WYSS ACADEMY FOR NATURE

BEYOND CONSERVATION BOUNDARIES: CROSS-SCALE GOVERNANCE, EQUITY AND SPILLOVERS

Evidence to align global goals with effective, equitable landscape-level action



A farmer tends vanilla vines in the Mahalevona Valley, northeastern Madagascar, a farming landscape between Masoala and Makira national parks. Vanilla grown under tree cover has long been central to household incomes here, but its price is set by distant markets.
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30x30, the headline target of the Kunming-Montreal Global Biodiversity Framework (GBF) to conserve 30% of land and seascapes by 2030, is a proxy for a bigger aim: conserving enough biodiversity to keep ecosystems functioning, build resilience to climate change, and sustain human wellbeing into the future. Achieving the GBF's 23 targets and four goals requires attention to where and how conservation is carried out, who reaps its benefits and bears its costs, and who controls implementation across scales.

The brief "Conserving 30%: Where, how and to what end?" explored one layer of that cost question: who ends up living inside conservation areas under different approaches, and how governance and implementation affect social and ecological outcomes. This brief explores another layer: the enabling conditions needed to deliver sustained, equitable outcomes. It examines how governance across scales can address the structural and cross-border costs of conservation, including who has historically borne them, where conservation effort is currently directed, and who has the power to change that.

Without these enabling conditions, even well-designed conservation mechanisms risk falling short in three interconnected ways. Negative spillovers (also known as leakage) – when setting aside areas for conservation displaces agricultural production elsewhere – can seriously undermine

conservation gains (Ramírez-Mejía et al. 2026). Conservation can also perpetuate the harmful colonial legacies associated with biodiversity and poverty (Waldock et al. 2026). The actors behind biodiversity pledges under the GBF are concentrated in the Global North, and connections between local actions, national policy strategies and global goals are weak (Nguyen et al. 2025).

KEY MESSAGES

Colonial legacies of biodiversity exploitation are linked to modern-day poverty.

A decolonial approach that acknowledges this linkage is needed to advance sustainable development and biodiversity governance.

Conservation investment is currently misaligned with both need and capacity.

It remains concentrated in the Global North and ill-matched to where biodiversity protection is most urgent: protected area coverage shows no relationship with either countries' biodiversity or their poverty levels. Non-state actors, who make the most voluntary biodiversity pledges, also need support to align with national and international targets and strategies and to connect with local organisations.

Managing 30x30's spillovers requires region-specific management.

Where conservation areas are sited, and how they're governed and implemented, strongly impacts how land-use pressures are redistributed. Because spillover patterns and governance capacity differ by region, policy portfolios and monitoring systems need to be region-specific.

WHY IT MATTERS

Halting the decline of global biodiversity is an urgent priority. The GBF sets 23 global targets to reach by 2030, and four long-term outcome goals for 2050. Yet with four years until the 2030 deadline, much remains to be done – including nearly doubling the area currently under protection and conservation on land.

Action toward these targets is complex and political, involving vast swathes of land and huge sums of money. The history of conservation is tightly wound with colonialism, and without addressing its continuing impacts, conservation risks perpetuating harmful legacies of inequity.

The same complexity runs through the GBF's "whole of society" approach, which integrates conventional multilateral negotiations with self-organising initiatives in the public, civil society and private sectors. While offering flexibility, the approach requires stronger coordination to ensure impact on the ground and make sure that people across the planet can be involved in the conversation.

Choosing where to situate conservation efforts also carries questions of equity. Protection that displaces people and their current land uses often penalises the historical guardians of the ecosystems for harm to biodiversity done by others elsewhere, while carrying a heavy social cost for communities least equipped to bear it.

OUR INSIGHTS

Colonisation and bio-inequity: equitable governance as foundation

Global biodiversity policies commonly assume that countries with rich biodiversity can use that natural capital to reduce poverty. Yet a new study by Waldock et al. (2026) finds the opposite pattern: across the 168 countries they assessed, biodiversity-rich countries tended to be poorer.

The authors show that this correlation is not caused by biodiversity itself, nor is it a legacy of economic development. Neither did the researchers find a statistically significant *direct* biodiversity-poverty link. Instead, the disparity they found between biodiversity and human prosperity is best explained by taking a historical perspective.

