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Ros-Tonen, M., Reed, J., Adeyanju, S. et al (2025). Integrated Landscape Approaches: A Pathway Towards Just Sustainable Development?. *Progress in Development Studies*, 25(3-4 Special Issue: Just International Development): 231-254. <http://dx.doi.org/10.1177/14649934251413867>

N.B. When citing this work, cite the original published paper.



Integrated Landscape Approaches: A Pathway Towards Just Sustainable Development?

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Abstract: Landscape approaches mobilize stakeholders across sectors and scales to negotiate development–conservation trade-offs and land-use allocation. Building on the concept of earth system justice, we examine how efforts to operationalize such approaches in Ghana, Zambia and Indonesia advance landscape justice. We observed contributions to procedural, recognitional and intergenerational justice, while interspecies justice remains overlooked. Yet, power asymmetries, exclusionary practices and institutional constraints hinder progress towards intragenerational and substantive—distributive, corrective, restorative and transformative justice. In contexts lacking commitment to transformative change, trade-offs are inevitable. Pursuing incremental change rather than ‘perfect’ justice may represent a second-best but more realistic pathway towards just landscape governance.

Key words: Integrated landscape approaches, Conservation–development trade-offs, Power imbalances, Earth system justice, Landscape justice

1. Introduction

Integrated landscape approaches (ILAs) have emerged as viable governance responses to complex, interconnected ‘wicked problems’ at the landscape level, such as climate change, deforestation, biodiversity loss, poverty, food insecurity and water scarcity and pollution

(Reed et al., 2016). ILAs ‘seek to engage a diverse range of stakeholders¹ with a shared interest in the use and management of a particular landscape, in an attempt to identify the means by which more sustainable and socially just landscape management can be achieved’

(Reed et al., 2023: 840). Their ultimate aim is to foster multifunctional landscapes resilient to environmental change while assuring food security, sustainable livelihoods, biodiversity conservation and the provision of ecosystem services (Pedroza-Arceo et al., 2022; Reed et al., 2020a; Sayer et al., 2013). We understand landscapes as territories shaped by the interplay of natural conditions and societal factors, endowed with meaning by those who inhabit them (Council of Europe, 2020; Görg, 2007; Mitchell, 2023). Since the publication of ‘Ten principles for a landscape approach’ (Sayer et al., 2013; Table S1, supplementary material), the approach has been widely advocated through the Global Landscapes Forum (<https://www.globallandscapesforum.org/>), increasingly supported by donors and featured in multilateral agreements.

Despite their theoretical promise, ILAs face significant challenges in practice. Power asymmetries, institutional fragmentation and governance constraints often hinder meaningful participation, particularly for marginalized groups (Arts et al., 2017; Vermunt et al., 2020). Exclusionary practices—whether due to gender norms (Agarwal, 2009), ethnic tensions (Bayala, 2024) or economic interests (Clay, 2016)—limit the effectiveness of multistakeholder platforms (MSPs) in fostering truly inclusive decision-making. Self-exclusion also occurs: some private-sector actors show disinterest (Arts et al., 2017; Upla et al., 2022) while those involved in illegal activities prefer to remain unnoticed (Bayala, 2024; Siangulube, 2024). Moreover, marginalized stakeholders often feel their voices are ignored (Bayala, 2024). The dominance of state-led agendas (Forsyth & Springate-Baginski, 2021) and limited recognition of Indigenous and local knowledge have further raised concerns that ILAs may reinforce rather than reduce existing inequalities (Clay, 2016; Larson et al., 2022; Yanou, 2024).

These challenges underscore the importance of safeguarding the rights of marginalized

people and ensuring their inclusion in landscape management (Clay, 2016; Reed et al., 2016; Ros-Tonen et al., 2018). Yet, ILA scholars—despite recognizing that power imbalances obstruct implementation—have paid scant explicit attention to justice beyond striving for inclusive landscape governance. Unsurprisingly, some authors (e.g., Ravikumar et al., 2018) have therefore argued that ILAs will not significantly ‘advance environmental justice’.

Until recently, limited scholarship has explicitly connected ILAs with justice, generally focusing on social justice. For instance, Mels (2016, 2023) frames landscapes as products of historical and political forces that define who can shape, use and belong to these spaces. He highlights how access, resource allocation and the distribution of environmental benefits and impacts raise justice concerns, including inequitable distribution, recognition and participation. Mels (2016) proposes the concept of political representation to examine how groups are either included or excluded from decision-making and access to spaces, contending that ‘social justice and inequalities become deeply entrenched in the landscape’ (Mels, 2016: 420) and landscapes are ‘part and parcel of the very condition of justice’ (Mels, 2016).

Like Mels, Larson et al. (2021) advocate for a ‘human rights and justice-based agenda’ in engaged research to better understand power relations, how marginalized groups—such as Indigenous Peoples and local communities, smallholder farmers and women—can claim agency, and how transformation can lead to sustainable and just landscapes. Ravikumar et al. (2018) similarly argue that collaborative or integrative approaches are unlikely to achieve social justice as long as power imbalances and anti-conservation interests persist. Analysing 357 landscape approach cases, Estrada-Carmona et al. (2024) confirm that approaches promoting social justice yield better outcomes in terms of agriculture, conservation, livelihoods and governance.

Finally, Ramcilovic-Suominen et al. (2024), focusing on landscape restoration approaches, propose a decolonial environmental justice (DEJ) framework that emphasizes epistemic justice, self-determination and self-governance, foregrounding local notions of justice and knowledge, as well as institutional and belief systems.

None of these authors employed the concept of landscape justice coined in landscape studies in isolation from debates on landscape governance and ILAs. For instance, Egoz and De Nardi (2017), building on Egoz et al.'s (2011) earlier conceptualization of the *right to landscape*, argue that landscape justice is a prerequisite for social sustainability. Mitchell (2008: 45) contends that 'landscape is the spatial form that social justice takes' and that a substantively just landscape entails a just distribution of 'goods and bads' and the right for all 'to be involved in the making of the landscape under non- (or less) exploitative conditions' (Mitchell, 2023: 219).

It is only recently that the multidimensionality of landscape justice has been recognized (Zafra-Calvo et al., 2025). We contribute to this emerging debate by conceptualizing landscape justice in line with earth system justice (ESJ) (Gupta et al., 2023, 2025, this issue) (see Section II). We use this conceptualization to explore if and how ILAs and related landscape initiatives in Ghana, Zambia and Indonesia address landscape injustices and how these efforts are enabled or constrained by broader contexts. In the final sections, we examine how ILAs and their underlying principles relate to the various justice dimensions (see Section V) and advocate a stronger justice focus in the ILA community (see Section VI). By considering justice from a landscape governance perspective, we aim to contribute to both debates that have so far seldom been linked.

II. Conceptualizing Landscape Justice

Gupta et al. (2023) propose a conceptualization of ESJ that emphasizes redistributive strategies

to ensure fair access to basic needs for the most vulnerable and poorest populations, while protecting them from disproportionate risks and harm. They advocate for radical institutional change to achieve equitable access and allocation of benefits and burdens. This is termed ideal justice, in contrast to conservative justice, which tends to reproduce existing inequalities by maintaining the status quo through the implementation of existing laws, policies and institutions.

