largely confined to stakeholder engagement protocols. The VCS includes provisions safeguarding the property rights of Indigenous Peoples, local communities, and customary rights holders (Verra, 2024). Compared to other standards, the VCS places little emphasis on safeguarding land rights. In some cases, the VCS may be supplemented by the **Climate, Community and Biodiversity Standard (CCB Standards)**. These specifically evaluate land management projects that aim to mitigate climate change while delivering benefits for local communities and biodiversity.

They involve more comprehensive requirements in terms of the description and mapping of statutory and customary land rights and tenure arrangements. The CCB Standards also require identification of ongoing or unresolved disputes over rights to land and measures to resolve such disputes, as well as clear and formal procedures to address land disputes. Unlike the VCS, the CCB Standards specifically define property rights and customary rights and refer to the VGGTs. However, only 10–15 percent of VCS projects also achieve certification by the CCB Standards, thus limiting the application of these more robust land rights and land tenure provisions.

Approximately 20 percent of credits in the Voluntary Carbon Market have been issued using the **Gold Standard**, making it the second-largest carbon credit standard. It links climate action to the Sustainable Development Goals (SDGs) as certified activities must contribute to at least 3 SDGs. Notable about the Gold Standard's core documentation is its inclusion of a formal definition of tenure. Additionally, the safeguarding principles and requirements include 'land tenure and other rights' in the assessment procedure. To identify potential impacts on land tenure arrangements, project developers have to answer a set of assessment questions related to legitimate land rights, statutory and customary rights, and access and usage rights (Gold Standard Foundation, 2023).

The **Plan Vivo Standard** is significantly smaller in scale as it focuses exclusively on community and smallholder land-use and forestry projects. Given this focus, it is perhaps unsurprising that it includes the most comprehensive provisions for land tenure rights. It emphasizes the importance of clear and documented land tenure arrangements, ensuring that both statutory and customary rights are respected before any carbon credits are issued. To qualify as an eligible intervention, a project must document its participants' legal or customary land rights, confirming that they have legitimate claims to land necessary for planned land management activities. Stakeholder engagement requirements involve identifying and respecting the rights and governance structures of Indigenous Peoples and local communities in the wider project area. In terms of project design, the livelihood baseline must reflect how communities' access and use land, ensuring the recognition of different land tenure arrangements. Environmental and social safeguards provide further protections by requiring adherence to human rights principles, and compensation if local stakeholders are negatively impacted. Additionally, project agreements must affirm participants' rights to land and resources (Plan Vivo Foundation, 2023). The Plan Vivo Standard gives greater consideration to land rights and land tenure arrangements. than any other carbon credit standard. However, carbon credits certified under the Plan Vivo Standard currently represent less than one percent of the total issuance of credits in the Voluntary Carbon Market (Climate Focus, 2024).

Conclusion

While carbon markets have become a firmly established mechanism in the international governance of climate change mitigation, significant concerns remain regarding their efficacy. Particularly land-based carbon market projects continue to face doubts related to their environmental integrity as well as challenges in measuring and verifying claimed emission reductions. The importance of land rights safeguards and respecting both customary and statutory land tenure arrangements is recognised by many carbon standards. However, greater efforts are needed to prevent negative impacts on local communities and improve the transparency and accountability of carbon market projects. Implementing robust land rights safeguards and enabling genuine community participation would also benefit the long-term success and credibility of carbon market projects.

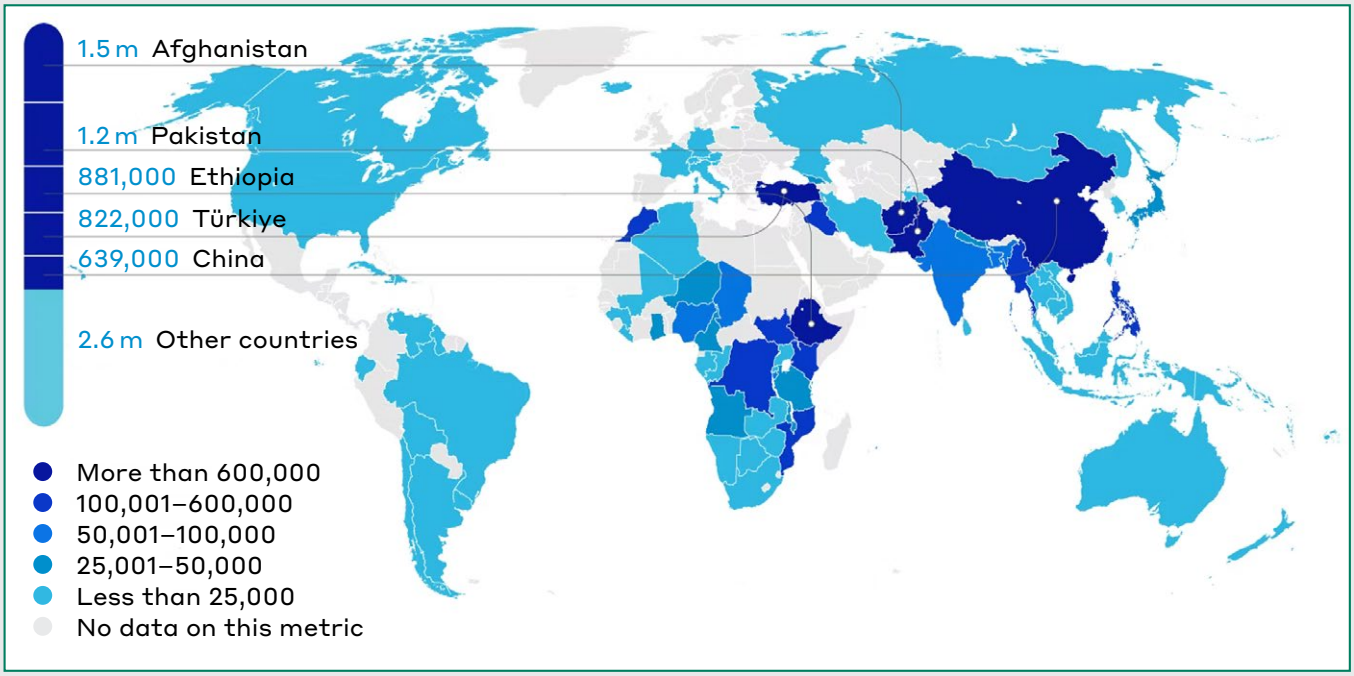
Land rights and human mobility

The multiple facets of climate related human mobility

Climate mobility describes the various ways in which human mobility is associated with climate change (Boas et al., 2022). Despite difficulties in establishing causal relationships between human mobility and climate change, climate mobility often entails significant justice and human rights challenges (Farbotko et al., 2020), especially in relation to land rights. Lack of secure tenure can exacerbate the vulnerability of displaced populations. This is particularly true for people forced to move temporarily or permanently when homes become unhabitable and productive assets such as agricultural lands, upon which rural communities build their adaptation responses, become unproductive and unsustainable due to sudden-onset or slow-onset events or the combined effects of both.