Looking back over the past 500 years, the researchers found a significant direct effect of biodiversity on a country's likelihood of being colonised by European empires, followed by a chain of significant effects on poverty. Colonial powers set up these new colonies to be dependent on export of the natural resources provided by

biodiversity, often under exploitative exchange conditions. That pattern left socio-economic legacies of weaker governance, higher debt and poverty that continued after independence and were magnified by neoliberal economic policies and unequal terms of trade.

Those legacies continue in present-day conservation. The authors found that conservation investments are not aligned with countries' biodiversity or economic capacity to protect nature, hampering attempts to reach the GBF targets. Many highly impoverished countries already exceed those targets, raising questions about whether the potential benefit of biodiversity is retained. In response, they call for a decolonial approach "whereby conservationists must not only recognise but challenge and replace damaging narratives that overlook past and present inequalities in access to the benefits of biodiversity," including "wealth accumulation away from the centres of biodiversity and the growth-centred development model of wealthy countries."

That, they say, will require bold measures like international debt cancellation, fair commodification of biodiversity resources and fairer terms of trade – not tweaks like debt-for-nature swaps, which tend to overlook the injustice of Global South debt in the name of "paternalistic... conservation from afar."



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The muddled middle: the disconnect between local actions and national-global biodiversity policies

Colonial legacies also show up in new analysis of biodiversity pledges submitted to the Action Agenda for Nature platform, which facilitates non-state-led action under the CBD (Nguyen et al. 2025).

The researchers used social network and discourse analysis of 718 pledges, representing 1,086 actors and 4,109 connections, to reveal a governance landscape that is both fragmented and centralised: actors lack systematic connection to national biodiversity strategies, resulting in duplication and misalignment, while power and connectivity remain concentrated in the Global North.

Actors in the Global North made up 73.6% of the network, and 89% of pledges originate from non-state and subnational sources. Most countries (78.21%) focused on local or in-country interventions: a trend that the authors warn could reverse North–South funding flows, "deepening the financial shortfall for regions with the highest biodiversity threats." When pledges did cross borders, old colonial ties, such as the United Kingdom's with Kenya, often shaped the geography of biodiversity collaboration. "While these historical ties may facilitate conservation partnerships, they also risk reinforcing path dependencies rather than empowering local actors in biodiversity governance," the authors write.

Yet the analysis also revealed a critical opportunity. With 89% of pledges from non-state actors, a "middle-out" governance space appears to be emerging in which non-state and subnational actors play a key role in connecting global policy with on-the-ground action. Local NGOs and CBOs implementing ground-level conservation, scientists providing knowledge to guide biodiversity actions, and intermediaries connecting these groups are essential actors in this space.



Participants at the OECM pathways workshop in Nanyuki, Kenya, May 2026. © Amanda Koech

However, the research found no clear connection between this intermediary action and national biodiversity strategies. Local NGOs made up just two of the 100 most-connected actors in the space.

The authors note that this does not reflect limited local capacity, but rather systemic marginalisation: local expertise and leadership remain disconnected from governance networks and under-resources relative to their role.

The enabling condition for local action and global success, therefore, is not the presence of local actors – they are already acting. It is their active integration into governance networks through dedicated resourcing, knowledge platforms, and explicit connection to national and global strategies, so that local and subnational actors are intentionally connected to – not simply consulted by – national and international decision-making processes.

Beyond conservation boundaries: Matching policy to spillover patterns

The inequities outlined in the previous sections also impact how conservation plays out on the ground. While frameworks for deciding where to protect and measuring the impact within those areas abound, scant attention has been paid to the ways in which protecting one area can shift pressure elsewhere: from neighbouring landscapes to distant regions through global trade. Most existing evaluations are also retrospective, so they cannot anticipate these "spillover effects" before new areas are designated.

Such spillovers can be positive, such as farmland shifting toward a more natural state, or negative, where agricultural production displaced by new conservation areas moves elsewhere and clears natural or semi-natural land, eroding the net conservation gain. This negative dynamic, known as leakage, is well-researched in climate policy as "carbon leakage", but has received less attention in biodiversity frameworks like the GBF to date.

