

# Towards more equitable and effective nature conservation led by Indigenous peoples and local communities

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## Abstract

Principles for equitable governance and respect for rights are integral to the ambitious global biodiversity targets for 2030. Adhering to these principles requires a widespread shift in mainstream conservation practice – one that is both morally imperative and holds the greatest potential to address biodiversity loss. But there is limited understanding about how to reorient site-level practices, and address the barriers, which impede a transformation in the role of Indigenous peoples and local communities. This edition of *Policy Matters* addresses that knowledge gap by providing detailed case study examples in which journeys are underway towards more equitable and effective conservation. This introduction brings together key messages about the changes enacted, challenges faced, lessons learned and outcomes evidenced from the diverse cases – in Thailand, India, the Federated States of Micronesia, Madagascar, Kenya, Mexico and Indonesia – and acts as a call to situate Indigenous peoples and local communities, their knowledge and practices, at the centre of a global shift towards more just and effective conservation.

**Key words:** Global biodiversity framework; environmental justice; customary governance; human rights; 30x30 target; well-being; traditional knowledge

## Changing the narratives and practices of biodiversity conservation

As attention turns to the question of how to pursue the ambitious new global biodiversity targets for 2030, there is an inconvenient wisdom that simply expanding current practices will not work, for either people or nature (Reyes-García et al., 2022). The rights, knowledge and practices of Indigenous peoples and local communities are recognised in the Kunming-Montreal Global Biodiversity Framework, alongside their irreplaceable contribution to delivering effective conservation, for example through standards for equitable governance and respect for rights enshrined in targets 1, 3, 9, 21 and 22 (UNEP, 2022). However, beyond places where Indigenous Peoples and local communities govern their territories with relative autonomy, only a small minority

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of conservation initiatives across the globe currently adhere to these standards, representing a conspicuous gulf between conservation in principle and practice (Zafra-Calvo et al., 2019). This places global conservation efforts at a critical juncture, with many possible trajectories between the global expansion of inequitable, externally-led forms of conservation at one end, and at the other, a shift towards the recognition of Indigenous peoples' and local communities' knowledge systems and empowerment of their custodianship of nature.

The key challenge for the future of conservation is to reorient towards and implement at scale the social and governance principles already articulated in policy, not only in places newly targeted for protection or restoration but also across existing conservation areas. A transformation of conservation practice to centre on rights and equity, extending attention to the diverse values, cultures, worldviews and past injustices endured by Indigenous peoples and local communities, holds arguably the greatest potential to address biodiversity loss (Brondizio & Le Tourneau, 2016; Fidler et al., 2022). Here we define such a transformation as radical systemic and structural change, not simply superficial technical and practical amendments to conservation policies and allocations but a social, psychological and relational process, including multiple complementary advances contributing to a deep, long-lasting shift in the way people think about, approach and interact with others for conservation (O'Brien & Sygna, 2013). Particularly for existing initiatives under external state, non-governmental or private control, there is a lack of understanding about how conservation practice can be transformed at the site or regional level, especially since systems of rights are inadequate in many countries to support and protect the diversity of human relationships with the natural world (Asian Indigenous Peoples Pact et al., 2022).

This edition of *Policy Matters* addresses the knowledge gap about how to enact such changes by providing detailed site level examples in which journeys towards more socially equitable forms of conservation are being undertaken. Although socially just conservation is not yet a global norm, instances are being increasingly recorded and lessons collated (see Forest Peoples Programme et al., 2020; Charles, 2021; Zanjani et al., 2023). To support a shift in wider practice, there is a need to share knowledge from those examples about how steps towards equitable or rights-based conservation are taken at the site level, why and by whom, and what experiences, problems, solutions and outcomes result (Artelle et al., 2019). The articles in this issue describe experiences, interactions, challenges and social and ecological impacts that have emerged at each site. Crucially, they all place Indigenous peoples and local communities, and their connections with and governance of ecosystems at the heart of transformative change. And they all prove that beyond the moral imperative for doing so, adopting such approaches on a broader scale could significantly increase the effectiveness, sustainability and resilience of biodiversity conservation. Regarding how to enact such a transformation, the cases demonstrate that the practical integration of social objectives at a site must extend far beyond support for income generation and livelihoods, to also address trust and relationships, recognise diverse worldviews, place-based connections, cultural values and practices, and to centre governance structures around local and customary institutions.

This introduction article brings together some key messages from the case studies, and acts as a call for just and effective forms of conservation that situate Indigenous peoples and local communities as the source of transformation. We first set out the

case for why transformative change in this direction is urgently required. We then introduce the collection of case study articles, drawing out some of the key themes and lessons to synthesise how such change can be realised in various contexts.

## The imperative for an equitable approach

Transforming to just and equitable forms of biodiversity conservation is imperative for two key reasons – as previous editions of *Policy Matters* have articulated – it is both ethically necessary and critical for achieving conservation objectives (Campese et al., 2007). First, there is a moral imperative to close the conspicuous gap between the social standards readily expressed by conservation policy makers and practitioners, and the outcomes of conservation initiatives experienced on the ground (Zafra-Calvo et al., 2019). Principles for rights-based conservation, recognition of customary institutions, plural knowledge systems (and the different values and worldviews that underpin them), and full and effective participation by Indigenous peoples and local communities are often preached and feature strongly in the United Nations Convention on Biological Diversity (CBD) and Kunming-Montreal Global Biodiversity Framework (GBF), but are seldom practised (Kashwan, 2013, Cariño & Ferrari, 2021).

Equitable, intercultural collaboration is increasingly expressed through the Indigenous concept of ‘two-eyed seeing’ or “learning to see from one eye with the strengths of Indigenous knowledges, and from the other eye with the strengths of Western [scientific] knowledges, and to use both together, for the benefit of all” (Bartlett et al., 2012, p. 335). In contrast, the global conservation sector might instead be described as two-faced, because the standards written into policies, safeguards and mission statements can seem deeply disconnected from the actions through which conservation is being implemented. Within modern conservation practice, there is a constant push for new ideas and science- or market-led approaches to ‘solve’ the global biodiversity crisis, which can involve oversight of, or attempts to integrate or cherry-pick from, Indigenous and local knowledge, and produce epistemic injustices (Adams, 2017). Long-standing calls to ‘dismantle the divide’ and thus enable recognition, decolonisation and respectful collaborations (Agrawal, 1995) have not been fully heard.

Examples of rights violations are common in global conservation, as states, non-governmental organisations (NGOs) or private actors, acting under the guise of conservation, displace Indigenous peoples and local communities with ancestral rights, customary institutions and cultural practices, and treat these groups as a threat to nature rather than as rightsholders and as integral to successful outcomes (Boyd & Keene, 2021). The forced evictions of Indigenous Maasai communities from Loliondo and Ngorongoro, Tanzania for claimed conservation purposes, only to give way to a hunting concession awarded to foreign state leaders, are a case in point, exemplifying the role of some conservation interventions in the long-term, structural discrimination of Indigenous Peoples (Weldemichel, 2022). These evictions coincided with the first IUCN African Protected Area Congress in July 2022, at which the [Nairobi Declaration](#) was presented by African Indigenous peoples and local communities to demand respect of their knowledge and rights. Such forms of ‘conservation’ through appropriation certainly have no place in the modern era and must be widely condemned and excluded from any form of conservation reporting to measure progress towards area or species coverage targets.