In 2022, about 32.6 million people were displaced by disasters, of which 98 percent were affected by weather-related hazards (floods, storms, wildfires and droughts), and 2 percent by geophysical hazards including earthquakes, volcanic eruptions and landslides (IDMC, 2023). With weather-related hazards expected to intensify (WMO, 2024), the number of people affected and forced into mobility will increase worldwide, especially in regions already distressed by environmental challenges (Siegfried, 2023). **Studies show that people whose adaptation capacities and resilience often depend on access to and control of critical land-based assets (agricultural lands, water resources, grazing areas, etc.) are often the most vulnerable to the impact of climate hazards** (Boas et al., 2022; Selby J and Daoust G, 2021). They are also the most affected by conflicts over scarce resources (Siegfried, 2023) that often emerge locally at the site of climate hazards, along their journey to shelters, or at their destination.

Total number of IDPs by disasters as of 31 December 2022



The boundaries, names and the designations used on this map do not imply official endorsement or acceptance by IDMC.

Source: https://www.internal-displacement.org/focus-areas/Displacement-disasters-and-climate-change/

The complexities of climate change and human mobility raise several questions related to climate justice. What does climate justice mean for individuals and communities forced to move or forced to stay due to various constraints (IOM, 2021)? How can people forced into mobility receive just treatment along their journey to safer places or when returning to regions they fled due to climate hazards? What land governance system and mechanisms could ensure fair and inclusive policies and processes for them, including safeguards to protect their rights of access and control over the land and resources they depend upon?

For centuries, human mobility has been an adaptive strategy to climate shocks, long-term changes, or cyclic climate conditions (Parrish et al., 2020). Even today, more people are moving in response to extreme weather events than to escape conflict (Beyer et al., 2023). Common human mobility patterns include:

Human mobility pattern

Migration
voluntary movement of people, which can take the form of short-term displacement to shelters, long-distance migration, rural-urban mobility, and circular mobility (Blondin, 2021)
Displacement and relocation
forced or voluntary movement of people
Immobility
the inability or unwillingness to move, whether due to being trapped, facing various constraints, or lacking the resources to relocate (Boas et al., 2022).

Many people may choose to stay, either because they are deeply attached to their location or do not perceive a high level of risk (Farbotko et al., 2020; Wiegel et al., 2019). For instance, about 79 percent of people surveyed from 1,204 households in Bangladesh said they did not want to migrate, even though they were aware of economic opportunities elsewhere (UNU, 2017).

Contrary to alarming narratives of mass migration across international borders, consistent evidence suggests that climate-related human mobility is largely taking place within countries or neighbouring ones and typically consists of local movements involving individuals, households, and communities (IOM, 2024). For instance, over 70 percent of all people displaced due to climate disaster and violent conflicts either live in other regions of their home countries or in neighbouring countries (Siegfried, 2023). The reason is that people forced to move prefer to stay close to their homes due to family and social ties. In most cases, those hit hardest by climate hazards are the poorest who lack the means to travel long distances to seek shelter (ibid.). However, other researchers found that poor and vulnerable communities often have no alternative but to stay in their home areas despite the risks (Parrish et al., 2020). Local movements have significant implications for land demand.

Whether people respond to climate hazards through mobility or immobility, land plays a crucial role in shaping their adaptive capacities and resilience. Land, which is a precious asset for rural communities across the world, is a key factor for migrant return decisions after a disaster (IOM, 2021). Yet, the role of land and land governance in addressing challenges associated with climate-related human mobility remains insufficiently addressed.

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The nexus of climate change and human mobility

It is difficult to establish a direct causal relationship between land rights, climate change, and human mobility (Almulhim et al., 2024; Lawrence Huang, 2023). Sudden-onset climate events, such as floods or storms, often lead to immediate and visible displacement, prompting individuals to identify their movement as climate-induced. In contrast, slow-onset changes, such as desertification or soil degradation, tend to gradually erode livelihoods. Individuals affected by these changes may not immediately associate their migration with environmental factors, focusing instead on economic or social pressures that worsen over time (Nguyen et al., 2024).

This distinction is important for understanding how land tenure insecurity intersects with mobility. Those experiencing slow-onset events may remain in high-risk zones longer due to uncertain land rights, inhibiting proactive migration and limiting their ability to escape deteriorating conditions. Nevertheless, there is a growing consensus that land availability and tenure rights are important determinants of migration in the context of climate change (Parrish et al., 2020).

Social and political exclusion, stemming from unequal power structures and access to land and critical resources such as grazing lands and water, is recognised as a key factor influencing decisions to migrate (Brottrager et al., 2023; Wiegel et al., 2019). For vulnerable groups, trapped in climate risk zones, effective land tenure transition policies and reforms reinforce their capacities to invest in sustainable land management and thus strengthen their resilience to climate shocks. Furthermore, secure tenure can enable them to move freely and promptly from climate risk zones without worrying about their ability to reclaim their land rights after the disaster has passed (Andreeva O. et al., 2023; Chasek, 2022).

The failure to recognise both the importance of local land governance and the need to safeguard the rights of people forced into mobility in both host communities and areas hit by climate hazards can significantly undermine the effectiveness of climate change adaptation policies and programmes (Murken and Gornott, 2022; Selby J. and Daoust G., 2021). In areas receiving displaced populations, land governance plays a crucial role in maintaining social cohesion and ensuring that vulnerable groups, have equitable access to land and critical resources. Without clear land governance, host communities may experience increased pressure on already scarce resources, leading to resource competition and conflict.

Different climate-related human mobility patterns and their respective impacts on land tenure

Types of mobility	Definition	Impact on land and land rights	Examples
Migration (including circular or seasonal migration)	Voluntary movement of people (short-term, long-distance migration, rural-urban mobility, or cyclical migration driven by seasonal changes).	Migration eases pressure on land in departure areas but increases demand in receiving areas. The likelihood of unplanned informal settlements with insecure land rights increases, especially in ongoing rural–urban mobility. Secure land tenure is essential to avoid eviction and land-use conflicts between migrants and destination areas. Circular migration may create temporary vacuums in land management, leading to land degradation or grabbing during absence.	1. In regions like the Sahel, pastoralist communities practice seasonal migration in search of water and grazing lands. Poor land governance in destination areas leads to conflicts between herders and sedentary farmers over access rights (Friedrich-Ebert-Stiftung, 2023). 2. In rural-urban migration, increasing pressure on urban land leads to informal settlements where migrants face resource competition and insecure land rights (IOM, 2024).
Displacement and relocation (including planned relocation)	Forced or voluntary movement due to sudden-onset hazards or pre-emptive relocation organised by authorities to avoid climate risks.	Displacement leaves behind degraded or contested land in departure zones and increases competition for land in destination areas. Planned relocation involves state-managed land transfers, which can lead to land disputes and challenges in ensuring tenure security. Land rights are a crucial means to ensure that displaced or relocated populations have secure livelihoods and avoid conflicts over land.	1. Mass displacement from sudden-onset hazards, like floods and storms, damages homes and livelihoods (IDMC, 2023). Displaced populations may return to departure zones when risks subside, facing degraded land and challenges reclaiming tenure. 2. In small-island states, planned relocation due to rising sea levels often faces challenges in land disputes and ensuring long-term tenure security for relocated populations (UNHCR, 2023).
Immobility	Inability or unwillingness to move due to lack of resources, social ties, or emotional attachment.	Communities face degraded land, further eroding their livelihoods. Without secure tenure, they are vulnerable to losing their land to others.	1. In regions like the Sahel, some communities are trapped in climate-vulnerable areas due to poverty or social ties, preventing them from relocating even as environmental conditions worsen (Parrish et al., 2020). 2. Strengthening land tenure for immobile communities is essential to prevent marginalization and loss of land to wealthier actors.