Achieving ideal justice requires recognizing marginalized people, their values and worldviews (recognitional justice), as well as creating space for knowledge pluralism that accommodates their knowledge systems (epistemic justice). Gupta et al. (2023) further reject anthropocentrism and advocate greater engagement with the non-human world. Their 'three-Is' of justice entail obligations towards other beings—human and non-human—with whom humans interact. These forms of relational justice encompass the more-than-human world (interspecies justice), future generations (intergenerational justice) and justice across diverse social groups (intragenerational justice) (Gupta et al., 2023). Ensuring interspecies justice also requires actions that maintain Earth system stability, as species can only thrive when ecosystems and water systems remain intact (J. Gupta, personal communication, 21 October 2025).

Achieving the various dimensions of ideal justice also requires procedural justice: ensuring that people have access to information, enhancing their agency to raise voices and engage in decision-making processes and respecting their rights. Equally important for landscape justice but largely beyond the scope of landscape approaches are civic spaces to voice dissent and legal avenues to contest decisions.

Once basic needs are met, the remaining resources within planetary boundaries—and associated responsibilities—must be equitably

shared (distributive justice). Distributive justice forms part of substantive justice, which entails a radical transformation of governance structures to ensure equitable access and allocation of resources, benefits and burdens and to address past injustices through corrective justice (reducing and compensating for harm) and restorative justice (pursued through reconciliation) (Gupta et al., 2023). Addressing both past and ongoing injustices further requires tackling the underlying drivers of social and environmental injustice and vulnerability to enable life within safe and just boundaries—a process we refer to below as transformative justice.

Applying this multidimensional conceptualization of justice to landscapes (Figure 1) yields a definition of landscape justice as the fair and inclusive governance of landscapes as coupled socio-ecological systems, ensuring equity across ideal, procedural and substantive dimensions of justice. It recognizes the rights and needs of human and non-human beings, future generations and marginalized groups,

while promoting participation, equitable benefit-sharing and redress of past and ongoing social and ecological harms. Although access to civic space and legal avenues to contest decisions, as well as transformative justice, are crucial for achieving landscape justice, these dimensions fall beyond the scope of this article, as they transcend the implementation of landscape approaches.

III. Methods

The analysis in the following sections draws on our collective experience with the COLANDS initiative—an acronym standing for Collaborating to Operationalize Landscape Approaches for Nature, Development and Sustainability (<https://www.cifor-icraf.org/colands/>). This initiative operationalizes and studies landscape approaches in Ghana (the Western Wildlife Corridor between Burkina Faso and Mole National Park), Zambia (Kalomo District in the South) and Indonesia (Kapuas Hulu, West Kalimantan). COLANDS utilizes



Figure 1. Dimensions of Landscape Justice.

Source: Authors' construct drawing on Gupta et al. (2023).

Note: *Dimensions marked with an asterisk are essential to landscape justice but fall outside the scope of landscape approaches.

a ‘learn by doing’ approach to build a more robust ILA theory (Reed et al., 2020b).² The evidence presented here draws mainly on research conducted and published by the contributing authors within the framework of the COLANDS initiative and is cited as such. These studies employ a broad range of methods (Supplementary Table S2 provides an overview).

Among the cited works are reports on theory of change workshops held in the three countries (Moeliono, 2024; Reed et al., 2023, 2024) (see Supplementary Table S3), in which COLANDS mobilized participants representing various stakeholder groups to co-produce a landscape vision and action plan—a theory of change—to tackle challenges in the respective landscapes. During these workshops, participants identified drivers of land-use change that shed light on injustices in their respective landscapes.

For contextual information, we primarily draw on scoping studies conducted by COLANDS researchers (Anandi et al., 2020; Bayala et al., 2020; Moombe et al., 2020), supplemented by other relevant studies to gain further insights. In the case of ongoing research, we occasionally refer to personal comments of the researchers concerned.

IV. Results: Applying the Landscape Justice Dimensions to ILA Implementation Efforts

Ghana’s Western Wildlife Corridor

Socioeconomic and Institutional Context

The Western Wildlife Corridor (WWC)—a savannah landscape in northern Ghana that spans a length of 104 km (Figure 2)—connects Ghana’s Mole National Park with the Nazinga Game Ranch in Burkina Faso, facilitating wildlife migration (Bayala et al., 2020; Ouedrago et al., 2007). It is a contested landscape where conservation efforts clash with local livelihoods (Reed et al., 2024). Persistent conflicts arise between

sedentary farmers, who constitute 80% of the population and nomadic Fulani herders, primarily from Burkina Faso. These pastoralists migrated to northern Ghana due to recurring droughts and desertification, which reduced the availability of grazing land and water. Political unrest and the prevalence of violent extremist groups in Burkina Faso have further accelerated out-migration. Farmer–pastoralist conflicts in northern Ghana typically occur when cattle stray into agricultural fields, causing crop damage, or when lands traditionally used for grazing are converted into farmland (Bayala, 2024). Conservation may also conflict with the livelihood needs of forest resource users reliant on wood for charcoal and fuelwood, non-timber forest products, or game (Bayala, 2024; Marchetta, 2011). Illegal gold mining, persistent poverty, erratic rainfall, immigration from Burkina Faso and weak governance capacity further exacerbate pressure on natural resources (Bayala et al., 2020; Reed et al., 2024).

The WWC hosts six Community Resource Management Areas (CREMAs) with certificates of devolution. Established throughout Ghana by the Wildlife Division of the Ghana Forestry Commission in the 2010s and early 2020s, CREMAs aim to devolve management authority to communities bordering national parks and wildlife reserves. They also aim to support local livelihoods and reduce human pressure on protected areas (Asare et al., 2013; Foli et al., 2018). CREMAs are governed by Community Resource Management Committees (CRMCs) at the village level and CREMA Executive Committees at the CREMA level, in collaboration with District Assemblies and the Wildlife Division (Bayala, 2024; Foli et al., 2018). Environmental NGOs (e.g., the International Union for Conservation of Nature—IUCN) and donor organizations (e.g., the United Nations Development Programme—UNDP) provide active support. The COLANDS initiative recognized the