Erik Marky of the Terena People (Brazil), and co-founder of Media Indigena, conducts a short interview on the streets of Glasgow during COP-26.

Photo: Joel Redman/*If Not Us Then Who?*



If the moral imperative for change is somehow insufficient, a second motivation for change is that evidence demonstrates how conservation tends to be much more effective, sustainable and resilient where Indigenous peoples and local communities play a central role and where their institutions are respected and form the basis of governance. Studies of spatial dynamics and reviews of evidence for regions, ecosystems and types of intervention have

consistently and increasingly shown this relationship, with negligible evidence to contradict it, or to suggest a tradeoff between equity and conservation effectiveness (Garnett et al., 2018; Corrigan et al., 2018; Dawson et al., 2021). The assumption that social equity is somehow a counterproductive distraction from conserving biodiversity, or that allowing more local control is likely to lead to increased environmental exploitation downplays the agency, cohesion, institutional strengths and knowledge of many Indigenous peoples and local communities, and represents a form of discrimination, and epistemic injustice (Mabele et al., 2022).

Enhancing the effectiveness of management within inequitable governance systems can only achieve small, incremental gains for nature whereas the current global state and trajectory demand more transformative change (IPBES 2019). Often with exclusive conservation, the expected means of implementation are unachievable – the resources do not exist to create imagined wildernesses free from people or to satisfactorily compensate those they displace, who often have knowledge and an ethic of care (Rights and Resources Initiative, 2020). Where local communities are alienated by conservation, they may be pushed towards unsustainable extractive and illegal resource uses as alternatives that can exacerbate conflicts and vulnerability (Tauli-Corpuz et al., 2020). Instead, there is now widespread acknowledgement, across all levels of conservation practice, of the importance of integrating social objectives to deliver both just and effective conservation (see Burlando et al., 2016). Yet efforts to pursue them very often fall crucially short of recognising the values, institutions and diverse knowledge systems of Indigenous peoples and local communities, and ensuring they are embedded in conservation governance and supported (Woodhouse et al., 2022). There are also tendencies to incorporate Indigenous peoples and local communities' knowledge and institutions into an external and foreign way of conserving biodiversity rather than recognising their autonomy and historical contributions as independent actors (Asia Indigenous Peoples Pact, 2022).

Globally, one of the most significant changes in types of conservation interventions aiming to reconcile social and ecological objectives, particularly in the Global South, has involved market-oriented initiatives, alternative livelihood projects, ecotourism programs or commodity certification schemes, which support protection of areas while generating benefits to various stakeholders. Nature-based Solutions and market-based mechanisms focused on leveraging private sector resources are increasingly popular tools that fit well with global neoliberal structures, discourse and resource ownership. Yet external actors, increasingly private companies, tend to have primary control over



Indigenous leaders, youth, and activists, gather along the Klamath River (California, USA), as guests and within the territory of the Yurok Tribe, prior to the Global Climate Action Summit in San Francisco, 2018.

Photo: Joel Redman/[If Not Us Then Who?](#)



such interventions, even when labelled as a form of ‘community-based conservation’, such that they bring high risks of reproducing old practices with new labels and offer limited challenge to the common power dynamics (Holmes & Cavanagh, 2016). If equity and rights are not at the core of their governance, they can reproduce social injustice, push communities towards extractivism rather than sustainability, and lead to ecological failure rather than their aspired goals (Franks, 2021; Asiyambi & Massarella, 2020).

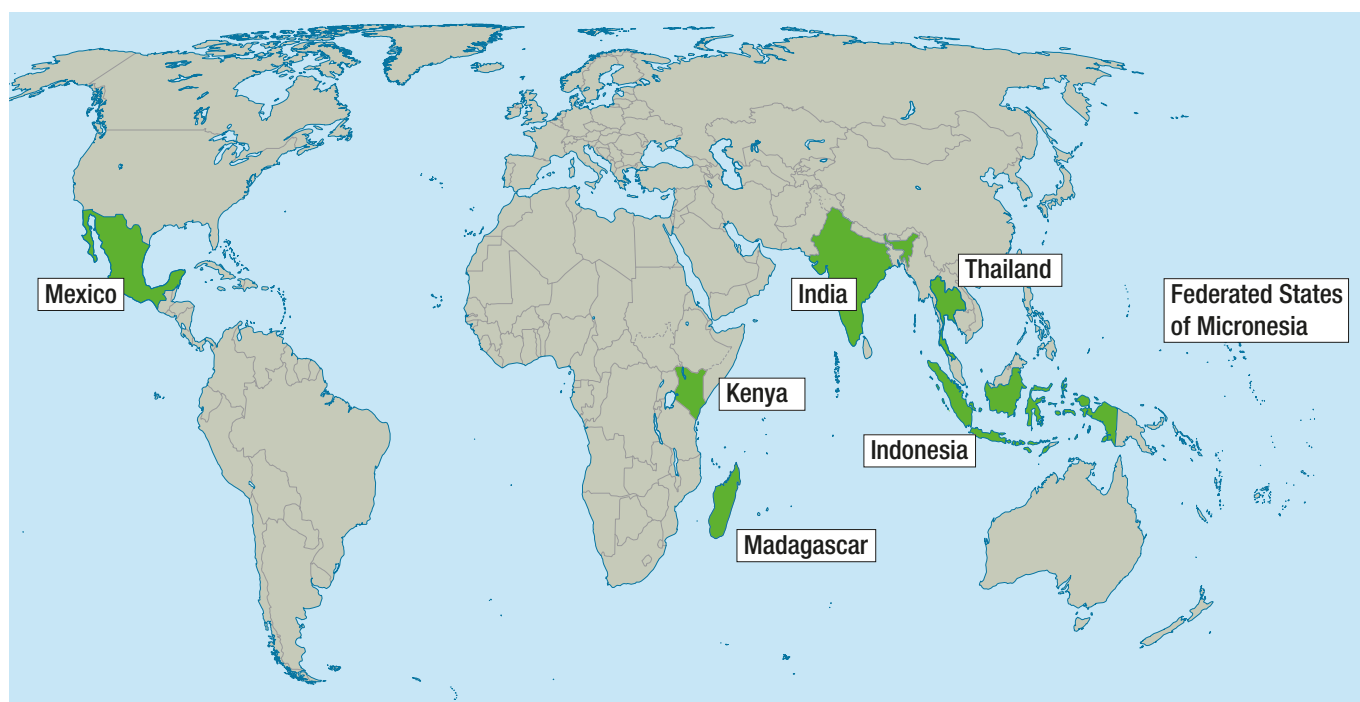
Conservation can be done differently and, along with supportive political actions, can progress beyond these dominant practices (see Araos et al., 2020). But how can such change be achieved in practice? What institutional and governance qualities and pathways can support more equitable and effective conservation? The case studies in this volume show changes taking place in multiple contexts that expose some of the difficult realities and struggles of the numerous actors involved, from which, later in this article, we pull out important lessons to inspire change on a grander global scale. This necessitates underscoring the depth, vitality and holistic nature of Indigenous and traditional knowledge systems, as well as their historic treatment and disruption through exclusive conservation (Reid et al., 2021).