The importance of adopting a land rights-based approach to climate, human mobility and land rights: an example from Madagascar

The complex and self-reinforcing interactions between climate change, land degradation and human mobility often disproportionately affect already-overburdened groups (Siegfried, 2023). Between 1983 and 2018, 46 major natural disasters (cyclones, storms, floods, landslides, droughts, land degradation, coastal erosion, intrusion of seawater in estuaries, etc.) hit Madagascar, affecting about 11 million people (Ranaivoson et al., 2018). In 2022, the combined effects of slow-onset and sudden-onset hazards aggravated food insecurity and led to 291,000 internal displacements, the highest figure ever recorded in the country (IDMC, 2023). In response, many people moved to the northern part of the country. While some migrated for jobs in the mining and agricultural industries, others moved in search of agricultural land and grazing resources for their livestock (Ranaivoson et al., 2018). In the context of Madagascar, affected by a complicated colonial legacy that left vast territories with unclear tenure regimes, the arrival of migrants who occupy lands they perceive as vacant often created uncertainties about land rights for those living and working in the areas, and who were cautious about occupying the same lands (ibid.). Conflicts and instability were reported between people fleeing drought and harsh weather conditions in the south and host communities in northern regions. Similar situations and observations have been reported in many countries where people are forced to move to other regions because of climate change and conflicts associated with increased competition over land and scarce resources. Whether in Cameroon, Chad, or Burkina Faso, the movements of people fleeing the impacts of climate change have sparked numerous conflicts over land and scarce resources, with hundreds of people killed or displaced for a second or third time (IOM, 2024, 2021; Siegfried, 2023).

The case of Madagascar highlights the connections between land rights, mobility, and climate change and stresses the importance of land tenure security in alleviating the burden of people affected by climate change, especially those forced to move.

Conclusion

Climate change is already causing large numbers of people to be displaced. To ensure solutions developed to reduce the burden of people affected by climate-related human mobility meet actual needs, it is paramount to acknowledge that perceived tenure security and people's confidence in claiming their rights to use and control critical resources such as agricultural land, grazing resources, etc. influence and shape mobility decisions. Protecting the rights of people who flee the impacts of climate change and ensuring land policies in the host communities are inclusive are therefore essential to preserving peace and stability in the welcoming zones, to reinforcing the resilience of those who decide to stay in the areas hit by climate hazards, and to ensuring the safe return of those who fled and decide to return home.

Opportunities exist to recognise and mainstream land rights in climate mobility and adaptation strategies. The UNCCD, the UN's lead institution for questions related to drought and desertification, explicitly recognised the role of land tenure in land restoration (de facto climate protection).

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Land rights as a critical response to climate change

Land rights as an enabler for climate action implementation:
This perspective emphasises the role of secure land rights in facilitating and supporting the effective implementation of climate change mitigation and adaptation strategies.

The focus is on empowering communities through secure land rights to engage in sustainable land management practises and climate-related initiatives. For example, secure land rights can enable communities to participate in carbon markets so they can benefit from carbon sequestration efforts and contribute to and benefit from global emission reduction targets. In addition, secure land rights can improve the ability of communities to adapt to the impacts of climate change by providing them with the stability and resources to implement adaptation measures. The following chapter looks in detail at land rights as a safeguard for carbon markets and as enablers of adaptation projects.

Land rights and climate change adaption

Climate change and land are intricately linked, forming a complex and dynamic relationship. While the physical impacts of climate change take place across all of the Earth's ecosystems, many of the impacts are felt on land. Similarly, climate change adaptation, i. e., the process of adjusting to current and future effects of climate change, involves a significant land component. Given these links, it is important to consider how and by whom land is owned, held, and accessed.

Land rights are an important part of a larger 'resilience puzzle'. The recognition and protection of legitimate land rights are crucial for securing land tenure. Land tenure security, in turn, plays a vital role in the resilience and sustainable development of individuals and communities. This security –

whether obtained through legal or customary recognition of individuals' or communities' rights to use, control, and transfer land – can shape responses to climate change impacts. Specifically, it enables individuals and communities to make long-term investments in their land, including investments related to land restoration and sustainable land management (Gumucio, 2024).

Conversely, the absence of secure land rights can impede an effective response to climate change by negatively affecting adaptive capacity and exacerbating vulnerability to climate risks (Mitchell & McEvoy, 2019). Inadequate legal frameworks, a lack of policy implementation and enforcement, as well as historical and cultural injustices are often the root of insecure land rights and land tenure (Lovo, 2016). In many regions, customary land tenure systems are not formally recognised, leaving local communities vulnerable to land disputes, land grabbing and forced displacement (Wiley, 2011). In the case of displacement, the capacity of local communities to manage climate risks further erodes as social structures become disrupted and local knowledge and practices critical for sustainable land management are lost (Mitchell & McEvoy, 2019).

This chapter explores critical links between land rights, land tenure security, and climate change adaptation. It emphasizes that secure land rights can shape adaptation outcomes by encouraging sustainable land management practices and other land-based measures essential for responding to climate impacts. Additionally, it highlights the role of land rights in promoting inclusive and equitable adaptation strategies, ensuring that all stakeholders are actively involved in decision-making processes.

Leveraging land rights to enhance adaptation outcomes

Secure ownership of land can foster adaptive strategies by positively influencing the uptake and variety of certain adaptation measures (Murken & Gornott, 2022). The assurance and stability granted through secure land rights allows people to autonomously manage their land and resources in ways that yield positive adaptation outcomes (IPCC, 2019). This is particularly relevant in the context of community-based approaches, which have proven to be an effective means to developing local capacities to adapt (Shammin et al., 2022). These approaches often aim to strengthen local climate resilience through land-based measures, such as sustainable land management, agroforestry, soil conservation, climate-smart agriculture, or ecosystem-based disaster risk reduction. Secure land rights and land tenure are "key to enabling responsive, local-level autonomous" climate change adaptation (Castro & Kuntz, 2022, p. 192; Gumucio, 2024).

Since land-based adaptation measures take considerable time to show results, a long-term perspective is crucial. Evidence suggests that more secure land tenure arrangements are particularly important for "adaptation strategies with longer return-to-investment periods, such as agroforestry, soil conservation techniques and larger infrastructure construction" (Murken & Gornott, 2022, p. 9). Furthermore, land rights can enhance adaptation outcomes by improving access to financial resources, institutional support, decision-making processes, information, and training programmes, all of which contribute to a successful implementation of adaptation strategies (Gumucio, 2024). Secure land rights may also enable access to communal safety nets, for instance through participation in cooperatives and associations that offer vital adaptation supports such as crop insurance and drought relief (Wickramaratne, 2023).