To address that gap, a new study by Ramírez-Mejía et al. (2026) linked a global economic and trade model with a land-system model. Their aim was to project, before any new areas are designated, how expanding conservation to 30% of land by 2030 would redirect land use through 2050. They compared two ways of reaching 30% against a business-as-usual baseline, in which today's protected-area network (~17% of land) does not expand (Figure 1).

FIGURE 1

TWO PATHWAYS TO 30%

Conserved land under business as usual (~17% coverage) and under two ways of reaching 30%: Biodiversity-First and Nature-and-People.

NET GAIN AFTER LEAKAGE

731 Mha

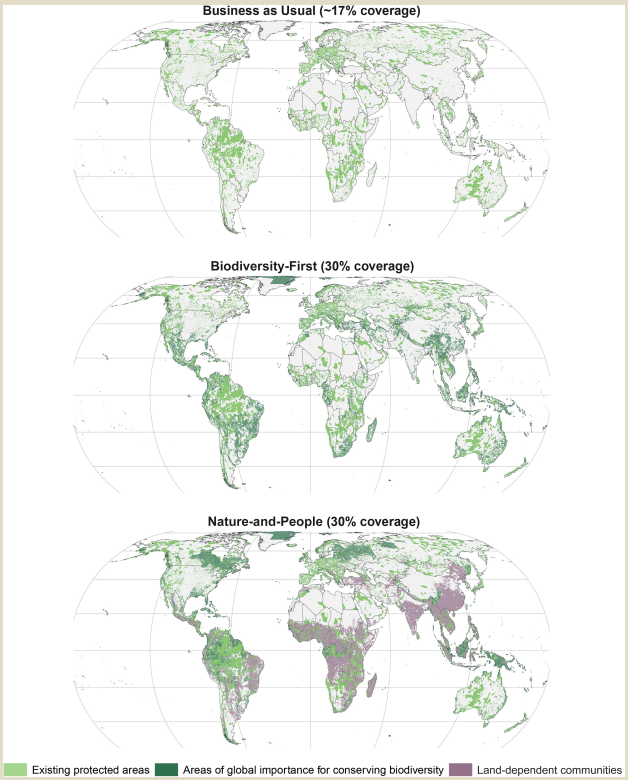
Biodiversity-First (435 Mha leakage)

421 Mha

Nature-and-People (230 Mha leakage)

Both keep a similar share of their benefits once leakage is subtracted: 62% and 64%.

Source: Ramírez-Mejía et al. (2026), *One Earth*.



The ‘Biodiversity-First’ scenario selects new areas based solely on biodiversity value. This concentrates them in tropical hotspots that often overlap active agricultural frontiers, where land rights are weakest and enforcement capacity is limited. Compared with business as usual, it avoids 583 million hectares (Mha) of land conversion and generates a similar area of positive spillovers (583 Mha). It also produces the highest leakage (435 Mha), concentrated in belts along those tropical agricultural frontiers.

The ‘Nature-and-People’ scenario also reaches 30%, but it selects areas that provide carbon storage and water regulation as well as biodiversity. In the model, lands that local communities occupy or rely on are also kept out of both new conservation areas and large-scale agricultural expansion, although in practice the relationship varies by context. This approach shifts some conservation toward temperate and boreal regions, where many areas are not under imminent threat, and leaves more tropical land unprotected. As a result, it avoids less conversion (237 Mha) but produces roughly half the leakage (230 Mha) and substantial positive spillovers (414 Mha).

In net terms (avoided conversion plus positive spillovers, minus leakage), Biodiversity-First delivers the larger gain: 731 Mha versus 421 Mha. Yet both scenarios keep a similar share of their benefits once leakage is subtracted (62% and 64%). Biodiversity-First gets there by preventing more conversion, Nature-and-People by displacing less pressure. In other words, conservation outcomes depend as much on managing spillovers as on how much land is protected.

In both scenarios, the researchers found that most leakage occurs within the same region where conservation expands, largely as natural land turning into semi-natural mosaics (farming or grazing mixed with remnant vegetation). But as conservation limits agricultural production in many regions at once, unmet demand shifts through trade toward the most competitive agricultural exporters, such as Brazil and Indonesia. This trade-driven pressure, roughly one-seventh of Brazil’s leakage and one-tenth of Indonesia’s, falls on the same hubs under both scenarios. Conservation planning can reduce its volume (Nature-and-People roughly halves it), but not where it lands, making trade and supply chain measures necessary alongside domestic ones.