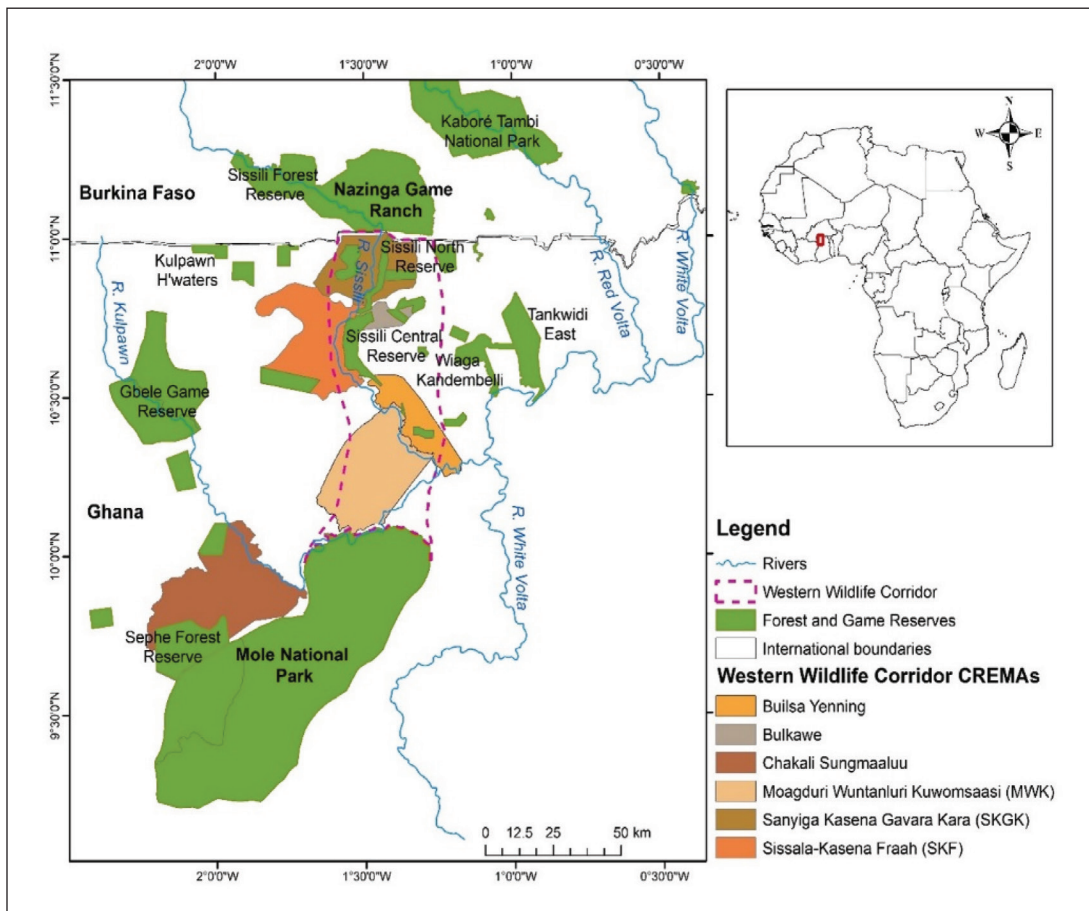


Figure 2. The Western Wildlife Corridor, Ghana.

Source: Adapted from Ouedrago et al. (2007) by Kwabena Asubonteng, University for Development Studies, Ghana, based on data from the Ghana Forestry Commission and the ArcGIS hub.

CREMA model as a promising entry point for implementing an integrated landscape approach (Adeyanju et al., 2021; Bayala et al., 2020; Foli et al., 2018).

Injustices in the WWC Landscape

The theory of change workshops organized by COLANDS in 2022 (see Methods section) identified key landscape challenges, including poverty, tenure complexities, demographic pressures and climate change, all of which

contribute to resource overexploitation and degradation of the WWC. Discussions revealed persistent injustices across all dimensions (Adeyanju et al., 2021; Bayala, 2024; Reed et al., 2024).

'Recognitional injustice' is reflected in the exclusion of women, youth, elders and Fulani pastoralists from decision-making. Though CREMAs strive for inclusion, participation remains skewed towards educated men. Some CREMA constitutions stipulate that at least

two women should be part of the CRMC, which governs the CREMA at the community level. Research by Bayala (2024) revealed this is generally the case, but women remain a minority (18% overall). Focus group discussions and interviews confirmed that their representation is often symbolic, as women's voices remain largely unheard in practice. Youth have a far more favourable representation in the CREMA committees (53%, on average), but reported feeling unconsulted, 'cheated' and 'left out of the system' (Bayala, 2024: 126). Fulani herders are entirely excluded, with no procedures to include them in the CREMA governance system.

'Epistemic injustice' is evident in expert-driven governance, marginalizing local knowledge. The exclusion of women and Fulani herders from current decision-making, alongside the erosion of traditional authorities' roles, further undermines respect for local perspectives (Reed et al., 2024). 'Procedural injustice' arises from corruption, political interference and weak coordination across governance levels and among stakeholders, including the private sector, leaving many social groups' concerns unaddressed or their actions unaccountable. Some CRMCs were dominated by one or two individuals, often highly educated or with positions in government or business. Focus groups and workshops reported in Bayala (2024) and Reed et al. (2024) revealed that some traditional authorities permitted illegal activities for personal gain, which they justified by pointing to their low remuneration for fulfilling their roles. 'Distributive injustice' manifests in unequal land and resource access, disproportionately disadvantaging women and Fulani herders (Reed et al., 2024).

The 3Is are also evident. 'Interspecies injustice' arises as wildlife and plant species are threatened by overharvesting, overgrazing and weak law enforcement. While the WWC was created to facilitate wildlife movement and

the CREMAs to curb destructive activities, human priorities remain dominant and unsustainable resource extraction therefore persists. Participants in the theory of change workshops (Reed et al., 2024) claimed that illegal logging, mining, poaching and excessive extraction of fuelwood and charcoal contribute to resource depletion, thereby endangering their availability for future generations and creating 'intergenerational injustice'. Persistent intragenerational injustice exists due to power differences across gender, age, class and ethnicity. Despite their equitable governance aims, CREMAs remain susceptible to elite capture and stakeholder conflicts, while entrenched power imbalances continue to hinder the implementation of ILAs. Power abuses by government agencies, NGOs and chiefs, combined with farmer–herder conflicts, exacerbate these disparities.

These injustices are deeply interlinked, reinforcing one another. Recognition, epistemic and procedural injustices exclude marginalized stakeholders, such as women, youth and Fulani herders, from decisions on land allocation and natural resource use, resulting in distributive injustices (Bayala, 2024). Failure to address unsustainable resource use perpetuates intergenerational injustice (Reed et al., 2024). Additionally, intragenerational and interspecies injustices intersect with intergenerational injustice, as powerful actors, such as local elites and large-scale agricultural interests, often prioritize economic gains over sustainable environmental management (Adeyanju et al., 2021; Bayala, 2024; Reed et al., 2024). Hence, these injustices in the WWC form a complex, reinforcing web of social and environmental inequalities, necessitating the simultaneous addressing of multiple dimensions.

The Role of COLANDS and CREMAs in Addressing Landscape Injustices
Were the CREMA and COLANDS initiatives able to address these injustices? While neither

initiative was explicitly designed with a justice perspective in mind, both have implications for justice dimensions.

The CREMA system aims to balance wildlife conservation and livelihoods through community-driven governance (WD, 2020). Its approach contributes to recognitional, procedural and distributive justice. It also potentially supports epistemic justice by grounding the CREMA governance system in traditional knowledge, and customary structures, rules and value systems (Asare et al., 2013; Foli et al., 2018). The CREMA policy explicitly seeks to retain traditional knowledge, formalizing customary tenure and resource access rules into bylaws to be incorporated into the CREMA constitution (WD, 2020). However, marginalization persists: Fulani herders, women and youth, in particular, feel excluded (Bayala, 2024).

Other barriers to justice outcomes include elite capture by CREMA authorities and chiefs, farmer–herder conflicts and a lack of transparency in the CREMA governance system (Bayala, 2024; Reed et al., 2024). In-depth interviews with 22 members of CREMA communities revealed that many perceive CREMAs as ‘other’—externally imposed, primarily managed by NGOs and local elites to reinforce forest reserve boundaries and restrict people’s access to the forest rather than community-driven initiatives (O’Connor, 2025). Additionally, financial and technical resource shortages, weak governance capacity and inconsistent donor funding undermine long-term effectiveness (Bayala, 2024; Reed et al., 2024). Well-funded CREMAs, such as the Wechiau CREMA (supported by the Calgary Zoo), tend to perform better but risk donor-dependency (Sheppard et al., 2010).