## Case studies of transformative conservation – Journeys to enhance equity and effectiveness

This collection comprises seven case studies, primarily selected to demonstrate how changes to more socially equitable governance can be implemented. The papers present a range of examples, which depart from the mainstream – some showing the beginnings of a shift away from archetypal conservation structures and political norms, others demonstrating sudden and more substantive shifts in power dynamics, and some presenting alternatives relative to the dominant models employed in those regions and contexts, through Indigenous and local knowledge systems. All cases have in common their focus on or refocus towards a central role for Indigenous peoples and local communities in the design and implementation of conservation activities.

The case studies detail varying pathways towards more equitable and effective forms of conservation, and efforts to maintain and strengthen these initiatives. Each case documents historical trajectories to explain the current circumstances. In fact, the cases also reflect an assertion or regaining of control by communities to secure their well-being, to more closely connect with and take action as defenders of the environment they depend on, in reaction to injustices, degradation and disconnection driven by external actors and values. The lessons presented are the result of collaborative working and adaptation to simultaneously pursue well-being, equity and more effective conservation, and stem from experience on the ground, many learned first-hand by the authors whether through long-term research, advocacy, activism, community leadership or positions of responsibility as state officials.

The seven cases are located in Madagascar, Indonesia, Thailand, Mexico, Kenya, Yap in the Federated States of Micronesia (FSM) and India (see Figure 1.1 and Table 1.1). They cover forest, rangeland, marine and coastal ecosystems containing habitats and species of conservation priority, and represent cases at the frontline of struggles for the future of critical biodiversity and ecosystems, and for the well-being and cultural resilience of Indigenous peoples and local communities.



**Figure 1.1**  
Map of case studies

Source: Base map, United Nations, Map No. 4170 Rev. 13, April 2012

The seven cases can be broadly grouped into three categories. The first category highlights cases where existing externally driven conservation initiatives were forced to respond to local resistance. The second category also highlights cases that were existing and externally driven, but where commercial exploitation of resources in that ecosystem had created ecological degradation to such an extent that communities mobilised to realise a better, alternative form of governance and social and ecological outcomes. The final category includes two cases of communities that had maintained comparative autonomy and, in the face of external pressures on their Indigenous governance and intertwined ecosystem health, chose to reassert Indigenous knowledge systems through revitalising and adapting customary institutions.

**Table 1.1** Overview of the seven case studies, their ecosystems and changes in governance, social and ecological outcomes

COUNTRY, CASE STUDY SITE AND ECOSYSTEM TYPE	DESCRIPTION OF GOVERNANCE AND CHANGES OVER TIME	SOCIAL AND EQUITY ISSUES AND OUTCOMES	CONSERVATION EFFECTIVENESS ISSUES AND OUTCOMES
<b>Thailand</b> Phang-nga Bay community-managed marine and coastal areas	A network of community managed coastal and marine areas was established in the late 1990s, led through various community-based organisations, to manage and restore the ecosystem and re-build resilient social-ecological connections in response to long-term industry-caused mangrove and seabed degradation.	Local organisations required good leadership, networking and NGO support which were all strengthened.  Leadership roles inclusive of women.  Innovative and sustainable local enterprises developed for livelihood benefits.  Tenure remained precarious due to state control and threats of marina development.	More than 25,000 ha of mangroves restored.  Communities won international awards for restoration of mangroves and marine biodiversity, e.g. Green Globe and Equator Prizes between 2017 and 2023.
<b>India</b> Periyar Tiger Reserve, Kerala. State-managed protected area comprising forest, wetlands and savannah in the Western Ghats	Strict colonial and post-colonial protected area in severe conflict with communities living inside. In mid-1990s conflict resolution processes began, and establishment of eco-development committees based on adaptive partnership between park management and local communities.	Attempts to adapt objectives and approach to each community's values and preferences.  Specific efforts for social inclusion, e.g. women, those most in conflict with park, or most vulnerable to impacts.	Ranked first of 53 Tiger Reserves for management effectiveness in 2014, 2018 and 2022 national assessments.  Forest cover trends and biodiversity indicators (such as trends in tiger and elephant populations) show dramatic change to become one of the best performing Tiger Reserves in India.
<b>Ulithi Atoll, Yap, Federated States of Micronesia</b> Indigenous marine governance	Indigenous Ulithian community asserted the importance of their own knowledge systems and sought to revitalise in the face of pressures through globalisation, international education and new fishing methods that had reduced relevance of Indigenous institutions. This had induced trends towards unsustainable management and decreases in key fish populations.  Collaboration established with western scientists to understand trends in marine species abundance.	Process of reflection, adaptation and reinforcement by the community of customary institutions. Includes huge array of traditional methods and institutions varying by area, habitat and species.  Inter-island clan decision-making institutions re-established. Process to restore knowledge transfer to youth.  Indigenous knowledge guided the collection and use of scientific data.	Indigenous management plans produced by communities for areas and resources.  Fish biomass has increased at all managed sites.  Reefs have begun to recover, with increase in corals reflecting change in trajectory of degradation.

Table 1.1 continued

<b>Madagascar</b> Fandriana Marolambo forest landscape restoration programme	Initiated in 2004 by WWF as a four-year programme to establish forest restoration in degraded wet forests. Time and funding greatly extended to better integrate social and political dimensions. The shift in initial focus to trust-building processes with communities was a key foundation for program. Further efforts to ensure inclusion and nest local institutions within the project as the means to promote legitimacy and enable collaborative restoration activities.	Regional informal agreements established to provide tenure security and allow key role for customary institutions.  Large increases in rice harvests attained through livelihoods component.  Appears less beneficial for those most dependent on forest resources.	Over 50 tree nurseries established. Almost a million native trees of 100 species planted on over 50,000 ha, with a survival rate as high as 75%.  Project officially handed over to community institutions from 2017.
<b>Kenya</b> Southern Rift communal rangeland governance	Communities resisted pressure to allow tourist lodges to dictate their seasonal grazing patterns (as is the case in most conservancies across the region). They elected to prioritise pastoralist livelihoods over emerging income sources and maintain customary tenure to areas that provided safety nets in the form of grazing during times of drought.	Access to grazing areas has been invaluable for community resilience during droughts.  Some division and need for deliberation, as some see potential for maximising benefits, to be balanced with cultural resilience.	Customary resource management systems have supported species densities comparable to state-controlled protected areas, e.g. the area supports 22 species of carnivores, with densities of 13.1 adult lions per 100 km <sup>2</sup> .  Positive trends in large mammal populations contrasts with many other areas across Kenya.
<b>Mexico</b> Noh Bec Ejido, community forest governance within the Selva Maya Forest Ecosystem	Long-term forest degradation occurred through foreign commercial contractors. From 1999, with policy opportunity, the community reasserted and revitalised ejido communal land tenure system to restore control, connections to nature and the forest.	Mix of Indigenous Yucatec Maya and migrants from other states, mobilised collectively to establish shared aspirations for sustainable forest management.  Local control was consolidated by joining with other ejidos to form a network, the Selva Maya Alliance.  Mismanagement and elite capture have created challenges at times.	Forest quality has been significantly enhanced.  Diverse forest structure proved beneficial in recovery from Hurricane Dean which decimated many forests in the region in 2007.  The community earned the National Forestry Award 2015, and the Forest Stewardship Council's International Leadership award in 2022
<b>Indonesia</b> Kasepuhan Karang Indigenous forest governance, Lebak Regency	Mount Halimun Salak National Park extended by the state in 2003 without consultation. Community won legal tenure rights in 2016 through a Customary Forest ( <i>Hutan Adat</i> ) title deed, enabling revitalisation of their traditional practices and forest livelihoods. A significant pioneering case for the other Kasepuhan Indigenous peoples of the region and for other Indigenous peoples in Indonesia.	Restored access to customary forest (>30% of territory) has enhanced resilience of community, enabled revitalisation of Indigenous governance and enhanced livelihoods, including e.g. education levels.  Adapted customary institutions after the 2016 decree for enhanced inclusion of women, youth.	More complex, holistic forest zoning, restoration and management from 2016, e.g. forest restored on sloped areas.  Reinstatement of Indigenous forest management has resulted in lower incidence of fire, enhanced condition of water supplies and lower levels of illegal logging. 27,000 fruit trees planted within two years of restored forest ownership.