Despite these benefits, land rights alone do not guarantee that adaptation actions will be taken. However, the combination of adaptation initiatives with land tenure interventions can produce positive results. For example, initiatives to secure forest tenure rights for rural development show that addressing land rights issues alongside strengthening sustainable land management – a key adaptation measure – enhances the effectiveness of both efforts (Springer et al., 2019). Similarly, land rights interventions are more effective when they account for climate risks and their future impacts on land tenure arrangements. Climate change impacts can directly threaten land tenure security by degrading land or disrupting livelihoods, for instance through slow-onset land degradation or extreme weather events that affect crop production (Murken & Gornott, 2022).

A safeguard to avoid maladaptation and reduce vulnerability

Adaptation initiatives can sometimes have unintended consequences. For instance, top-down adaptation solutions that ignore local contexts may result in maladaptation, thus inadvertently increasing local vulnerabilities instead of reducing them. This is of particular concern where marginalized groups are excluded from interventions, for instance because they are not recognised as legitimate landowners or land users (Eriksen et al., 2021). Maladaptation in contexts of insecure land tenure, such as where customary land rights are not adequately considered, is a significant risk. This is because insecure land rights often intersect with broader socio-economic disadvantages, such as poverty, marginalization, and limited access to decision-making processes, information and resources (Mitchell & McEvoy, 2019). These disadvantages can impede the capacity of people and communities to effectively engage in longer-term adaptation actions, secure adaptation finance, and participate in adaptation planning processes.

Consequently, people with insecure land tenure rights are also more vulnerable to the impacts of climate change due to reduced adaptive capacity and greater challenges in implementing necessary adaptation measures (Gumucio, 2024; IPCC, 2019).

Women, in particular, face significant barriers due to gender-based discrimination in land tenure arrangements, further exacerbating their already heightened vulnerability to the impacts of climate change (see Meinzen-Dick et al., 2019). Strengthening women's land rights can help reduce vulnerability by safeguarding livelihoods and income opportunities, diversifying response options, and granting access to financial resources and services (Gumucio, 2024). For instance, in Ethiopia land registration and certification initiatives have secured land rights for women, which has contributed to food security, improved nutrition and increased working capital, thereby providing vital buffers against climate change impacts (Chakrabarti, 2023).

It is important to recognise that formally registered land titles are not the only means of securing land tenure. More flexible tenure systems, including communal recognition of land rights, can also provide tenure security and may be more appropriate in certain local contexts. Some sort of evidence to prove land rights is critical, particularly for people and communities at risk of losing their land due to climate-related hazards or disaster-induced displacement. In such cases, community members can create a safety net by acknowledging pre-existing land rights (Murken & Gornott, 2022). Conversely, the absence of proof of legitimate land rights can increase vulnerability, as people fearing the loss of their land "may even prefer to stay in a hazardous situation rather than migrating" (Murken & Gornott, 2022, p. 9).

Secure land rights can serve as a safeguard against maladaptation and help avoid increasing vulnerability to climate change by ensuring that all legitimate land users and stakeholders, across various land tenure arrangements, are adequately involved in decision-making and planning processes. Thus, the recognition and protection of legitimate land rights can also promote inclusive and equitable adaptation strategies. Examples include community forest initiatives that successfully protect and strengthen community land rights, value local knowledge systems for adaptation and biodiversity conservation, and generate economic benefits for local populations (Ginsburg & Keene, 2018). The LAND-at-scale project has engaged local communities in Uganda in wetland management planning. By mapping wetland user rights, working towards secure land tenure, establishing community-based management committees, and defining common goals, the project has enhanced the communities' capacity for sustainable and climate-smart wetland management, leading to valuable adaptation outcomes related to flood risk mitigation (Sliuzas et al., 2023).

Responsible land governance for adaptation

The link between secure land rights and adaptation outcomes highlights the need for responsible land governance and approaches that simultaneously address land rights issues and adaptation efforts. At the global level, COP27 saw progress on adaptation with the launch of the Sharm-El-Sheikh Adaptation Agenda, which includes 30 resilience-building outcomes. Some of these outcomes have a strong focus on land, including "Protection of 45 million hectares (land and inland waters), 2 billion hectares of sustainable management and 350 million hectares of restoration of land" (UNFCCC, 2022). Yet, this and other climate action frameworks make few references to land rights.

Responsible approaches to land governance can offer several ways of linking land rights considerations and adaptation strategies at the national and sub-national level. For instance, land administration and land use planning are areas where both land rights issues and climate change adaptation can be addressed together, creating opportunities for integrated approaches that address both challenges (Mitchell & McEvoy, 2019). Including land rights and tenure status considerations in hazard-risk mapping and vulnerability assessments can provide a more complete development of both land and adaptation policies. Where climate change adaptation is linked to land governance frameworks, land use plans are informed by climate-related risks and land tenure systems can factor in changing climatic conditions. Post-disaster recovery and reconstruction also benefit from information on the way land is accessed, used and controlled (Mitchell & McEvoy, 2019). Overall, investment in responsible land governance can make important contributions to the goals of the Sendai Framework for Disaster Risk Reduction related to food security, livelihood options, human security, environmental degradation, poverty, and peace (Mitchell & McEvoy, 2019).

Conclusion

Land rights can play a valuable role in the response to climate change. They can have a positive effect on the uptake and diversification of adaptation measures. Secure land tenure contributes to the adaptive capacity of households by offering stability and access to resources while incentivizing long-term investments in sustainable management of land and natural resources, which are central to many adaptation actions. Recognising, recording, registering and protecting legitimate land rights is also vital for addressing socio-economic disadvantages and reducing vulnerability to climate risks. Since many adaptation strategies involve land-based measures

to strengthen local climate resilience, responsible land governance plays an important role. Its value lies particularly in promoting transparency, participation, fairness and equity in land-related decisions. It ensures that diverse stakeholders and land users with different tenure statuses, including marginalized communities, are involved in decision-making processes and adaptation initiatives. This not only enhances the legitimacy and acceptance of local adaptation measures but also ensures that they are sustainable in the long term.

Land rights and loss and damage

Understanding loss and damage and the establishment of a dedicated fund

'Loss and damage' refers to negative impacts of climate change on human societies and the natural environment resulting from extreme weather events such as storms, floods and heatwaves, or slow-onset events such as rising sea levels, desertification, land degradation, and loss of biodiversity (LSE, 2022). Loss and damage occur regardless of our climate action efforts, with certain regions and communities, such as small island nations in the Pacific, coastal areas in Southeast Asia, and arid regions in sub-Saharan Africa, at greater risk due to geographical exposure to climate impacts as well as poverty, marginalization, and other vulnerabilities.