COLANDS sought to address governance inequalities by ensuring broad stakeholder representation in workshops and follow-up consultations. Specific efforts focused on

including marginalized groups, such as women and Fulani herders, thereby enhancing recognitional and procedural justice (Bayala et al., 2025; Reed et al., 2024). Additionally, COLANDS promoted epistemic justice by integrating traditional authorities and community members into discussions. Workshops raised awareness of sustainable farming, wildlife conservation and natural resource and landscape management, potentially advancing intergenerational justice. However, persistent power imbalances—between statutory and customary governance actors, traditional leaders and community members, farmers and herders, men and women and across age groups—impede substantive progress in distributive, epistemic and intragenerational justice. For instance, an analysis of how a theory of change was co-developed revealed a dominance of government actors in the plenary discussions. This resulted in the sidelining of community-driven proposals, such as raising awareness of CREMA benefits and granting CREMA members greater law-enforcement roles (Reed et al., 2024). Additionally, weak local governance, financial and technical resource shortages and political interference hinder more inclusive governance, livelihood enhancement and long-term conservation success, as well as associated justice contributions. COLANDS’ achievements remain precarious due to the initiative’s dependency on external funding (Adeyanju et al., 2021; Bayala, 2024; Reed et al., 2024).

Zambia’s Kalomo District

Socioeconomic and Institutional Context

In Zambia, the COLANDS initiative operates in Kalomo District, in the Southern Province. The district comprises 18 wards and three Chiefdoms (Figure 3), reflecting a blend of statutory and customary governance. Kalomo District includes the Kalomo Hills Local Forest Reserve (KFR-P13), the largest forest reserve in southern Zambia (16,200 ha), the Sichifulo

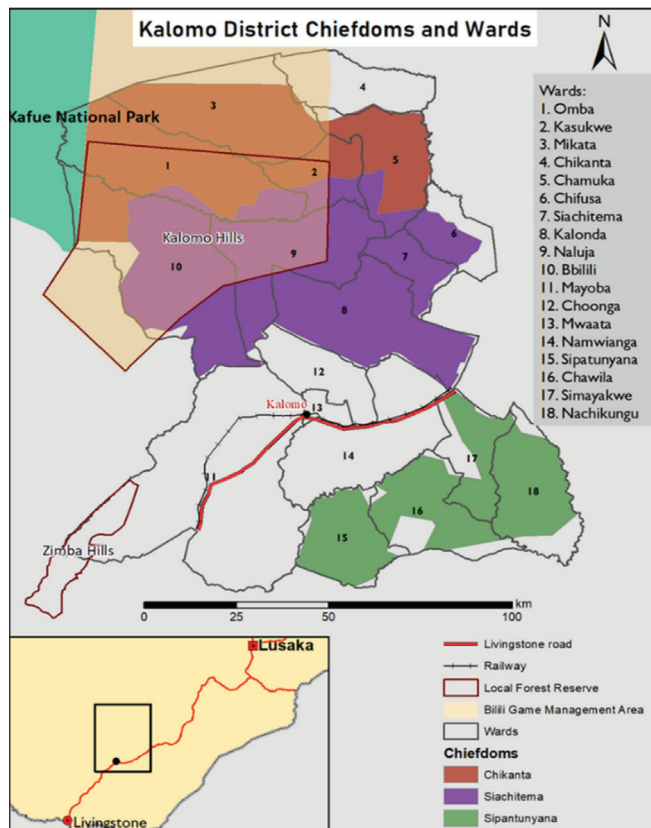


Figure 3. Kalomo District and Its Chiefdoms and Wards.

Source: Moombe et al. (2020).

Game Management Area and the Kafue National Park (Moombe et al., 2020). These protected areas face increasing pressure from agricultural expansion (mainly cattle raising, maize and tobacco cultivation), poaching, wildfires, population growth and the charcoal and timber trade. Like Ghana's WWC, the area is a 'contested landscape' characterized by persistent rural poverty, and climate-change-related erratic rainfall and reduced water bodies (Siangulube, 2024; Yanou, 2024).

Compared to Ghana, Zambia's governance context is more conducive to multistakeholder mobilization (O'Connor et al., 2020). Enabling

policies, such as the Seventh and Eighth National Development Plans (MFNP, 2022; MNDP, 2017) and the national gender policy (Government of the Republic of Zambia, 2023), promote decentralized, participatory, cross-sectoral planning that incorporates traditional authorities (O'Connor et al., 2020; Siangulube, 2024; Yanou, 2024). Additionally, the Protection of Traditional Knowledge, Genetic Resources, and Expression of Folklore Act (No. 16/2016) underscores the importance of preserving local knowledge. Unlike Ghana, Zambia has several MSPs at national, district and local levels largely due to its decentralization policies. Fostering partnerships

between actor groups, they provide entry points for collaborative governance and help close the policy-implementation gap by translating national policies into local strategies (Siangulube, 2024). For instance, the District Development Coordinating Committee (DDCC) facilitates discussions between government agencies, civil society organizations, the private sector and traditional authorities on development and environmental issues. It also contributes to the creation of district development plans and to monitoring and evaluation efforts (Siangulube, 2024; Yanou, 2024).

The COLANDS theory of change workshop in Zambia provided insights into the institutional, political-economic and demographic drivers of landscape change. Participants in the workshop identified the direct causes of deforestation and environmental degradation, including agricultural expansion, charcoal production and illegal timber harvesting, which collectively lead to biodiversity loss, soil erosion and water shortages (Reed et al., 2023; see also Siangulube, 2024).

In addition, conflicts have emerged over water and resource access, land boundaries and competing conservation and development goals, particularly within the forest reserve (Reed et al., 2023). Persistent power imbalances, weak governance, poor institutional coordination and information sharing and exclusion of marginalized farmers, women and youth from environmental decision-making exacerbate these issues (Moombe et al., 2020; Reed et al., 2023; Siangulube, 2024).

Injustices in the Kalomo Landscape

Landscape injustices in Kalomo District manifest in various ways (Reed et al., 2023; Siangulube, 2024; Yanou, 2024). Recognitional injustice is reflected in the exclusion of women, youth and marginalized farmers from environmental decision-making (Siangulube, 2024). Epistemic injustice is evident in the dominance of 'expert' knowledge of government actors in policies and

environmental decision-making. Additionally, research has revealed a lack of recognition and validation of local knowledge in MSPs of the Tonga, the majority population in Kalomo District, despite policies intended to integrate local knowledge into forest and resource management (Yanou, 2024). Procedural injustice arises due to weak governance and poor coordination across governance levels and MSPs (Moombe et al., 2020). Weak linkages across governance levels and the unequal representation of local stakeholder groups restrict local communities' access to information and participation in decision-making (Siangulube, 2024). Distributive injustice is evident in the inequitable sharing of resources and risks, disadvantaging women, youth and non-Tonga farmers (Siangulube, 2024). Limited land access further deepens inequalities.

The 3Is also manifest themselves. Despite concerns about wildlife conservation and the prevention of illegal wildlife trade (see the next subsection), interspecies injustice persists as natural resource and land-use management tend to prioritize human concerns, such as securing water access for cattle, over broader ecological balances. Human supremacy over the more-than-human world remains unquestioned (K. Moombe, personal communication, 18 November 2024). Intergenerational injustice is apparent as unsustainable agricultural expansion and resource exploitation jeopardize the availability of resources for future generations (Siangulube, 2024), while local conservation knowledge is getting lost (Yanou, 2024). Intragenerational injustice persists as power imbalances shape unequal access to resources, reinforcing social and economic inequalities between wealthier landowners and businesses and marginalized groups (Siangulube, 2024).