Source: Synthesis by the editors, based on the case studies.



The first category of cases – the Periyar Tiger Reserve in India, the forest landscape restoration programme in Fandriana Marolambo, Madagascar and Mount Halimun Salak National Park extension in Indonesia – represent large, externally-driven interventions in biodiversity hotspots, where it became very clear that the initial designs could not work without much greater involvement of, and collaboration with, Indigenous peoples and local communities, due in part to local resistance to their imposition. The cases illustrate how existing and externally-led interventions triggering local resistance can be adapted to place communities at their centre, and how that can transform social and ecological outcomes.

The continued exclusion of local communities in the colonial and then post-colonial **Periyar Tiger Reserve in the Western Ghats of India** led to serious and debilitating conflict between state managers and local communities – discussed by [Bhardwaj et al.](#) An innovative step in the mid-1990s was taken to initiate a process of conflict resolution and subsequently to negotiate and establish partnerships and community-based organisations for collaborative conservation and development. Through deliberation, attempts were made to adapt to the social and cultural values, concerns and aspirations in each community. Over time, relationships between the Forest Service and tribal and local communities have been enhanced, and more equal partnerships and forums for co-governance have been established. The reduced conflicts, greater participation in decision making and monitoring, and generation of benefits through the local eco-development committees, mean the reserve is now lauded as one of the most successful in India for the population densities of iconic forest species, such as tigers, and was ranked first out of 53 Tiger Reserves evaluated for management effectiveness in 2014, 2018 and 2022 (Yadav et al. 2023). The case study does not exemplify a radical decolonial shift or a transformation that fully recognises Indigenous knowledge, bridges cultures, or secures land rights. However, it illustrates a clear change in trajectory with implications for how other protected areas can enact preliminary changes away from strict exclusion, embark towards forms of more equitable governance, and jointly realise improved conservation outcomes.

A large forest restoration programme was initiated by the World Wildlife Fund (WWF) in 2004 to address deforestation in the wet forests of the **Fandriana Marolambo landscape in Madagascar** – discussed by [Ranjatson and Razafimahatratra](#). The initial four-year project was designed to establish restoration activities and promote alternative livelihoods for local communities, using external expertise and control. It quickly became apparent that social and political issues around tenure conflict and distrust of external interventions had been greatly underestimated, and would need to be addressed for a successful restoration to occur – and the project gradually transformed. While customary institutions for forest tenure, including the governance of access to land for shifting cultivation, were important for local communities, the forests were state-owned and shifting cultivation was illegal. For the project to gain legitimacy among local communities, and engage them in restoration activities, recognition of and representation by the local institutions was central to the project. To reorient around local communities' practices and decision-making processes required a major shift in approach. It was necessary to build relationships and negotiate with regional authorities so that sufficient guarantees could be obtained from the relevant authorities that shifting cultivation and related customary forest tenure could be practised without punishment. The project was extended to 13 years and more than double the initial funding was required to achieve the nesting of

institutions from local to national, which was paramount in the attainment of restoration goals. WWF eventually handed the ongoing management of restoration activities to the community-based organisations that were instrumental in its success. This case provides key lessons for the many forest landscape restoration and Nature-based Solutions projects worldwide.

In **Indonesia, Gunung Halimun Salak National Park** was extended by the state in 2003, without any consultation, to include the neighbouring forest territory of the Indigenous Kasepuhan Karang community – as discussed by [Tillah et al.](#) Suddenly, access to a large proportion of their territory, including customary forest and forest gardens was prohibited, with severe consequences for their livelihoods and cultural practices. After a long struggle, the community won legal tenure rights in 2016, which enabled the community to reflect on how they wished to utilise their regained autonomy. They chose to revitalise their traditional practices and recentre their livelihoods around the forests, and in doing so strengthened and adapted customary institutions to be more inclusive of women and youth who had begun to veer from tradition. These intra-community processes generated a cohesive sense of community identity and helped establish a lasting relationship to the forest. Management of the forest became more holistic and sustainable with areas designated for ancestors, cultural practices, watershed protection, rice, vegetable and fruit production and more. The active forest restoration and management had notable positive impacts on local livelihoods, on ecosystem services through reduced incidence of fire and enhanced condition of water supplies, and reduced illegal logging. This example forms a positive test case for other Indigenous Kasepuhan communities in Indonesia, and Indigenous communities elsewhere to learn from the struggle and strive towards secure tenure of their own forest territories.

In the second category of cases of communities in Thailand and Mexico, the prior extractive-driven forms of governance led to such degradation of ecosystems and knock-on impacts on the well-being of the Indigenous peoples and local communities that social movements had built up to challenge those systems and assert community control over their natural resources. For example, in **Phang-nga Bay, Thailand**, the combination of coastal shrimp farming, industrial fishing, plus unregulated local fishing, severely damaged mangrove and seabed habitats and abundance of numerous species plummeted. As discussed by [Kongkaew et al.](#), a network of coastal communities mobilised against the unsustainable trajectories and their social impacts, and with the benefit of a favourable policy to enable decentralisation of natural resource governance, the protests culminated in an important shift away from industrial developments to empower a network of locally managed coastal and marine areas. Industrial fisheries, commercial aquaculture and tourism developments have induced degradation that has motivated establishment of locally managed coastal and marine areas in many other regions (Jupiter et al., 2014). In Phang-nga Bay, the communities dramatically reversed the trends by restoring large areas of mangroves and community-based organisations were established to derive sustainable benefits from the enhanced resources and livelihood options and re-build resilient connections between the ecosystem and their quality of life. These communities have won numerous international awards for their achievements, although their tenure remains precarious in the face of state control and threats of marina development in the area.

In the community of **Noh Bec in Quintana Roo, Mexico**, agreements for timber harvesting with foreign contractors led to the degradation and destruction of forest cover and habitat, devastating areas of the wider Selva Maya forest ecosystem. Over time, the local community, comprising a mix of Indigenous Yucatec Maya and migrants from other states, mobilised collectively to establish shared aspirations for sustainable forest management. As the forest was under their control, they also sought to revitalise their customary *ejido* (a communal land tenure system) institutions for improved sustainability – as discussed by [Rosado-May et al.](#) It was a departure from the historical agreements with logging companies that shared revenues from exploiting the forest resources, managing the forest to maximise timber value. Forest quality was significantly enhanced, proving beneficial in the country's recovery from Hurricane Dean which decimated many forests in the region in 2007. This has earned the community international acclaim, which provides inspiration for other *ejidos* to follow the example with their community forests.