The first reference to 'loss and damage' in climate negotiations appeared in 1991, driven by the Alliance of Small Island States (AOSIS), which had formed a year earlier at the second World Climate Conference in Geneva (Gabbatiss, 2022). It included a request for industrialized nations to pay for the loss and damage that would harm vulnerable small island nations as a result of rising sea levels (Gabbatiss, 2022). The term was officially adopted in 2013 at the 19th Conference of Parties to the UNFCCC in Warsaw, where parties established the Warsaw International Mechanism for Loss and Damage (UNEP, n. d.).

Since then, parties to the convention have indirectly referred to loss and damage in their Nationally Determined Contributions to reduce national emissions and adapt to the impacts of climate change (NDCs), including reference to and use of terms such as 'limits to adaptation' and 'unavoidable climate change impacts', with some parties referring to loss and damage under adaptation. (Bharadwaj et al., 2022). However, there are few explicit references to 'loss and damage' in NDCs (Bharadwaj et al., 2022).

Loss and damage can be grouped under two broad categories:

- The first is economic loss and damage for which the cost of the negative impact of extreme weather events or slow-onset events can be quantified (Bhandari, Warszawski, Cogan & Gerholdt, 2024). Examples include loss of land and property, loss of infrastructure, and reduced crop yields or agricultural production.

- The second category comprises non-economic loss and damage, whose impacts are not easily quantifiable (Bhandari, Warszawski, Cogan & Gerholdt, 2024). These include loss of culture and way of life, loss of indigenous territories and displacement due to climate-related hazards.

In many cases, secure land rights emerge as a critical safeguard, helping to reduce vulnerability and support recovery from climate-induced damages. Secure land tenure can help mitigate these non-economic losses by providing communities with the stability and security they need to rebuild their livelihoods.

In 2022, at the 27th Conference of Parties of the UNFCCC (COP27), parties to the convention agreed to establish and operationalize a Fund for Responding to Loss and Damage (FRLD), hereinafter referred to as the Loss and Damage Fund. This fund supports developing countries facing climate change impacts that are unavoidable due to the limited adaptive capacities of governments and local communities as well as the severity
of the impacts themselves. The fundamental premise of the Loss and Damage Fund is that developing countries, which have historically contributed the least to greenhouse gas emissions, are often the most vulnerable to the impacts of climate change (UNEP, 2022). The fund aims to address this disparity in vulnerability to climate risks, providing an important climate justice mechanism to support those disproportionately affected by climate change.

A Transitional Committee comprising representatives from 24 nations (both developed and developing countries) was also established at COP27 to facilitate the implementation of the fund and related climate finance mechanisms (UNDP, 2024). At the subsequent COP (COP28) in Dubai, climate finance was among the priorities on the agenda and parties resolved to create a dedicated fund aimed at compensating for losses and damages incurred due to climate change (UNDP, 2024). This would be provided in the form of grants and concessional financing, with the World Bank overseeing the coordination of the fund, ensuring efficient allocation of resources and aiding nations in their efforts to recover from natural disasters (UNDP, 2024). Discussions on how the fund will be managed and administered are still ongoing (UNDP, 2024).

In June 2024, the World Bank's Board of Executive Directors approved its role as interim secretariat and trustee of the Loss and Damage Fund and selected the Philippines as its host country. The *Board of the Fund for Responding to Loss and Damage* is independent of the World Bank and has its own governance structure (World Bank, 2024). As the Board takes steps to operationalize the fund, the focus is also on delivering a mechanism that is different from existing multilateral climate funds. The Fund must apply lessons learned from existing funds, and prioritize the facilitation and simplification of direct access to grant support for those already suffering from compounding and cascading climate impacts (Schalatek, 2024).

The Santiago Network will also play a key role in informing the operations of the Loss and Damage Fund. The Santiago Network was established by parties to the climate convention in December 2019 at COP25 in Madrid, Spain, as part of the Warsaw International Mechanism. The Network aims to catalyse the technical assistance of relevant organizations, bodies, networks and experts, for the implementation of relevant approaches for averting, minimize and addressing loss and damage at the local, national and regional level, in developing countries that are particularly vulnerable to the adverse effects of climate change (UNFCCC, n. d.).

Compounded vulnerabilities: loss and damage and tenure insecurity

The range of communities and groups who are most at risk of loss and damage, as listed in the NDCs of least developed countries, include farmers, Indigenous people and local communities, women, coastal communities, rural poor and urban poor (Bharadwaj, et al. 2022). Additional considerations need to be made for landless communities. Landless farmers who work on other people's farms as a main source of livelihood face a significant risk of loss and damage, mainly because they often lack access to alternative livelihood options (ANGOC, 2023).

It is estimated that 45 percent of the global population (3.4 billion people) live in rural areas in developing countries, most of them relying on small-scale farming for their livelihood and household food security (IFAD, n. d.). These populations rely on land and land-based resources for their income and sustenance. These rural populations are also disproportionately poor and account for 80 percent of the women, children and men living in extreme poverty (IFAD, n. d.). This social and economic reality puts most rural populations at a disadvantage in terms of their ability to adapt to the effects of climate change and, by extension, their ability to recover from climate-related hazards. Individuals and communities with insecure land and tenure rights are among those at greatest risk of loss and damage. They include small-scale farmers, Indigenous Peoples, women, coastal communities, and the rural and urban poor. The causes of insecurity include undocumented land rights, weak governance at the local level in general, marginalization and discrimination, and inequalities in land ownership. In such scenarios, it is difficult to channel loss and damage support to rural populations trying to recover from extreme weather events.

The role of land rights in accessing loss and damage funds

'Loss and damage' are related to land rights along several dimensions. Legitimate land rights are pivotal in determining the individuals, groups and communities that qualify for assistance and access to vital resources. According to case studies conducted by Oxfam in Asia in 2023, formal land ownership is a key factor in determining people's eligibility to gain assistance (Wickramaratne & de Silva, 2023), in the form of compensation, alternative land, or relocation benefits. Those without formal land documentation are often forced to remain in hazardous conditions or temporary accommodation without adequate resources for livelihoods or safety (Wickramaratne & de SilvaSilva, 2023).

Traditional financial instruments that have been highlighted as settlement options for loss and damage impacts include social protection, contingency finance, disaster risk insurance, alternative land or relocation benefits, and rapid pay-outs after disasters (UNEP, 2022). However, these options are often only available and effective in instances when land rights are formally documented, and landowners can prove (to a reasonable extent) the loss and damage they have suffered. In cases where climate impacts cause population movements, land tenure insecurity further complicates how societies respond to climate impacts.

As the Board of the Loss and Damage Fund and the Santiago Network continue to define and inform the framework and procedures of the Fund, it is important to integrate land rights as a critical component.

The following cases provide a few examples of the challenges that may arise if land rights considerations are not sufficiently integrated into the operation of the Loss and Damage Fund, and underline the need to consider not only formal, but legitimate land tenure rights.