The authors conclude that “progress toward 30x30 should be evaluated not only by the area protected but also by how much nature is retained overall, where displaced pressure occurs, and whether costs and benefits are shared fairly.” This calls for policies and monitoring tailored to each region’s spillover patterns and governance capacity (Ramírez-Mejía et al. 2026; see also Nguyen et al. 2025 on governance capacity).

FIGURE 2

WHAT LEAKAGE TAKES BACK

Projected land-use outcomes to 2050 for the two ways of reaching 30%, compared with business as usual. Net gain is avoided conversion plus positive spillovers, minus leakage.

SHARE OF BENEFITS RETAINED

62%

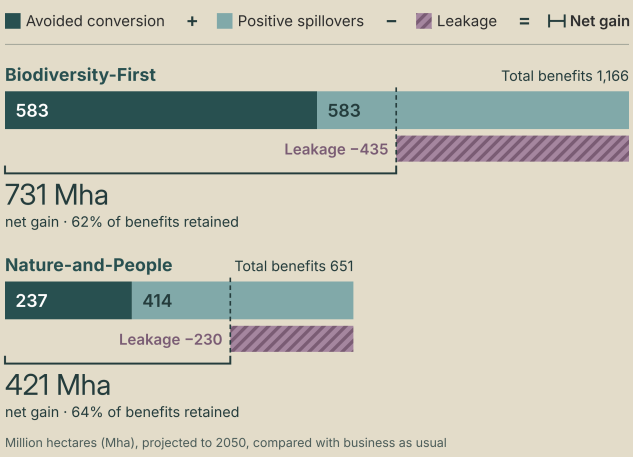
Biodiversity-First: prevents more conversion

64%

Nature-and-People: displaces less pressure

Similar shares, reached by different routes.

Adapted from Ramírez-Mejía et al. (2026), *One Earth*.



CALLS TO ACTION

01

Treat the GBF's 23 targets as an integrated system, not parallel tracks.

Implementation must account for how actions toward one target can reinforce or undermine progress toward others. Three enabling conditions (equitable governance, cross-scale connectivity, spillover management) provide a basis for managing these interdependencies. Equitable governance guides how priorities are negotiated and how costs and benefits are shared. Cross-scale connectivity links actors, institutions and decisions. Spillover management addresses impacts displaced across places and sectors. Embedding these conditions across the GBF implementation process in planning, financing, implementing and monitoring can help translate individual target commitments into coherent action.

02

Direct finance to the places where biodiversity and poverty intersect, without creating new debt.

Use evidence and the expertise of "middle-out" actors, to inform the implementation of **Target 19 (resource mobilisation)**, including **Target 19a** on international finance to low and middle-income countries, and the allocation of the Global Biodiversity Framework Fund. Prioritise regions with low governance capacity and high leakage relative to conservation gains. Treat international debt cancellation (not debt-for-nature swaps) and fairer trade terms as foundational infrastructure: many biodiversity-rich, lower-governance capacity countries cannot meet the enabling conditions for conservation success without external support.

03

Build connection between local NGOs and CBOs and broader global biodiversity governance networks.

Groups implementing ground-level conservation are currently underrepresented in these networks (Nguyen et al. 2025), making this a governance integration issue as well as a capacity challenge. This connects directly to **Target 20 (capacity building), Target 21 (data and knowledge accessibility)**, and **Target 14 (mainstreaming biodiversity).** Fund the capacitation of "middle-out" actors that link global and national plans to local action.

04

Operationalise genuine power-sharing.

Implement **Target 3 (conservation)** alongside **Targets 1, 2 and 4 (spatial planning, restoration and species)**, embedding **Targets 14, 21, 22 and 23 (mainstreaming, data and knowledge accessibility, participation and rights, and gender equality)** throughout implementation. This effort can help to avoid reproducing systemic inequities in the benefits of biodiversity (Waldock et al. 2026) and address the fragmented and concentrated Global North-dominated pledge network (Nguyen et al. 2025). This requires national strategies that demonstrate genuine power-sharing over tokenistic consultation; governance baseline metrics; and explicit funding for decolonial governance. These features should be accompanied by burden-sharing instruments, including international finance that flows toward the countries and communities bearing the actual costs of protection, compensatory mechanisms for regions experiencing agricultural displacement, and benefit-sharing arrangements that recognise that Global North consumers benefit from biodiversity protection while Global South stewards bear its costs.