These injustices exhibit interlinkages similar to those in Ghana. Recognitional injustice perpetuates procedural injustice, leading to the

exclusion of marginalized groups from decision-making and unfair allocation of resource access (distributive injustice). Epistemic injustice exacerbates these exclusionary forces by disregarding local knowledge and perspectives. Failure to address the overexploitation of and access to resources ensures that intergenerational injustice continues. Additionally, intragenerational and interspecies injustices intersect as dominant powers prioritize large-scale and growth-oriented development, leading to deforestation and resource degradation that harm both people and the non-human world.

The Role of COLANDS in Addressing Landscape Injustices

COLANDS Zambia addressed landscape injustices by generating insights into the role of MSPs in inclusive landscape governance (Siangulube, 2024), the relevance of local knowledge in advancing landscape approaches (Yanou, 2024) and, as in the other COLANDS sites, by organizing a theory of change workshop (Reed et al., 2023). Siangulube (2024) found that although MSPs can potentially reconcile conflicting interests and promote inclusive decision-making, their effect on recognition and procedural injustices is limited. Government and business actors exert visible and hidden ('behind-the-scenes') power to influence agendas at the expense of underrepresented local communities. The legitimacy of community representation is also questionable: traditional authorities are invited but may prioritize personal interests or be subject to political persuasion, while ordinary community members are typically excluded (Siangulube, 2024; Yanou, 2024). At the village level, entrenched gender norms and power imbalances exclude women and youth from decision-making (Siangulube, 2024). Deficient information flows and weak representation of local communities further hinder the effectiveness of district-level MSPs in bridging the policy–implementation

gap. The absence or disengagement of the private sector also undermines the representativeness and effectiveness of MSPs (Reed et al., 2023; Upla et al., 2022; Yanou, 2024).

MSPs can contribute to epistemic justice by integrating diverse knowledge systems and providing opportunities to share different perspectives. However, despite national policy commitments to recognize and protect traditional knowledge, district-level MSPs show limited contributions to epistemic justice. Decisions remain dominated by state and parastatal actors, while local knowledge is overlooked and undervalued. In practice, little exchange of local knowledge occurs within MSPs (Yanou, 2024).

On a more positive note, district-level MSPs in Kalomo District perform relatively well in supporting intergenerational justice. They facilitate discussions on long-term sustainability and are seen by participants as fostering transformative actions for sustainable natural resource management (Siangulube, 2024). Yet, although designed to provide feedback loops for policy improvement, they exert limited influence on national policies due to weak linkages between national policymakers and district-level implementers (Siangulube, 2024; Yanou, 2024).

District MSPs in Kalomo District engage only marginally with interspecies justice. Their concerns centre on water access for cattle and on preventing wildlife trade (Reed et al., 2023; Siangulube, 2024). The Department of National Parks and Wildlife (Ministry of Tourism), participating in the DDCC, is the main actor raising concerns about wildlife conservation and illegal wildlife trade. Additionally, the Zambia Community-Based Natural Resource Management Forum was actively involved in efforts to combat illegal wildlife trade. Yet, these actions are not framed in terms of interspecies justice.

Findings on COLANDS Zambia's contribution to the justice dimensions broadly resemble those from Ghana. The theory of change

workshop sought to develop an actionable landscape management plan that could potentially advance recognitional, epistemic and procedural justice. It engaged village heads, government representatives, researchers and civil society organizations (Reed et al., 2023). While COLANDS did not work directly with the DDCC, it initiated the Consultative Working Group, an informal forum open to all stakeholders with an interest in the Kalomo Hills forest reserve. After four reflection meetings, the working group was discontinued, but interactions with its members and ward councillors and occasionally with the National Development Coordinating Committee, continued (K. Moombe, personal communication, 14 February 2025).

As in Ghana, COLANDS activities specifically sought to engage women and other marginalized actors, with follow-up stakeholder consultations rarely seen in other projects as steps towards greater recognitional justice. COLANDS fostered trust and transparency during the discussions. However, private sector and community engagement remained limited (Reed et al., 2023; Upla et al., 2022). Epistemic justice was pursued through the co-production of knowledge, but institutional barriers hindered the integration of local perspectives. Although COLANDS research revealed valuable local knowledge and practices (Yanou, 2024), few institutional mechanisms exist to embed them in environmental governance.

Interspecies justice was not explicitly on the agenda. While COLANDS acknowledged concerns about declining wildlife, it did not directly challenge the human-centric conservation paradigm. Nevertheless, dialogue among researchers and stakeholders helped raise awareness of the significance of shrines, or *Malende* and their role in nature conservation. Traditional beliefs—though increasingly eroded by colonialism, associated religious transitions, the imposition of Western ideologies,

modernization and environmental pressures—once played a vital role in protecting biodiversity in these sacred sites. For example, taboos restricted wood felling and snakes were protected because they were believed to embody ancestral spirits (Yanou, 2024).

COLANDS Zambia provided an entry point to address issues of intergenerational justice by facilitating discussions on sustainable agriculture and natural resource management. Research has exposed intragenerational injustice by analysing networks and power relations that affect access to resources (Siangulube, 2024). This highlighted the importance of prior stakeholder and power analysis, including epistemic power, to ensure just and equitable processes within landscape approaches (Siangulube, 2024; Yanou, 2024).

Indonesia's Kapuas Hulu District

Socioeconomic and Institutional Context

The COLANDS initiative in Indonesia is being implemented in Kapuas Hulu District,³ located in the northeastern part of West Kalimantan Province (Figure 4). This district holds the status of a conservation district and a UNESCO Man and the Biosphere zone (Anandi et al., 2020; Laumonier, Simamora, et al., 2020). More than 50% of the district's area is protected, including two national parks: Betung Kerihun (816,693 ha) and Danau Sentarum (127,393 ha). About two-thirds of the district's forest area is still largely intact (Anandi et al., 2020; Laumonier, Simamora, et al., 2020). The COLANDS initiative concentrates on the Labian-Leboyan and Seriang sub-watersheds, which are part of the larger Kapuas watershed. Deforestation and declining water quality are significant threats to the landscape, particularly evident in the Seriang watershed. Deforestation due to the expansion of oil palm plantations threatens the habitat of the critically endangered orangutan (*Pongo pygmaeus pygmaeus*) (Ancrenaz et al., 2024).