Why considering legitimate tenure is important: examples from different countries

Legal framework barriers to loss and damage compensation for community lands in Kenya

In Kenya, the legal framework governing land allows communities to directly benefit from loss and damage funds only once specific conditions are met. Lands that were previously categorised as trust lands are now categorised as unregistered community lands (as defined by the Community Land Act of 2016). These lands are held in trust by county governments (local governments) on behalf of respective local communities. In the case of monetary compensation payable to communities for compulsory acquisition of unregistered community land, county governments are legally required to hold the compensation in trust for a community and only release the money once the community land is registered (GoK, 2016). All funds payable to communities living on unregistered community lands must be channelled through local governments and may only be released to communities upon registration. This means that local communities on unregistered community lands may not be able to access loss and damage compensation in the event they are affected by extreme weather events.

Decision-making power and loss and damage access in Sri Lanka

In Sri Lanka, despite local communities holding documents that permit the use of land allocated to them by the government for smallholder farming, the government retains most of the decision-making power regarding the technologies and practices that can be applied on these farms (Wickramaratne & de Silva, 2023). In Monaragala district, small-scale farmers who access land through the government's land grants programme enjoy access rights but are bound to government agricultural officers' decisions when it comes to water allocation, use of chemical fertilizer and pesticides, and use of hybrid (Wickramaratne & de Silvarice seeds (Oxfam, 2023). This centralization of power limits communities' ability to make crucial decisions about their land and can hinder their access to adaptation measures. It also gives the government significant control over how communities access loss and damage compensation. In this scenario where communities' decision-making power in relation to the lands they use is limited, there is a need to ensure affected people and communities can directly access grant support.

Insecure land tenure and recovery from loss and damage in Nepal

In cases where government support for local communities is channelled through farmer societies and associations, farmers without formal ownership of land – who therefore do not meet the entry requirement for these societies – are at a disadvantage (Wickramaratne & de Silva, 2023). Such farmers would likely miss out on loss and damage compensation as well. Moreover, farmers in this situation are less likely to apply technologies and practices that will help them adapt to climate change.

In Nepal, farmers who lack formal land documentation are especially vulnerable, as insecure land tenure reduces their ability to recover from loss and damage, often forcing them into daily wage labour to rebuild their livelihoods and recover (Wickramaratne & de Silva, 2023). When loss and damage events result in communities migrating to other lands, dispensing loss and damage compensation is even more complex as it is difficult to prove that the migrating communities were indeed residing on the affected lands (Wickramaratne & de Silva, 2023).

Access to loss and damage funds by Indigenous Peoples

Formal documentation of land does not always translate to secure land rights for Indigenous Peoples and local communities. A study conducted by the Rights and Resources Institute in 19 African countries estimates that 16 percent of Africa's lands are owned and controlled by Indigenous peoples and local communities (RRI, 2015a). In Asia and Latin America, Indigenous peoples and local communities own or control an estimated 26 percent and 23 percent of land, respectively (RRI, 2015b; RRI 2015c). Despite their longstanding custodianship of rural lands some indigenous people and local communities lack legal recognition as landowners (ANGOC, 2023). This complicates their ability to access loss and damage funds and to secure compensation for climate-related impacts.

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Conclusion

Linking the global discussion on the operationalization of the Loss and Damage Fund to the local realities in developing nations is of crucial importance if the fund is to deliver on its promise of supporting communities to recover from climate disasters and slow-onset events, and to do so in a manner that will prioritize direct access to support for affected people and communities. Financial instruments that will be used to deal with loss and damage should be tailored to suit the current contextual issues of insecure land rights, and inequalities in land ownership in Africa, Asia and South America. Additionally, the global discussion on loss and damage should highlight secure land rights and tenure rights among the main conditions that will ensure climate change interventions contribute to a sustainable future and resilient livelihoods.

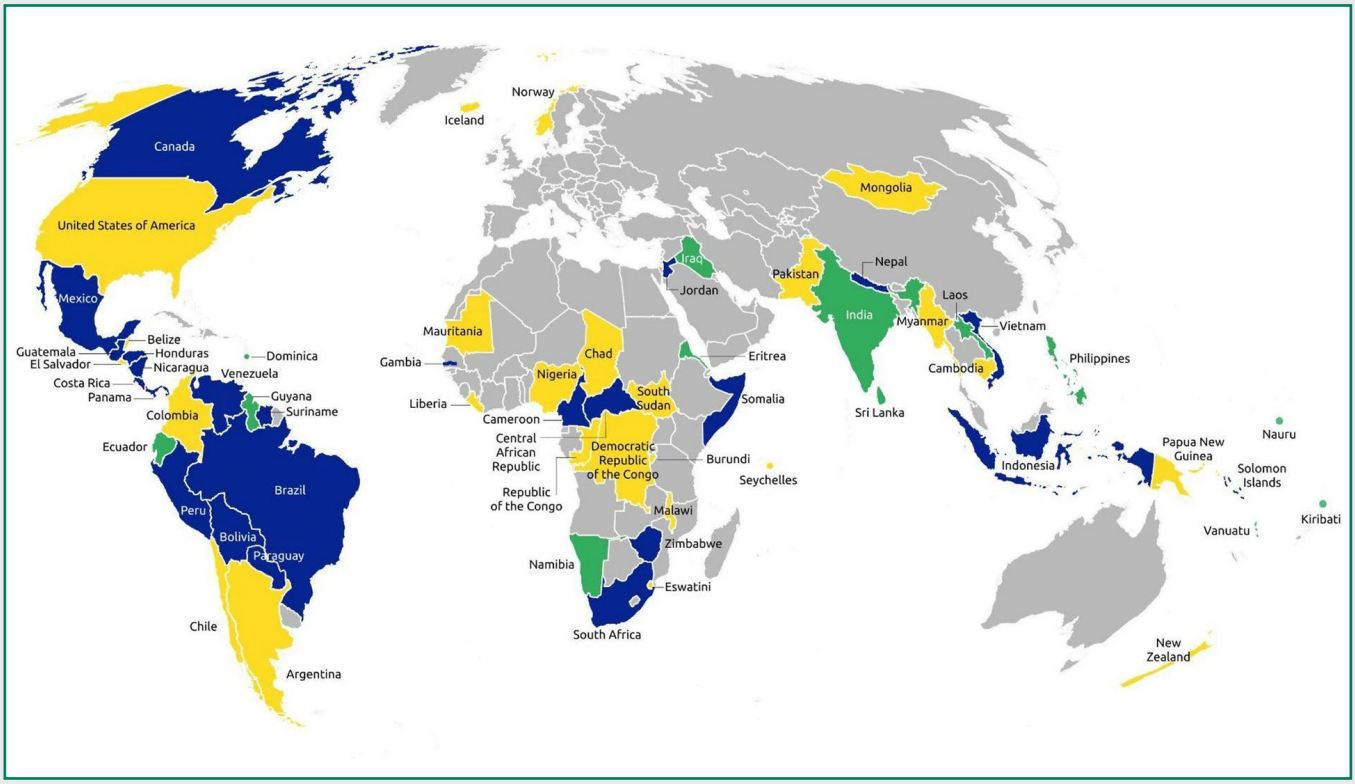
Integrating legitimate land tenure into the Loss and Damage Fund's operational framework can bridge critical gaps, making sure that the benefits and resources reach the communities that need them most and enhancing the overall effectiveness of climate justice initiatives. As the Board of the Loss and Damage Fund continues to define the operational framework of the Fund, it is critical that frontline communities also inform the development of this framework (including national-level decision-making related to Loss and damage). One way to achieve this would be through enhancing the participation of representatives of Indigenous People and local communities, as well as the participation of Civil Society Organizations, in the Board's meetings and related proceedings. It is also important for the Board, in defining the operational framework of the Fund, to ensure that financial compensation that is first released to governments eventually reaches affected communities, including communities whose land rights have not been formally documented. The Santiago Network's role in providing technical assistance to the Board and to various stakeholders and organizations which will inform the Fund's operation (including facilitating the consideration of topics and priorities for addressing Loss and damage) offers another entry point to begin integrating land rights issues into the Fund's operational framework.