In the third category, comprising two cases from Ulithi Atoll in Yap and the rangelands of Kenya's South Rift area, the Indigenous Ulithian and primarily Maasai communities, respectively, had maintained relative autonomy over their territories for many generations. However, each still faced pressures and changes through globalisation processes and economic policies which affected aspirations, livelihoods and served to influence and disrupt Indigenous knowledge systems. Thus, local customary institutions became less authoritative and effective in promoting sustainable resource use, putting the communities in each location at a crossroads: whether to follow the wider conservation models being adopted across those ecosystems, ceding control to external actors, or to confront the external forms of knowledge and drivers of change and make a concerted effort to revitalise and reassert customary institutions and knowledge for contemporary conditions.

In both locations, communities took the more difficult pathway – at least in the short to medium term – and sought to reassert Indigenous knowledge systems. The cases describe the processes of re-establishing a cohesive vision, engaging youth and ensuring the legitimacy, authority and application of customary (but adaptive) institutions. They are important alternatives to conservation trends proliferating in those ecosystems, which for the pace of establishment of rangeland conservancies and marine protected areas might be considered as contemporary frontiers of conservation intervention.

In the **Kenyan community areas of Olkiramatian and Shompole**, communities resisted pressure to allow tourist lodges to dictate their seasonal grazing patterns (as is the case in most conservancies across the region). They elected to prioritise pastoralist livelihoods over emerging income sources and maintain customary tenure to areas that provided safety nets in the form of grazing during times of drought – as discussed by [Brehony and Leader-Williams](#). Placing restrictions on their multi-generational knowledge of grazing patterns and systems governing access to grazing areas in response to subtle seasonal variation would have greatly compromised their primary livelihoods. These customary resource management systems have not adversely affected biodiversity on their lands, which is comparable to that found in state-controlled protected areas, with positive trends in large mammal populations that contrast with many areas across Kenya. Crucially, during recent drought episodes, the retained access to these grazing areas was invaluable for

the resilience of the community, demonstrating that livelihood diversification and conservation need not be at the expense of cultural resilience.

In **Ulithi Atoll, Yap**, social changes brought about by globalisation, including international education and the emergence of new fishing methods, had led to the reduced relevance of Indigenous institutions governing marine areas and resources, leading to unsustainable management and decreases in key fish populations. A collaboration was established with a group of Western scientists to help understand trends in marine species abundance. Rather than prioritising Western scientific approaches, this proved a pivotal moment for the Indigenous Ulithian community to assert the importance of their own knowledge systems to guide the collection and use of scientific data, and at the same time to reflect on and revitalise their own knowledge systems, including the transfer of knowledge to the youth. The study by [Rulmal et al.](#) details the huge array of traditional management regulations, methods and decision-making structures which vary by area, habitat and resource or species type. It also describes the ways they have been adapted and complemented – rather than supplanted – with scientific data to suit contemporary circumstances, thus maintaining their relevance and place in an enduring Indigenous culture. These final two cases highlight some of the challenges faced even in Indigenous territories seeming to have a high degree of self-determination, and showcase the contemporary relevance of Indigenous knowledge systems and their key role and contribution to long term conservation goals and sustainability. xx ctions amongst, the state, NGOs, private sector and communities.

## Shared lessons from cases pursuing equitable and effective conservation

More socially and ecologically successful conservation requires radical changes in mainstream approaches, particularly towards the revitalisation and application of Indigenous peoples' and local communities' values, knowledge and practices. This cannot be realised simply through enhanced sharing of benefits or participation as stakeholders in systems externally designed based on western worldviews and technocratic approaches to protecting nature. The case studies combine to highlight a number of important lessons on how this shift can be made, as well as identifying some of the barriers to transforming towards a more equitable and effective form of conservation led by Indigenous peoples and local communities. We highlight some of the key lessons here, while acknowledging that much more needs to be done to understand these processes of transformation.

First, the recognition of Indigenous and local knowledge and institutions is explicitly mentioned in each case as an important factor in generating positive conservation and well-being outcomes. This is already happening in many places, yet this contribution to nature conservation is only slowly beginning to influence what is implemented under the banner of conservation globally. The role of Indigenous peoples and local communities can be elevated, and equity enhanced, through respecting cultures, place-based connections and supporting local institutions. This may involve building trust and partnerships, with shared governance responsibilities, as developed in the Madagascar and India cases. More transformative change involves working towards



Indigenous peoples and local communities taking leadership roles in a way that would enable them to apply Indigenous and local knowledge, exercise control over conservation decisions, and experience relative security and autonomy over territories and governance, as exemplified in Ulithi, Kenya and other cases. The examples highlight the importance of viewing conservation governance not as a managerial selection between types or seeing equity as easily achieved through a simple process of decentralising authority. In contrast, conservation governance involves a complex, collaborative journey of learning, negotiating between numerous rightsholders and stakeholders based on current and historical context, and continuously adapting, in order to maintain good governance and work towards positive social and ecological outcomes (Franks, 2021).

The case studies demonstrate that synergies can be achieved between conservation and equity, and that the health of ecosystems and the well-being of Indigenous peoples and local communities can be concurrently pursued through placing Indigenous peoples and local communities at the centre of conservation. In each case study, the multiple connections and perceived inseparability of ecosystem health and well-being provided the fundamental values and motivation for communities to mobilise for conservation. In each, details are provided to substantiate the positive effects of the more community-centred initiatives on conservation effectiveness, relative to the past or to their mainstream alternatives (Table 1.1). For example, in Phang-nga Bay, Thailand, more than 25,000 ha of degraded mangroves were restored through the network of locally-managed marine and coastal areas, with clear benefits for multiple marine species. In Kerala, India, the Periyar Tiger Reserve became the country's leading reserve for increasing populations of key species, notably tigers, after steps were taken to resolve conflicts and to work in partnership with local communities. In Quintana Roo, Mexico the Selva Maya Alliance of *ejidos* enhanced forest quality and sustainable management, and received international awards in recognition of their efforts. In the Fandriana Marolambo landscape, Madagascar, the community-based organisations leading restoration efforts comprised over 50 tree nurseries and planted almost a million native trees of 100 species on over 50,000 ha, with a survival rate as high as 75%.

These cases are not in fringe areas or small pockets of lesser biodiversity concern, but describe landscape-scale conservation in biodiversity hotspots holding internationally-important species and habitats. They strongly refute the notion that providing greater control to local communities will necessarily compromise biodiversity goals, or that equity is the enemy of effective conservation. Instead, they provide evidence that, with the right governance qualities in place, Indigenous peoples and local communities' knowledge and practices represent the fundamental way to deliver conservation, whether through restoration, sustainable use or protection and regardless of region or ecosystem.

A transformation to more routinely seeing Indigenous peoples and local communities as leaders of conservation initiatives requires changes on many levels, from addressing systemic drivers to reinforcing the quality of local governance. Of course, none of the successes described in the cases were easily achieved or guaranteed to continue, as there are numerous barriers to change and challenges that communities face in leading conservation action (Pandya, 2022). Several are highlighted, ranging from national policies that discriminate against customary practices, such as in Madagascar,

to micropolitics, elite capture and inequalities within communities, as experienced at times in the long-term case of community forest governance in Quitana Roo, Mexico, and difficulties for communities in securing funding for their mobilisations and governance, such as in the Indonesian example.