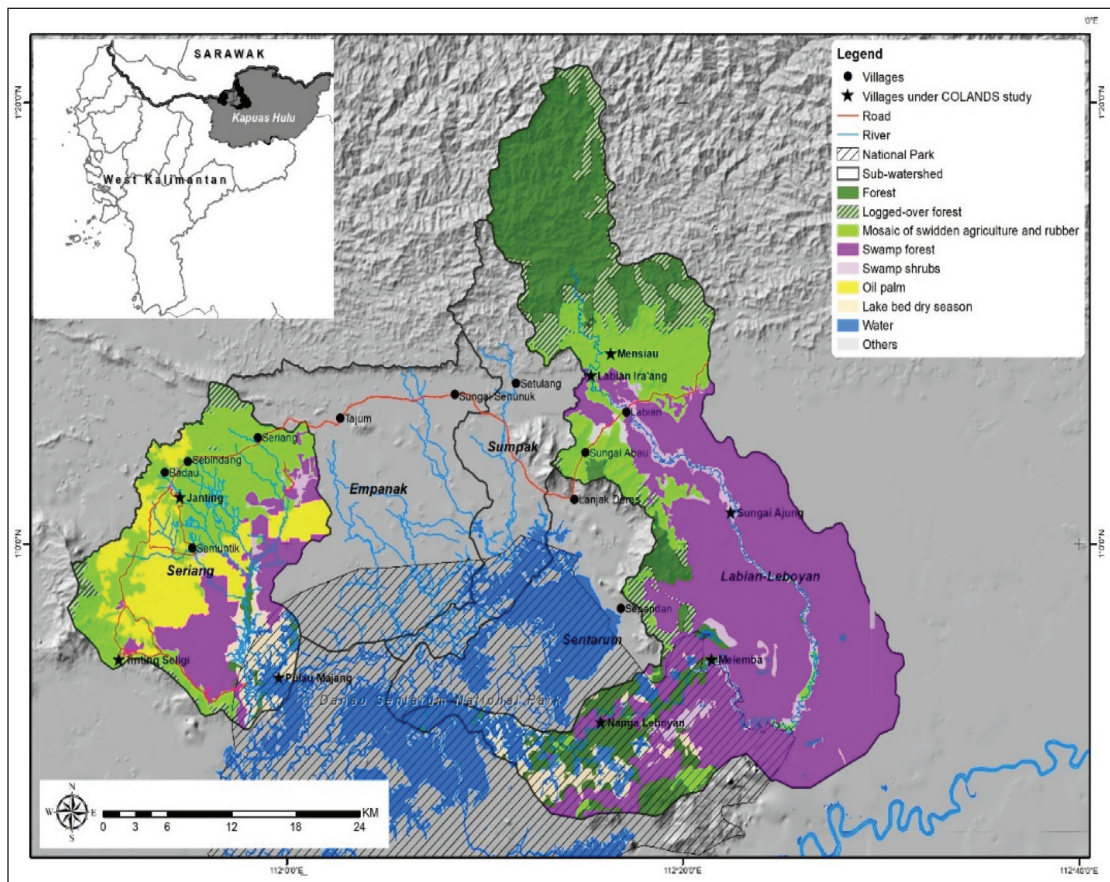


Figure 4. Kapuas Hulu District: Land Uses and National Parks.

Source: Anandi et al. (2020).

Sedimentation from oil palm plantations and swidden agriculture, pollution from agrochemicals and the use of poison in local fishing result in declining water quality (Labrière et al., 2015).

In addition, inadequate waste management has led to increased garbage disposal in Lake Sentarum (A. Anandi, personal communication, 15 September 2025, based on an interview with a Danau Sentarum National Park officer, February 2020). These threats also occur in the Labian-Leboyan area but on a smaller scale (Laumonier, Hadi, et al., 2020; Laumonier,

Simamora, et al., 2020). In this area, the primary drivers of change include infrastructure expansion, settlement growth and the establishment of a large-scale oil palm plantation, which began operations in 2024. These drivers of landscape change are exacerbated by persistent governance challenges, including the overlap of customary and statutory systems and poor inter-agency coordination, which result in overlapping jurisdictions and conflicting tenure arrangements (Anandi et al., 2020). The involvement of multiple international

organizations and NGOs in conservation and livelihood projects adds to the complexity (for overviews, see Anandi et al., 2020; Laumonier, Simamora, et al. 2020). These tensions between development and conservation goals, legal pluralism, institutional fragmentation and land disputes highlight the need for multistakeholder engagement (Anandi et al., 2020).

Injustices in the Kapuas Hulu Landscape

Against this background, landscape injustices in Kapuas Hulu manifest in various intersecting ways. Despite the acknowledgement of customary law and Indigenous knowledge in Indonesian laws, in practice, local communities lack fair opportunities to express their views, challenge decisions and participate meaningfully in management (Obidzinski et al., 2014; Yuliani, 2022). Recognitional injustice persists as the interests of Indigenous and local communities⁴ are often disregarded in favour of national development programmes and expanding oil palm plantations. This also leads to epistemic injustice, evident in decision-making processes dominated by government actors at national and provincial levels, where multistakeholder negotiation platforms largely exclude community voices. Procedural injustice arises from institutional fragmentation, overlapping jurisdictions and poor coordination, which limit access to information and exclude marginalized groups from governance processes. This, in turn, leads to distributive injustice as responsibilities for environmental governance remain unequally shared, with state agencies holding dominant decision-making power and leaving local communities with limited influence. Despite efforts towards decentralization and democratization, elite capture of benefits, corruption, limited information sharing and a lack of community engagement persist (Lucas, 2016; Warren & Visser, 2016; Yasmi et al., 2005). Where oil palm plantations are expanding, risks and benefits are unequally distributed

between companies and communities, as well as within communities (Obidzinski et al., 2014; Yuliani, 2022).

Of the 3Is, we see interspecies injustice reflected in conflicting values between Western conservation and development approaches, which separate humans from nature and Indigenous perspectives, which view humans as part of the ecological system. In her study of the West Papuan oil palm frontier, Chao (2021) employs the term multispecies injustice, which she considers a legacy of colonialism and the spread of capitalism. Indigenous perspectives view humans, as well as sentient plants and animals, as intrinsic parts of the ecological system. They feel a deep responsibility for other beings, as they embody kinship ties and ancestral bonds. The expansion of oil palm and other commodities disrupts these relations, compromising the well-being of both the human and the more-than-human world. Such processes contrast starkly with the moral, relational and holistic values and worldviews of Indigenous and local communities (Chao, 2021; Yuliani et al., 2022).

Intergenerational injustice arises from the tension between conservation goals and national development agendas, which prioritize economic growth and oil palm expansion over long-term sustainability (Laumonier, Hadi et al., 2020; Laumonier, Simamora, et al., 2020; Pribadi et al., 2020). This is only partly redressed by conservation efforts that help maintain land cover and protect future resource availability. Sidelining community interests where governments support oil palm expansion and power imbalances that restrict communities' access to land, forests and natural resources, also lead to intragenerational injustice (Obidzinski et al., 2014; Yuliani, 2022).

The Role of COLANDS in Addressing Landscape Injustices

Similar to the other COLANDS sites, the initiative's contribution to addressing

landscape injustices in Indonesia has both research and action-oriented components. Ongoing research by Anandi explores potential entry points for implementing landscape approaches, including the Social Forestry Programme launched in 2016. The programme encompasses five schemes to enhance community access to and benefits from forest resources: village forests, community forests, community plantation forests, forestry or conservation partnerships and customary forests (MoEF, 2016). Here, we focus on conservation partnerships, drawing on fieldwork conducted by Anandi between 2019 and 2022 unless stated otherwise.⁵

Conservation partnerships aim to mitigate injustices through collaborative governance and community involvement. The National Park Authority in Kapuas Hulu maintains partnerships with local honey harvesters' and fishermen's associations and ecotourism groups. These partnerships address recognitional injustice by integrating traditional practices and customary rules into co-management strategies. Yet, government regulations often override customary rules. Epistemic injustice is partly mitigated by acknowledging local knowledge and practices, but limited representation in coordinating cross-sectoral forums, such as the Biosphere Reserve Forum, limits this impact. In practice, customary people and their knowledge still receive little respect (M. Moeliono, personal communication, 15 November 2024).

Procedural justice is supported by small locally operated offices (*Resort Konservasi*) run by the National Park Agency. These offices act as intermediaries, providing communities with updated information, training and regulations. To address distributive injustice, conservation partnerships facilitate co-management responsibilities between the National Park Agency and local communities, incorporating specific user groups into conservation and sustainable management efforts.