Land rights in the Rio Conventions

Despite the critical role of land rights, international agreements such as the 2030 Agenda for Sustainable Development and the Paris Agreement on Climate Change often do not explicitly address tenure security. This oversight poses risks for Indigenous peoples, local communities, and other vulnerable groups whose livelihoods depend on secure land rights. However, in recent years, the integration of land rights into international agreements and policy frameworks has gained increasing recognition as a crucial component for achieving sustainable development goals and addressing climate change.

The Rio Conventions – comprising the UN Framework Convention on Climate Change (UNFCCC), the UN Convention on Biological Diversity (UNCBD), and the UN Convention to Combat Desertification (UNCCD) – play a pivotal role in shaping global environmental governance. These conventions are particularly important for climate change, as they address interconnected issues of climate, biodiversity, and desertification. By fostering international cooperation and setting guidelines for sustainable land management, they help mitigate climate impacts, protect ecosystems, and promote resilience in vulnerable communities. However, the full potential of land rights integration within these frameworks remains underutilized.

NDCs with references related to Indigenous Peoples in the first and second submissions



- Parties that only made a first submission which included references related to Indigenous Peoples
- Parties that made a second submission which included references related to Indigenous Peoples
- Parties that made a first and second submission which both included references related to Indigenous Peoples

Figure 2: NDCs with references related to Indigenous Peoples in the first and second submissions
Source: Carmona et al., 2023: https://link.springer.com/article/10.1007/s13280-023-01922-4/figures/2

The role of the Rio Conventions

The Earth Summit held in Rio de Janeiro in 1992 marked a significant milestone in global environmental diplomacy, leading to the establishment of the Rio Conventions. These conventions set ambitious targets to address climate change impacts, biodiversity loss, and land degradation, applying integrated approaches that recognise the fundamental importance of land:

Each convention addresses distinct but interconnected aspects of environmental stewardship.

- The 2015 Paris Agreement, signed by 195 members of the UNFCCC, set the goal of limiting global temperature rise to well below 2 °C, with efforts to limit it to 1.5 °C, which requires significant contributions from land-based solutions like carbon sequestration and forest conservation (Article 5). The UNFCCC emphasizes the role of land use in carbon sequestration and mitigation strategies, highlighting the intersection of climate change and land management. Land use, land-use change, and forestry are key sectors for carbon offsetting, and the recent focus on Nature-based Solutions (NbS) has brought attention to how land rights shape the effectiveness of these strategies.

- The UNCBD focuses on conserving biodiversity and ecosystems, recognising the foundational role of healthy lands and habitats. The UNCBD's Post-2020 Global Biodiversity Framework aims to protect 30 percent of the world's land and marine areas by 2030 (the 30 x 30 target), which depends on recognition of the land rights of Indigenous Peoples and local communities, who are key biodiversity stewards.

- The UNCCD's Land Degradation Neutrality (LDN) Target aims to achieve land degradation neutrality by 2030, which requires restoring degraded lands, preventing further degradation, and ensuring sustainable land management practices across vulnerable regions. The UNCCD targets land degradation and promotes sustainable land management to combat desertification, thereby safeguarding the productivity of global lands. The convention explicitly recognizes land rights as crucial for achieving LDN.

Mainstreaming (land) rights in the Rio Conventions: integrating land rights into climate frameworks

While the Rio Conventions share common goals, they differ in how they incorporate land rights into their mandates.

The UNCCD leads the way. Decision 12/COP.15 explicitly addresses tenure security, emphasizing its importance for achieving land degradation neutrality. By aligning with the Voluntary Guidelines on the Responsible Governance of Tenure (VGGTs), the UNCCD recognises that secure land rights are essential for effective climate adaptation and mitigation efforts. Local land users, such as Indigenous Peoples and smallholder farmers, rely on secure tenure to engage in long-term conservation practices such as agroforestry, reforestation and sustainable agriculture[1].

1 In addition to actively supporting the UNCCD negotiations on the land tenure decision at COP 14/15, TMG Research has been monitoring the implementation of the UNCCD land tenure decisions in Benin, Kenya, Madagascar and Malawi between 2021 – 2024. In addition, TMG has been involved in developing The Technical Guide on the Integration of the VGGT into the Implementation of the UNCCD - co-published by the Food and Agriculture Organization of the UN (FAO) and the UNCCD.

Countries are encouraged to implement COP decisions (14 and 15) that emphasise responsible land governance in LDN plans. National consultations through the FAO/UNCCD Joint Initiative in countries like Kazakhstan, Kenya, Mexico, Senegal, and Sri Lanka are already supporting land tenure integration in LDN planning. The VGGT principles and the Technical Guide on Responsible Governance of Tenure provide a roadmap for incorporating secure tenure rights into LDN targets. The **Gender Plan of Action (2017)** further highlights WLR and equitable access to land as key priorities in the UNCCD's 2018–2030 Strategic Framework.

While UNFCCC and UNCBD have not fully integrated land rights, opportunities remain. Each convention offers two types of entry point: direct provisions, where land rights are explicitly mentioned; and indirect provisions, such as those aimed at vulnerable groups like women and Indigenous Peoples. Indirect entry points, such as gender lenses in GAPs and IPLC provisions, can strengthen the land rights agenda[2].

Given the focus of the **UNCBD** on ecosystem conservation, land rights are addressed only indirectly through provisions for Indigenous Peoples and Local Communities (IPLCs). The Post-2020 Global Biodiversity Framework offers a critical opportunity to directly incorporate tenure security, as studies have shown that IPLCs, when given secure land rights, are among the most effective stewards of biodiversity-rich areas. Other possible entry points include the following:

- **WLR in National Biodiversity Strategies and Action Plans (NBSAPs):** Parties are updating NBSAPs ahead of COP16 to align with the new Kunming-Montreal Global Biodiversity Framework (GBF). National targets should incorporate gender and land rights.

- **GBF Land-Based Targets:** Targets 1–3 (the 30 x 30 target), 10, 22, and 23 focus on gender equality and IPLCs' rights, offering entry points for integrating WLR into national biodiversity planning.

- **Indicators and Reporting:** COP16 will adopt the monitoring framework for the GBF, presenting an opportunity to propose voluntary (W)LR indicators to track tenure rights progress.