In each case the communities' struggled to maintain cultural identities and diverse knowledge systems in the face of pervasive social, economic, environmental and political pressures, including top-down conservation interventions. In fact, the cases all involve forms of resistance and mobilisation against multiple political and economic pressures, and were necessary to induce change among states and conservation organisations, and to progressively shape conservation governance. Many Indigenous and local knowledge systems and conservation-oriented institutions have endured remarkably in the face of long-term pressures of globalisation and commercialisation. Yet those systemic drivers of environmental degradation also cause cultural disconnection, and in all of the seven cases, the well-being, livelihoods and resilience of the Indigenous and local communities had suffered and were severely threatened. The changes to enhance Indigenous and local control and to legitimise customary institutions also supported a reconnection to nature, and a strengthening of local governance that brought greater social cohesion, inclusion such as of women and youth, knowledge transfer, and notable livelihood improvements as a result. The resilience of cultural values and institutions can be supported through intercultural understanding, trust and collaboration, across knowledge systems and between cultures and worldviews to ensure nested, plural forms of governance can be established and are respected (Verschuuren et al., 2021).

The continuity of customary institutions and effective custodianship of nature also involves internal negotiation of community values and priorities to maintain inclusion, cohesion, legitimacy and effective leadership (Wilder et al., 2016). The cases consistently highlight the importance to local governance quality of women and youth being engaged in revitalisation processes and decisions, and holding key roles that see them shape community organisations and livelihood strategies within and across communities. Communities are often socially and culturally diverse and processes of deliberation can be essential to develop shared values and visions for connecting and governing the environment and local livelihoods.

Among the challenges described, security of tenure and access rights, particularly customary systems, are highlighted across the studies as pivotal to support cultural resilience and promote equitable and effective conservation. This key issue has been frequently implored in decades of research and advocacy, but remains less commonly implemented (Alden Wily, 2021). Customary and communal tenure to the lands, sea or resources which communities have collective claims over, and to which their values and way of life and institutions apply, are very different from the individualised property rights supported in most political systems. Secure customary tenure within wider political structures requires good relationships with authorities and a strong network of support, alongside political or legal recognition, giving the Indigenous peoples and local communities demonstrable and defensible rights and control, as was formally, legally recognised for the Kasepuhan Karang in Indonesia but only informally negotiated for communities in the Fandriana Marolambo landscape, Madagascar. Meaningful tenure security for communal and customary systems can

demand lengthy political, legal and institutional processes, because the single act of providing recognition of tenure on paper or in word and the decentralisation of authority does not in itself guarantee good governance if not also realised through the actions of, and interactions amongst, the state, NGOs, private sector and communities.

## Conclusion: towards more equitable and effective governance

The set of case studies in this issue of *Policy Matters* contributes to an expanding body of evidence showing that governance led by Indigenous peoples and local communities generates effective conservation. The description of long-term site-level experiences provides important lessons for how transformations in conservation practice towards more local leadership can be set in motion, and supported by governments, conservation NGOs and funders – taking the idea that Indigenous peoples and local communities have a major role and contribution to conservation. The studies showcase innovative governance changes in diverse contexts, including moving away from post-colonial protected area management in India’s tropical forests, reversing degradation caused by highly industrialised coastal and marine resource exploitation in Thailand, and alternatives to privatised rangeland management through revitalised customary institutions in Kenya.

It takes a number of complementary efforts and catalysts for such transformations to succeed, not only grassroots mobilisation but also leadership and cohesion, the support of key allied conservation organisations, and political windows of opportunity. A shift to recognise the agency and knowledge of Indigenous peoples and local communities also necessitates the space and ability to reflect upon historic injustices and impacts of long-term marginalisation, and the humility and commitment of different actors to be part of efforts to decolonise practices and interactions, and support more effective, trustful, intercultural relationships and collaborative journeys towards new ways of conserving (Carmenta et al., 2023). Respecting rights goes hand in hand with supporting customary tenure systems, recognising diverse Indigenous and local knowledge systems, as well as including women and youth in gendered and transgenerational strategies that support diverse interests. These progressive goals should not be abandoned or conservation standards constrained if rights are not well respected within a particular country – conservation can itself be a pioneering, assertive and empowering venture even under the political constraints most Indigenous peoples and local communities face.

This is an important period in the history of conservation and in whether, and how, the biodiversity crisis will be addressed. It is highly unlikely that the implementation of the GBF targets, including Target 3 for 30% area coverage by 2030, will be effective or equitable unless the types of transformations we describe here are used as strategies to achieve them and scaled up, quickly. The policy principles, governance standards and evidence support an imminent shift, but for that to spark a transformation also necessitates changes in minds, underlying assumptions, the way interactions with and about communities take place, processes for establishing and adapting goals, and the funding of initiatives. It is the responsibility of conservation funders and

implementing organisations to support these kinds of efforts as good practices and to make these types of progressive shifts in governance, towards equity as the means to achieve effectiveness for all existing and new interventions. All too often in the name of conservation, local institutions are disrupted or supplanted, even though they are the vehicles through which custodianship occurs. That disruptive cycle must be broken, and progress made to a new trajectory in the way conservation is conceived and implemented.

Many thousands of journeys in this direction across the world's protected and conserved areas, restoration programmes, other effective conservation measures and territories of life can make a large collective difference within this decade to safeguard critical ecosystems and the well-being of communities and societies connected to them.