05

Account for spillover before expanding conservation areas.

Require conservation area expansion under **Target 1 (spatial planning)** and **Target 3 (conservation),** as well as **national GBF reporting** to account for spillover patterns. Ramírez-Mejía et al. provide four policy-relevant metrics to support this: net gains after leakage, type and location of land-use change, and domestic vs. trade-driven leakage. Fund management beyond conservation boundaries through participatory land-use planning, tenure recognition and support to retain habitat in agricultural landscapes – as well as existing sustainable agriculture in conservation areas. Introduce compensatory finance for export hubs so that consumer markets share the costs of trade-driven leakage.

CONCLUSION

The ambitious goals of the GBF will not succeed on area alone. Who makes decisions about implementation, and who bears its costs, will determine whether setting aside vast areas for conservation and protection delivers lasting and equitable outcomes. If these areas are not designed and financed to work for people as well as nature, and to manage what happens beyond their boundaries, they risk deepening poverty, causing conflict and shifting pressure onto those least able to bear it instead of providing the net benefits for biodiversity and human wellbeing for which the framework is designed.

Moreover, the GBF will remain a policy instrument without enforcement unless it connects directly to broader structural inequities that constrain implementation. Without addressing both the debt burdens that force countries to prioritise short-term extraction and the fiscal structures that concentrate conservation costs domestically while benefits accrue globally, the framework's commitments to equity and landscape-scale coordination cannot materialise. The GBF's success therefore requires coupling its conservation and governance targets with concrete calls for international debt relief and burden-sharing fiscal transformation that create the conditions in which equitable, integrated implementation becomes feasible.

SUPPORTING MATERIAL

Nguyen, V.T.H., Le-Huynh, T.L., Gadola, S., Nguyen, Q., Walters, G. & Owuor, M.A. (2025). Local-global linkages in biodiversity governance: The regime complex of the convention on biological diversity agenda for nature pledges. *Environmental Science & Policy*, 173, 104246. doi.org/10.1016/j.envsci.2025.104246

Ramírez-Mejía, D., Boere, E., Nguyen, V.T.H. et al. (2026). Land-system spillovers reveal trade-offs in conserving 30% of land. *One Earth*, 9(9), 101812. doi.org/10.1016/j.oneear.2026.101812

Waldock, C., Nguyen, V.T.H., Awuor Owuor, M., Samwel Manyanza, A. & Seehausen, O. (2026). Systemic bio-inequity links poverty to biodiversity and induces a conservation paradox. *People and Nature*, 8(8), 2700–2719. doi.org/10.1002/pan3.70349

Wyss Academy for Nature (2026a). *Conserving 30%: Where, how and to what end?* (CBD COP17 Briefing note 1).

Wyss Academy for Nature (2026c). *Pastoralism and nature: Connectivity matters* (CBD COP17 Briefing note 3).

ACKNOWLEDGEMENTS

This brief synthesises findings from three peer-reviewed publications. The first, on local-global linkages in biodiversity governance, was led by scientists at the Wyss Academy for Nature, fully funded by the Wyss Academy for Nature postdoctoral project "Enabling transformative change in global biodiversity governance: Governance capacity to translate the KMGBF into local actions". The second and third, examining systemic bio-inequity in conservation and land-system spillovers under different 30x30 scenarios, were led by partners at the Institute of Ecology and Evolution (at University of Bern) and Trinity College Dublin, and at VU Amsterdam and the Universidad Nacional Autónoma de México, respectively. We thank all collaborators and co-authors across these papers.

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The Wyss Academy for Nature at the University of Bern develops and catalyses solutions to complex challenges at the intersection of nature and people. It brings together science, policymaking, and concrete action and works with partners across East Africa, Southeast Asia, South America, and Switzerland. Its approach combines work in real-world landscapes with research, learning, and engagement in wider policy and governance processes.

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Suggested citation: Evans, M., Nguyen, V.T.H. & Victor, M. (2026). Beyond conservation boundaries: Cross-scale governance, equity and spillovers. Wyss Academy Brief. Bern: Wyss Academy for Nature.

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