Although land rights are not explicitly mainstreamed in the **UNFCCC**, indirect entry points exist. The **Gender Action Plan (GAP)** and the **Local Communities and Indigenous Peoples Platform (LCIPP)** provide mechanisms for strengthening land rights. Article 5 of the Paris Agreement on REDD+ acknowledges the need to protect local community rights, but stronger safeguards are needed in carbon market mechanisms to ensure adequate protection of land rights.

- **WLR in NDC/NAP Formulation:** Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) will be revised in 2025, providing a critical opportunity to push for WLR inclusion.

- **Just Transition and Land Rights:** While the Just Transition Work Programme focuses on the energy sector, it can be expanded to include land-based livelihoods, framing land rights within climate justice and the transition to a low-carbon economy.

2 A full list of entry points has been developed in the context of the Women's Land Rights Initiative, initiated by TMG Research and Robert Bosch Stiftung, co-hosted by the three Secretariats. See the full list in Annex 1.

- **Loss and Damage Fund:** Discussions around the Loss and Damage (L&D) Fund provide an opportunity to advocate for the inclusion of land rights as a criterion for compensation under the Santiago Network.

- **Gender Action Plans (GAPs):** GAPs provide an indirect route to strengthen women's land rights, recognising their critical role in land-based adaptation strategies.

The integration of land rights, especially WLR, into the Rio Conventions is vital for ensuring inclusive, equitable, and sustainable climate action, biodiversity conservation, and land restoration. Leveraging direct and indirect entry points – such as VGGT principles, NBSAP updates, GAPs, and Just Transition frameworks – opens up multiple pathways to embed land rights into international climate and environmental agreements. National focal points and other key stakeholders must ensure that legitimate tenure rights are upheld in the fight against climate change, biodiversity loss, and land degradation.

While there are various entry points for integrating women's land rights into the Rio Conventions, leveraging these opportunities requires coordinated and innovative approaches. The **Women's Land Rights Initiative (WLRI)**, launched by TMG Research and the Robert Bosch Stiftung in 2023 and co-hosted by the secretariats of the UNCCD, UNCBD, and UNFCCC, presents a strategic pathway to embedding women's land rights within the Rio Conventions. Taking a decentralized approach, the initiative brings together local, national, and international partners to identify and leverage both immediate opportunities and long-term strategies. For example, engaging with women's and gender caucuses at the annual Conferences of the Parties (COPs) and convening funders to address financing for women's land rights are among the 'low-hanging fruit' that the WLRI has already tackled. At the same time, tougher challenges, such as recognizing women's land rights in UNFCCC's agriculture agenda or influencing structural shifts in public funding, require ongoing groundwork. The WLRI fosters an open, collaborative space where stakeholders can think creatively, strategize, and take both realistic steps and ambitious leaps toward achieving gender equity in land governance.

Conclusion

Why are land rights central to addressing climate-related challenges such as adaptation, human mobility, and loss and damage?

Land rights play a dual role in addressing climate-related challenges, serving as both a critical component of climate justice and a key enabler of climate action. From a climate justice perspective, secure land tenure helps rectify historical injustices faced by marginalized communities, who are disproportionately affected by climate impacts. Ensuring these communities – such as Indigenous Peoples, rural grassroots women, and smallholder farmers – have secure land rights is vital for protecting them from displacement, loss of livelihoods, and exclusion from climate initiatives such as carbon markets.

Land rights are also essential for an effective response to climate change because they incentivize sustainable land management and resilience-building practices. Secure tenure encourages communities to invest in long-term adaptation strategies, such as agroforestry and sustainable agriculture, which enhance their capacity to withstand climate impacts. Secure land tenure ensures that communities can access compensation, for example through loss and damage funds, engage in recovery efforts, and avoid being excluded from climate interventions such as carbon markets.

Why do marginalized groups, who often lack secure land rights, need specific attention in climate action strategies?

Marginalized groups are often disproportionately affected by climate change and lack secure land rights, which exacerbates their vulnerability. Addressing land tenure inequality for these groups is not only a matter of climate justice but also a fundamental human rights issue. Access to and use of land is closely tied to other human rights, including the right to food, housing, and self-determination, as recognised in the Universal Declaration of Human Rights (Article 17), the International Covenant on Economic, Social and Cultural Rights (ICESCR), and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

Secure land rights enable marginalized groups to protect their livelihoods, participate in decision-making, and access compensation mechanisms such as the Loss and Damage Fund. They also empower these communities to engage in and benefit from climate mitigation and adaptation efforts, including nature-based solutions and carbon markets. By incorporating human rights standards, such as free, prior, and informed consent, as outlined in UNDRIP, into climate action strategies, we can ensure that marginalized groups have equitable access to land and resources, and are able to protect their cultural identities and maintain control over their lands.

Why is it crucial to prioritize land rights in climate-related policies and programmes?

Prioritizing land rights in climate-related policies is essential because they fulfil a dual role – supporting both climate justice and effective climate action. At the local level, land governance frameworks, such as land tenure formalization and community land use planning, need to protect marginalized communities who often lack formal land rights. Securing these rights ensures that they are not displaced by climate interventions and can equitably participate in adaptation efforts, contributing to climate justice.

At the national level, policies such as Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) must integrate land

rights to incentivize sustainable land management and adaptation practices. Secure tenure gives communities the confidence to invest in long-term resilience strategies, such as agroforestry and soil conservation, enhancing their ability to adapt to climate change. At the international level, frameworks such as the Loss and Damage Fund, carbon market regulations, and global climate agreements must incorporate safeguards for land rights, ensuring that vulnerable populations can access compensation and avoid land grabbing.

Land rights and Rio Conventions: Strategic pathways forward

To enhance climate action through the Rio Conventions, a coordinated approach is needed, recognising land tenure challenges and adopting rights-based strategies. Stronger land rights for women, in particular, serve as a catalyst for broader change. By securing legitimate land rights across all climate frameworks, we can drive more effective, inclusive, and sustainable climate outcomes. Building on the experiences and insights gained from two strategic workshops on Women's Land Rights and the Rio Conventions, as well as on TMG's work on monitoring the UNCCD Land Tenure Decision, we have developed a call to action for the Rio Conventions:

1 **Synergies through coordination and alignment:**
Realizing synergies between the Rio Conventions requires coordinated action at the secretariat and COP levels. This includes recognition of land tenure challenges and the adoption of rights-based approaches in climate measures guided by frameworks like the VGGT.

2 **Developing a "Joint Protocol":**
A proposed "Joint Protocol for Securing Legitimate Land Rights (for Women)" could provide a framework for integrating gender-just land governance across all three conventions. This would create an enabling environment to address insecure land rights, thereby enhancing livelihoods and supporting just climate action.

3 **Women's land rights as a catalyst for broader change:**
Focusing on women's land rights offers a powerful avenue for advancing tenure security within the Rio Conventions. By explicitly and indirectly addressing land rights through provisions for vulnerable groups, such as those outlined in the Women's Land Rights Initiative, we can foster more inclusive and resilient environmental governance.

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