## References

- Adams, W. M. (2017). Conservation from above: globalising care for nature. In Brightman, M., Lewis, J. (Eds.), *The Anthropology of Sustainability: Beyond Development and Progress* (pp. 111–125). [https://doi.org/10.1057/978-1-137-56636-2\\_7](https://doi.org/10.1057/978-1-137-56636-2_7)
- Agrawal, A. (1995). Dismantling the Divide Between Indigenous and Scientific Knowledge. *Development and change*, 26(3), 413–439. <https://doi.org/10.1111/j.1467-7660.1995.tb00560.x>
- Asia Indigenous Peoples Pact, Badan Registrasi Wilayah Adat, Cambodian Indigenous Peoples Alliance, Cambodia Indigenous Peoples Organization, Centre for Orang Asli Concerns, Center for Indigenous Peoples' Research and Development, Federation of Community Forestry Users Nepal, Indigenous Media Network, Indigenous Peoples Foundation for Education and Environment, Indigenous Peoples Partnership, Indonesian Institute for Forest and Environment, Inter Mountain Peoples Education and Culture in Thailand Association, Jaringan Kerja Pemetaan Partisipatif, Land Conflict Watch, Nepal Federation of Indigenous Nationalities, Network of Indigenous Peoples in Thailand, Non-Timber Forest Products Exchange Programme, Partners of Community Organizations in Sabah Trust, Promotion of Indigenous and Nature Together, Rights and Resources Initiative, and Working Group ICCAs Indonesia (2022). *Reconciling Conservation and Global Biodiversity Goals with Community Land Rights in Asia*. Washington, DC, USA: Rights and Resources Initiative. <https://doi.org/10.53892/HEUK4095>
- Alden Wily, L. (2021). Challenging the State: Devolutionary tenure transitions for saving and expanding forests. *Human Ecology*, 49(3), 285–295. <https://doi.org/10.1007/s10745-021-00231-2>
- Araos, F., Anbleyth-Evans, J., Riquelme, W., Hidalgo, C., Brañas, F., Catalán, E., Nuñez, D. & Diestre, F. (2020). Marine indigenous areas: Conservation assemblages for sustainability in Southern Chile. *Coastal Management*, 48(4), 289–307. <https://doi.org/10.1080/08920753.2020.1773212>
- Artelle, K. A., Zurba, M., Bhattacharyya, J., Chan, D. E., Brown, K., Housty, J., & Moola, F. (2019). Supporting resurgent Indigenous-led governance: A nascent mechanism for just and effective conservation. *Biological Conservation*, 240, 108284. <https://doi.org/10.1016/j.biocon.2019.108284>
- Asiyanbi, A. & Massarella, K. (2020). Transformation is what you expect, models are what you get: REDD+ and models in conservation and development. *Journal of Political Ecology*, 27(1), 476–495. <https://journals.uair.arizona.edu/index.php/JPE/article/download/23540/22405>
- Bartlett, C., Marshall, M. & Marshall, A. (2012). Two-Eyed Seeing and other lessons learned within a co-learning journey of bringing together indigenous and mainstream knowledges and ways of knowing. *Journal of Environmental Studies and Sciences*, 2, 331–340. <https://doi.org/10.1007/s13412-012-0086-8>
- Blom, B., Sunderland, T. & Murdiyarsa, D. (2010). Getting REDD to work locally: lessons learned from



- integrated conservation and development projects. *Environmental Science & Policy*, 13(2), 164–172. <https://doi.org/10.1016/j.envsci.2010.01.002>
- Boyd, D. R. & Keene, S. (2021). *Human rights-based approaches to conserving biodiversity: equitable, effective and imperative. Policy Brief No. 1.* A policy brief from the UN Special Rapporteur on Human Rights and the Environment, David R. Boyd and Stephanie Keene. Geneva, Switzerland: United Nations Human Rights Special Procedures. <https://www.ohchr.org/sites/default/files/Documents/Issues/Environment/SREnvironment/policy-briefing-1.pdf>
- Brondizio, E. S. & Le Tourneau, F.-M. (2016). Environmental governance for all: Involving local and indigenous populations is key to effective environmental governance. *Science*, 352(6291), 1272–1273. <https://doi.org/10.1126/science.aaf5122>
- Burlando, C., Aroha Te Pareake Mead, Meher Marker Noshirwani, Caroline Seagle, & Trisha Kehaulani Watson. (2016). From Solutions to Resolutions: A New Social Compact for Just and Effective Conservation of Biodiversity. *Policy Matters*, Issue 20. CEESP and IUCN: Gland, Switzerland. <https://portals.iucn.org/library/sites/library/files/documents/Policy-Matters-Issue-20.pdf>
- Campese, J., Borrini-Feyerabend, G., de Cordova, M., Guigner, A., Oviedo, G., Colchester, M., Farhan Ferrari, M. & Lassen, B. (2007). Just conservation? What can human rights do for conservation... and vice versa. *Policy Matters*, 15, 6–9. Tehran, Iran: Centre for Sustainable Development and Environment. <https://portals.iucn.org/library/sites/library/files/documents/Policy-Matters-Issue-15.pdf>
- Cariño, J. & Ferrari, M. F. (2021). Negotiating the Futures of Nature and Cultures: Perspectives from Indigenous Peoples and Local Communities about the Post-2020 Global Biodiversity Framework. *Journal of Ethnobiology*, 41(2), 192–208. <https://journals.sagepub.com/doi/reader/10.2993/0278-0771-41.2.192>
- Carmenta, R., Barlow, J., Bastos Lima, M. G., Berenguer, E., Choiruzzad, S., Estrada-Carmona, N., França, F., Kallis, G., Killick, E., Lees, A., Martin, A., Pascual, U., Pettorelli, N., Reed, J., Rodriguez, I., Steward, A. M., Sunderland, T., Vira, B., Zaehring, J. G., Hicks, C. (2023). Connected Conservation: Rethinking conservation for a telecoupled world. *Biological Conservation*, 282, 110047. <https://doi.org/10.1016/j.biocon.2023.110047>
- Charles, A. (ed.) (2021). *Communities, conservation and livelihoods*. Gland, Switzerland: IUCN and Halifax, Canada: Community Conservation Research Network. <https://doi.org/10.2305/IUCN.CH.2021.01.en>
- Corrigan, C., Bingham, H., Shi, Y., Lewis, E., Chauvenet, A. & Kingston, N. (2018). Quantifying the contribution to biodiversity conservation of protected areas governed by indigenous peoples and local communities. *Biological Conservation*, 227, 403–412. <https://doi.org/10.1016/j.biocon.2018.09.007>
- Dawson, N. M., Coolsaet, B., Sterling, E... J., Loveridge, R., Gross-Camp, N. D., Wongbusarakum, S., Sangha, K. K., Scherl, L. M., Phuong Phan, H., Zafra-Calvo, N. & Lavey, W. G., Byakagaba, P., Idrobo, C. J., Chenet, A., Bennett, N. J., Mansourian, S. and Rosado-May, F. J. (2021). The role of Indigenous peoples and local communities in effective and equitable conservation. *Ecology and Society*, 26(3), 19. <https://doi.org/10.5751/ES-12625-260319>
- Fidler, R. Y., Ahmadi, G. N., Amkieltiela, Awaludinnoer, Cox, C., Estradivari, Glew, L., Handayani, C., Mahajan, S. L., Mascia, M. B., Pakiding, F., Andradi-Brown, D. A., Campbell, S. J., Claborn, K., De Nardo, M., Fox, H. E., Gill, D., Hidayat, N. I., Jakub, R., Le, D. T., Purwanto, Valdivia, A., Harborne, A. R. (2022). Participation, not penalties: Community involvement and equitable governance contribute to more effective multiuse protected areas. *Science Advances*, 8(18), eabl8929. <https://doi.org/10.1126/sciadv.abl8929>
- Forest Peoples Programme, International Indigenous Forum on Biodiversity, Indigenous Women's Biodiversity Network Centres of Distinction on Indigenous and Local Knowledge and Secretariat of the Convention on Biological Diversity (2020). *Local Biodiversity Outlooks 2: The contributions of indigenous peoples and local communities to the implementation of the Strategic Plan for Biodiversity 2011–2020 and to renewing nature and cultures. A complement to the fifth edition of Global Biodiversity Outlook*. Moreton-in-Marsh, England, UK: Forest