The conservation partnerships also perform relatively well on the 3Is. They support interspecies justice by embedding customary rules and Indigenous values that emphasize coexistence with nature. Internal Control Systems contribute to intergenerational justice by integrating conservation principles into honey and fish certification, safeguarding environmental quality for future generations. However, addressing intragenerational injustices remains challenging. While members can express their views, participation is limited to certain kinship groups and livelihood activities (e.g., honey harvesting, fishing and ecotourism) rather than entire communities. Although analysis is ongoing, Anandi's research suggests that, despite challenges of follow-up, balancing diverse interests and ensuring accessible information, conservation partnerships represent promising entry points for implementing ILAs thanks to their strong governance principles, participatory framework and alignment with both customary and statutory systems.

The action-oriented component of the COLANDS initiative promotes broad multistakeholder engagement, landscape-scale coordination and collaborative planning to improve management of the Lake Sentarum catchment area (451,440 ha). It does so via the Lake Sentarum Catchment Area Forum, which brings together government agencies, NGOs, local communities and researchers. The forum developed a collaborative management plan for 2019–2023, but progress fell short, prompting COLANDS to enhance coordination. Across 2022 and 2023, five workshops defined a shared vision, theory of change and monitoring criteria and indicators. As implementation required legal endorsement by the district and provincial governments, additional meetings were held in Pontianak to engage provincial agencies. Despite constructive engagement among all stakeholder groups, concerns remain about discontinuity arising from government

changes and budget constraints (Moeliono, 2024).

In addition to catchment-scale activities, COLANDS organized smaller workshops and community-level interventions. It collaborated with the NGO Riak Bumi, which led waste management efforts upstream and downstream, strengthened a network of illipe nut (*tengkawang*) farmers and supported villages in securing official recognition for customary (*adat*) forests (Moeliono, 2024). It also helped document local knowledge and integrate it into school curricula, raising awareness of cultural and biological diversity.⁶

Through these activities, COLANDS contributed to multiple justice dimensions. Recognizing customary practices in the Lake Sentarum catchment area management plan, documenting and integrating local knowledge in school curricula and actively encouraging local participation in theory of change workshops enhanced recognitional and epistemic justice. Procedural justice was addressed through consultation with local communities in development planning and in theory of change workshops. These workshops produced a shared vision and strategic planning framework, clarifying responsibilities—though not risks and rights—for various stakeholders. However, broad consultation remains challenging: the catchment area is not a formal jurisdiction and achieving equal representation across 73 villages is logistically difficult. Free, prior and informed consent often remains a formality to inform communities of planned programmes rather than a genuine engagement process.

COLANDS Indonesia supports interspecies justice in two ways: by assisting local communities in applying for Customary Forest status, thereby strengthening their rights to manage their territory in line with customary rules, and by organizing workshops that emphasize Indigenous values of coexistence with nature. Yet, these perspectives have still to be fully incorporated

into official management plans. Intergenerational justice is promoted through sustainable livelihoods, such as honey and illipe nut production, though broader economic policies still prioritize modernization and growth. Intragenerational justice is more challenging to achieve: over half of conservation and forest areas remain under national government control, limiting community access despite social forestry mechanisms that recognize customary land rights.

In conclusion, although not always explicitly stated, COLANDS Indonesia seeks to improve justice, but faces challenges. Integrating community voices and securing legal recognition of customary land claims remain difficult. National and provincial government agendas continue to dominate, hindering equitable power-sharing in conservation governance. Logistical challenges, including vast geography and limited accessibility of certain areas, further complicate implementation.

V. Discussion

This study examined the contribution of COLANDS and related landscape initiatives to addressing injustices in three contested landscapes in Ghana, Zambia and Indonesia. While ILAs were not initially designed with justice concerns in mind, their implementation inherently engages with injustices due to the prevalence of resource and land-use conflicts. Applying the concept of landscape justice, operationalized in line with Gupta et al.'s (2023) concept of ESJ, proved valuable in assessing justice dimensions in landscape governance. This study primarily examined recognitional, epistemic, procedural and distributive justice within ILAs, alongside interspecies, intergenerational and intragenerational justice.

The findings reveal that ILAs particularly demonstrate strengths in advancing procedural, recognitional, epistemic and intergenerational justice. By accommodating diverse knowledge systems—scientific, Indigenous and local—ILAs

have the potential to challenge dominant technocratic paradigms that often exclude local perspectives (Yanou, 2024). Their multi-scalar nature further offers potential for bottom-up influence on policy change and facilitating a more inclusive governance process.

The principles for ILAs (Sayer et al., 2013) relate mainly to procedural and recognitional justice and, to a more limited extent, to epistemic justice (Supplementary Table S4). These principles emphasize the need to engage ‘multiple stakeholders’ in a ‘negotiated and transparent change logic’ to address ‘common concern entry points’ based on ‘clarified rights and responsibilities’, ‘participatory monitoring’ and ‘strengthened stakeholder capacity’. This emphasis on negotiated decision-making can ensure that historically marginalized groups have a voice in landscape governance. However, procedural and recognitional justice (process-oriented) are insufficient to achieve substantive justice (outcomes regarding distributive, corrective, reparative and transformative justice to address past and present inequities in land tenure and access to resources) (Schmitt & Weck, 2024). Addressing one justice dimension requires, in turn, sequentially, iteratively or holistically addressing others, as persistent power imbalances, elite capture and institutional inertia often hinder the fair allocation of benefits and burdens. Failure to do so can perpetuate existing power asymmetries rather than challenge them, despite efforts to promote multistakeholder participation and collaborative governance (Arts et al., 2017; Clay, 2016; Ros-Tonen et al., 2018). The findings indicate that, despite facilitating greater participation, the implementation of ILAs in the three landscapes described in this article did not lead to a redistribution of power and resources due to entrenched institutional constraints and inherent limitations.

Regarding the latter, ILAs lack legislative authority and therefore cannot redistribute

power, overcome institutional barriers or address past injustices and their underlying drivers. Moreover, because ILAs are inherently confined to specific landscapes, they cannot fully address power imbalances that originate externally—such as those driven by multinational companies or national government policies and decisions. Consequently, the potential of ILAs to contribute to substantive justice remains limited.

Restrictions stem from operating within existing legal frameworks, which offer varying opportunities and constraints for advancing landscape justice. In Ghana, multilevel stakeholder negotiations occur, but elite capture restricts genuine community control over resources. Zambia’s decentralized governance structure facilitates stakeholder collaboration but lacks robust mechanisms for equitable knowledge exchange between local knowledge holders, policymakers, practitioners and scientists (Yanou, 2024). In Indonesia, despite policies and laws that support community rights, bureaucratic hurdles and national development priorities restrict fair resource distribution (Anandi et al., 2020; Moeliono, 2024; Myers et al., 2017). Across all three countries, decision-making remains dominated by existing elites. These features underscore the need to tailor ILAs to local governance structures and frameworks. Moreover, there are inherent limitations to achieving justice-oriented outcomes as lasting change requires sustained political will, cross-sectoral coordination and long-term resource commitments, which are at odds with the reliance of ILAs on donor funding.

To date, corrective and restorative justice—or related concepts such as reparative justice (Agozino, 2021) and DEJ (Ramcilovic-Suominen et al., 2024)—remain largely unexplored in the ILA literature and practice. However, identifying groups that have been historically excluded from landscape

decision-making could foster more equitable land-use negotiations and discussions on repairing or compensating for past injustices (Kashwan et al., 2021).

Similarly, interspecies justice remains largely absent in ILAs, reflecting dominant anthropocentric governance perspectives (Carmenta et al., 2023). Sometimes, the dominance of humans over the non-human world is justified by interpretations of the Judeo-Christian Bible (e.g., Genesis 1:26, 28).⁷ This raises the question of whether intergenerational justice can be achieved if interspecies justice is ignored. We do not anticipate this shift to occur easily unless Indigenous worldviews, which emphasize human-nature reciprocity, become more influential and integral to environmental governance (Burgos-Ayala et al., 2020; Urzedo & Robinson, 2023).

Given their embeddedness in broader political and development contexts, the question arises whether it is fair to expect ILAs to address all dimensions of justice. ILAs can still play a facilitatory role in advancing substantive justice by exposing challenges and injustices, including past ones and by providing tools and building capacities for local decision-makers to act upon. Meanwhile, the design of future ILAs that pay specific attention to long-term and persistent injustices will be better equipped to pursue their goals of realizing more sustainable and equitable landscape outcomes.

VI. Conclusions

Drawing on the COLANDS initiative, which operationalizes landscape approaches in Ghana, Zambia and Indonesia, we examined their contributions to landscape justice. We identified opportunities for procedural, recognitional and intergenerational justice. However, progress towards interspecies and substantive justice remains limited due to persistent power imbalances, exclusionary practices and institutional constraints.

Based on the findings, we propose the following recommendations for future research. First, there is a need to explore ways to integrate justice dimensions, including corrective, restorative and transformative justice, into the ILA principles. Second, suitable intervention levels should be identified to optimize cross-scale interactions, thereby achieving a better balance and coordination between local and higher-level interests. Last but not least, embedding landscape justice more explicitly into ILA programme design requires a nuanced understanding of power dynamics, historical injustices and local conceptualizations of empowerment (Bayala, 2024; Siangulube, 2024).

To strengthen ILAs as pathways towards landscape justice, policymakers and practitioners should prioritize transparent decision-making, sustained community engagement in MSPs and stronger legal protection of community land tenure and resource access rights. ILAs can support these efforts by fostering multistakeholder collaboration and negotiation and aligning land-use planning with sustainable practices. In doing so, they empower local communities to actively participate in decision-making processes and contribute to a holistic framework that promotes both environmental sustainability and equitable economic growth. Additionally, fostering knowledge complementarity and pluralism in environmental decision-making and landscape management is crucial to embedding recognitional and epistemic justice as the foundation for procedural and distributive justice (Schlosberg, 2007; Yanou, 2024). Governments should establish robust regulatory frameworks that set clear standards for private-sector operations and ensure compliance. Civil society organizations can play a crucial role in bridging power gaps and enabling marginalized communities to participate meaningfully in decision-making processes.

Finally, the findings highlight two critical lessons for the justice debate. First, universal

justice frameworks may be inadequate for diverse socio-political contexts. Landscapes and prevailing injustices are shaped by local specificities, historical interactions with colonialism and global capitalism, governance structures and power dynamics, meaning that landscape approaches and ways of advancing justice are context-dependent (Reed et al., 2016; Vermunt et al., 2020). Second, landscape approaches involve negotiating trade-offs between economic development, conservation and social equity. Trade-offs can also manifest between justice dimensions. For example, encouraging broad participation (procedural justice) may compromise intergenerational justice if it results in weak compromises. Similarly, intragenerational or distributive justice may be undermined when decision-making processes are dominated by powerful actors (Law et al., 2017). The experience of implementing ILAs underscores a key reality: trade-offs and compromises are inevitable, but they must be actively and transparently negotiated to ensure fairer, more inclusive outcomes. Rather than seeking 'perfect justice', the focus would then be on flexible, actor-oriented and context-specific justice frameworks that ensure landscape initiatives reflect locally defined priorities. This will not lead to the substantive justice that Gupta et al. (2023) envision but to what they dub 'conservative justice', which entails the risk of reproducing existing inequalities and injustices. This is an inherent consequence of ILAs that typically operate in neoliberal contexts with limited commitment to transformative change and a hierarchy of winners and losers that perpetuates (and even encourages) inequality. Aiming at incremental changes—or in ILA terms, 'win more and lose less' (Reed et al., 2016; Ros-Tonen et al., 2018; Sayer et al., 2015)—is then a second-best but more realistic option.

Acknowledgement

The authors thank Laura Camfield, Joyeeta Gupta, Karen Paiva Henrique, Uma Kothari, Henning Melber and an

anonymous reviewer for their constructive comments, which helped improve earlier versions of this article. The authors also thank all research and administrative assistants for their valuable support of the COLANDS activities.

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Authors' Contribution

MRT wrote the manuscript with input from all authors. TS and JR acquired funding for the COLANDS initiative and JR and AI were responsible for project leadership. All authors have read and approved the final version of the manuscript.

Declaration of Conflicting Interests

The authors declare no conflict of interest. The funders had no role in the design of the study, the collection, analysis or interpretation of data, the writing of the manuscript or the decision to publish the results.

Ethical Approval

The COLANDS initiative has received ethical approval in accordance with CIFOR-ICRAF ethical research guidelines. The study was conducted in accordance with the Declaration of Helsinki and approved by the CIFOR-ICRAF Research Ethics Review Committee (protocol code RER2022/001, 8th September 2022). Informed consent was obtained from all subjects involved in the study. No AI-generated content was used in this article; however, ChatGPT (version 5.2) and Grammarly were used to improve grammar and flow. All AI-assisted edits were reviewed before inclusion in the manuscript.

Funding

The authors disclosed receipt of the following financial support for the research, authorship and/or publication of this article: This research was funded through a grant from the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) (grant I8_IV_084) for the Collaborating to Operationalise Landscape Approaches for Nature, Development and Sustainability (COLANDS) initiative carried out by the Centre for International Forestry Research (CIFOR) in collaboration with the University of British Columbia, the University of Amsterdam and local partners in the countries of implementation. Additional funding was received from the United States Agency for International Development Forest and Biodiversity Office.

Supplemental Material

Supplemental material for this article is available online.

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Notes

1. While 'stakeholder' may evoke postcolonial connotations of 'staking a claim' to ownership of Indigenous lands (Reed et al., 2024), we follow its established use in ILA literature, referring to interest holders engaged in joint problem identification, shared learning and collective action (Reed et al., 2020).
2. <https://www.cifor-icraf.org/colands/>.
3. In the literature, Kapuas Hulu Regency and District are used interchangeably. Although Indonesian law uses *kabupaten* (regency), we prefer 'district', as 'regency' reflects Dutch colonial terminology.
4. The Indonesian government long avoided the term 'Indigenous', preferring customary law communities

(*Masyarakat hukum adat*), arguing that all Indonesians are native. However, 'Indigenous' and 'IPLCs' are now more accepted. The National Alliance of Indigenous Peoples (AMAN) estimates that there are 50–70 million self-identified Indigenous Peoples in Indonesia (<https://www.iwgia.org/en/indonesia.html>).

5. Data on the Social Forestry Programme was collected through semi-structured interviews with 92 respondents involved in landscape governance in Kapuas Hulu between 2019 and 2022, supplemented by updates via phone and emails in 2024. Analysis is ongoing; results will be published in 2026.
6. For COLANDS' efforts to document local knowledge and integrate it into school curricula, see <https://www.youtube.com/watch?v=SucEi5CMIZY&t=47s>.
7. The Bible frames human supremacy over other species as, 'Fill the Earth and subdue it. Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground' (Genesis 1:26, 28). The Quran emphasizes stewardship, portraying humans as caretakers (*Khalifah*). For instance, 'And He has raised the heaven and set the balance. That you may not transgress the balance but weigh things equitably and do not make deficient the balance' (Quran 55: 7–9).

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