- Peoples Programme. <https://www.cbd.int/gbo/gbo5/publication/lbo-2-en.pdf> (in English). For other language versions: <https://www.cbd.int/gbo5/local-biodiversity-outlooks-2>
- Franks, P. (2021). *Global Biodiversity Framework: equitable governance is key*. London, UK: International Institute for Environment and Development. <https://www.iiied.org/20386iiied>
- Garnett, S. T., Burgess, N. D., Fa, J. E., Fernández-Llamazares, Á., Molnár, Z., Robinson, C. J., Watson, J. E. M., Zander, K. K., Austin, B., Brondizio, E. S., Collier, N. F., Duncan, T., Ellis, E., Geyle, H., Jackson, M. V., Jonas, H., Malmer, P., McGowan, B., Sivongxay, A. & Leiper, I. (2018). A spatial overview of the global importance of Indigenous lands for conservation. *Nature Sustainability*, 1(7), 369–374. <https://doi.org/10.1038/s41893-018-0100-6>
- Holmes, G. & Cavanagh, C. J. (2016). A review of the social impacts of neoliberal conservation: Formations, inequalities, contestations. *Geoforum*, 75, 199–209. <https://doi.org/10.1016/j.geoforum.2016.07.014>
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. S. Díaz, J. Settele, E. S. Brondizio E.S., H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis & C. N. Zayas (eds.). Bonn, Germany: IPBES Secretariat. <https://doi.org/10.5281/zenodo.3553579>
- Jupiter, S. D., Cohen, P. J., Weeks, R., Tawake, A. & Govan, H. (2014). Locally-managed marine areas: multiple objectives and diverse strategies. *Pacific Conservation Biology*, 20(2), 165–179. [https://www.sprep.org/sites/default/files/documents/publications/locally\\_managed\\_marine\\_areas\\_multiple.pdf](https://www.sprep.org/sites/default/files/documents/publications/locally_managed_marine_areas_multiple.pdf)
- Kashwan, P. (2013). The politics of rights-based approaches in conservation. *Land Use Policy*, 31, 613–626. <https://doi.org/10.1016/j.landusepol.2012.09.009>
- Mabele, M. B., Krauss, J. E. & Kiwango, W. (2022). Going Back to the Roots: Ubuntu and Just Conservation in Southern Africa. *Conservation & Society*, 20(2), 92–102. [https://doi.org/10.4103/cs.cs\\_33\\_21](https://doi.org/10.4103/cs.cs_33_21)
- O'Brien, K. & Sygna, L. (2013). Responding to Climate Change: The Three Spheres of Transformation. *Proceedings of transformation in a changing climate*, Norway, 16–23. [https://www.sv.uio.no/iss/english/research/projects/adaptation/publications/1-responding-to-climate-change---three-spheres-of-transformation\\_obrien-and-sygna\\_webversion\\_final.pdf](https://www.sv.uio.no/iss/english/research/projects/adaptation/publications/1-responding-to-climate-change---three-spheres-of-transformation_obrien-and-sygna_webversion_final.pdf)
- Pandya, R. (2022). Micro-Politics and the Prospects for Convivial Conservation: Insights from the Corbett Tiger Reserve, India. *Conservation & Society*, 20(2), 146–155. <https://www.jstor.org/stable/27143337>
- Reid, A. J., Eckert, L. E., Lane, J. F., Young, N., Hinch, S. G., Darimont, C. T., Cooke, S. J., Ban, N. C. & Marshall, A. (2021). “Two-Eyed Seeing”: An Indigenous framework to transform fisheries research and management. *Fish and Fisheries*, 22(2), 243–261. <https://doi.org/10.1111/faf.12516>
- Reyes-García, V., Fernández-Llamazares, Á., Aumeeruddy-Thomas, Y., Benyei, P., Bussmann, R. W., Diamond, S. K., García-del-Amo, D., Guadilla-Sáez, S., Hanazaki, N., Kosoy, N., Lavidés, M., Luz, A. C., McElwee, P., Meretsky, V. J., Newberry, T., Molnár, Z., Ruiz-Mallén, I., Salpeteur, M., Wyndham, F. S. ... & Brondizio, E. S. (2022). Recognizing Indigenous peoples’ and local communities’ rights and agency in the post-2020 Biodiversity Agenda. *Ambio*, 51(1), 84–92. <https://doi.org/10.1007/s13280-021-01561-7>
- Rights and Resources Initiative (2020). *Rights-Based Conservation: The path to preserving Earth’s biological and cultural diversity?* Washington, DC, USA: Rights and Resources Initiative. <https://doi.org/10.53892/ZIKJ2998>
- Tauli-Corpuz, V., Alcorn, J., Molnar, A., Healy, C. & Barrow, E. (2020). Cornered by PAs: adopting rights-based approaches to enable cost-effective conservation and climate action. *World Development*, 130, 104923. <https://doi.org/10.1016/j.worlddev.2020.104923>

- United Nations Environment Programme (UNEP) (2022). *Kunming-Montreal Global Biodiversity Framework*. Decision 15/4 adopted by the Conference of the Parties to the Convention on Biological Diversity, Fifteenth meeting, Part II, Montreal, Canada, 7–19 December 2022. <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf>
- Verschuuren, B., Mallarach, J.-M., Bernbaum, E., Spoon, J., Brown, S., Borde, R., Brown, J., Calamia, M., Mitchell, N., Infield, M. & Lee, E. (2021). *Cultural and spiritual significance of nature. Guidance for protected and conserved area governance and management*. Best Practice Protected Area Guidelines Series No. 32. Gland, Switzerland: IUCN. <https://doi.org/10.2305/IUCN.CH.2021.PAG.32.en>
- Weldemichel, T. G. (2022). Making land grabbable: Stealthy dispossessions by conservation in Ngorongoro Conservation Area, Tanzania. *Environment and Planning E: Nature and Space*, 5(4), 2052–2072. <https://doi.org/10.1177/25148486211052860>
- Wilder, B. T., O'Meara, C., Monti, L., Nabhan, G. P. (2016). The Importance of Indigenous Knowledge in Curbing the Loss of Language and Biodiversity. *BioScience*, 66(6), 499–509. <https://doi.org/10.1093/biosci/biw026>
- Woodhouse, E., Bedelian, C., Barnes, P. R., Cruz-Garcia, G. S., Dawson, N., Gross-Camp, N., Homewood, K., Jones, J. P. G., Martin, A., Morgera, E., Schreckenber, K. (2021). *Rethinking entrenched narratives about protected areas and human wellbeing in the Global South*. London, UK: University College London Press. <https://doi.org/10.14324/111.444/000109.v1>
- Yadav, S.P., Tiwari, V.R., Mallick, A., Garawad, R., Talukdar, G., Sultan, S., Ansari, N.A., Banerjee, K. and Das, A. 2023. Management Effectiveness Evaluation of Tiger Reserves in India, 2022 (Fifth Cycle), Summary Report. Wildlife Institute of India, Dehradun and National Tiger Conservation Authority, Government of India, New Delhi.
- Zafra-Calvo, N., Garmendia, E., Pascual, U., Palomo, I., Gross-Camp, N., Brockington, D., Cortes-Vazquez, J.A., Coolsaet, B. & Burgess, N. D. (2019). Progress toward equitably managed protected areas in Aichi target 11: a global survey. *BioScience*, 69(3), 191–197. <https://doi.org/10.1093/biosci/biy143>
- Zanjani, L. V., Govan, H., Jonas, H. C., Karfakis, T., Mwamidi, D. M., Stewart, J., Walters, G. & Dominguez, P. (2023). Territories of life as key to global environmental sustainability. *Current Opinion in Environmental Sustainability*, 63, 101298. <https://doi.org/10.1016/j.cosust.2023.101298>