



8 Facts about Community Land and Biodiversity Conservation

By: Peter G. Veit and Katie Reytar

What is at stake for biodiversity?

Biological diversity—the variety of life at genetic, species and ecosystem levels—is in decline. Between 1970 and 2018, wildlife populations declined by an average of 69 percent. Today, over 1 million species—an estimated 25 percent of vertebrate, invertebrate and plant species—are threatened with extinction. The extinction rate is 100–1,000 times higher than natural rates, and it is accelerating in what is now widely regarded as Earth’s sixth major extinction event.

The extent and condition of natural ecosystems have also declined by 47 percent since the earliest estimates, with many deteriorating by 4 percent every decade. Only 20–34 percent of the world’s land area has experienced very low human interference, just 23.2 percent remains as wilderness and only 2.8 percent of the land is considered ecologically intact—untarnished by humans and supporting healthy populations of native species. The loss of habitat means that 500,000 terrestrial species have insufficient habitat for long-term survival.

Biodiversity is critical for human well-being, providing food, fuel, shelter and medicine. For many people, biodiversity also has cultural value for spiritual reasons. The loss of biodiversity has critical implications for economies and humanity—from the collapse of food systems to the disruption of supply chains. The World Economic Forum estimates that more than half of the world’s gross domestic product is moderately or highly dependent on nature and its services, and it lists biodiversity loss as one of the top three global risks.

Compelling quantitative evidence on the contribution of land held by Indigenous peoples (IPs), Afro-descendant peoples, pastoralists and other communities (hereafter “communities”) to biodiversity conservation has been accumulating over the last two decades. Community-held and managed lands, encompassing 50 percent or more of the world’s land, often experience lower rates of deforestation, hold more biodiversity, store more carbon, benefit more people than lands managed by public or private entities and cost less to establish and maintain than conventional protected areas (PAs). Engaging communities and ensuring that their lands are protected are central to safeguarding biodiversity.

Following this introduction and a brief section providing some context to the issues are eight key insights on community land and biodiversity conservation and six next steps. The insights make a strong case for a community-centered [approach](#) to conservation and are intended for the conservation community, including biodiversity fund managers, national policymakers, practitioners implementing biodiversity initiatives and civil society organizations (CSOs) engaged in conservation.

Global efforts to tackle biodiversity loss

In December 2022, more than 190 countries met in Montreal, Canada, at the 15th Conference of the Parties (COP15) of the UN Convention on Biological Diversity (CBD). There, they signed the 10-year Kunming–Montreal Global Biodiversity Framework (GBF) to halt the loss of biodiversity. The countries agreed on 23 targets for 2030 and 4 goals for 2050. The targets are designed to reduce threats to biodiversity, meet people’s needs through sustainable use and benefit sharing and advance tools and solutions for implementation and mainstreaming. The GBF is the successor to the CBD’s Strategic Plan for Biodiversity 2011–2020 and its 20 Aichi targets, none of which was fully achieved at the global level. Following strong advocacy by community organizations and their allies, the GBF recognizes the role of communities and their land in conservation and explicitly references them in 7 targets.

Among the more prominent targets, Target 3 calls for conserving at least 30 percent of the world’s terrestrial, inland water, coastal and marine areas by 2030 (“30x30” target) through a system of well-managed PAs and other effective area-based conservation measures (OECMs) while “recognizing and respecting the rights of indigenous peoples and local communities including over their traditional territories.”

Until the introduction of OECMs, PAs were the only CBD-recognized conservation approach and the dominant strategy for governments and conservation CSOs. Grounded in the convention that governments are the best custodians of the commons, most PAs are state owned and managed. Much of the land in the current PAs is customary community land to which communities now have no or only limited rights to (“fortress conservation”). OECMs are areas that achieve long-term, effective in situ biodiversity conservation outside PAs. Whereas PAs have a primary objective of achieving positive biodiversity outcomes, OECMs can be designated for any purpose.

PAs have expanded considerably over the last 50 years. From 1970 to 1985, the area increased by 80 percent, principally in developing countries. Following a 1987 World Commission on Environment and Development recommendation, the land within PAs tripled between 1980 and 2005. In 2010, Aichi Target 11 called for 17 percent of terrestrial and inland water and 10 percent of coastal and marine areas to be conserved by 2020. During that decade, PAs covering almost 21 million square kilometers were established.

As of March 2023, there were at least 267,723 terrestrial PAs and OECMs covering almost 17.1 percent of the world’s terrestrial and inland water areas and 18,640 marine PAs and OECMs covering almost 8.3 percent of the world’s coastal and marine areas. PAs make up the vast majority of conservation

OTHER EFFECTIVE AREA-BASED CONSERVATION MEASURES

Other effective area-based conservation measures (OECMs) first appeared in Convention on Biological Diversity documents in 2010 in Aichi Target 11, but the term was not formally defined until 2018 at the 14th Conference of the Parties. OECMs can potentially include lands and seas that individuals, families and communities manage for hunting, fishing, agroforestry, pastoralism or other purposes while also conserving nature. OECMs can also include land held and managed by corporations and governments (e.g., urban green spaces and military lands). If widely adopted, OECMs could significantly increase the area recognized for conservation. The concept, however, is still relatively untested and open to interpretation, with governments just beginning to consider OECMs in their biodiversity strategies. Canada, for example, embraced OECMs to help meet a target of protecting 10 percent of its coast by 2020.

areas, with OECMs accounting for just over 0.2 percent of the number of terrestrial areas conserved (6.9 percent of the total conserved land area) and just over 1 percent of the number of marine areas (1.2 percent of the total conserved marine area).

Advocates have long called for protecting more of Earth. In 2018, the Global Deal for Nature called for protecting 30 percent of Earth and designating another 20 percent as climate stabilization areas by 2030 (see also the Global Safety Net). The Campaign for Nature and the High Ambition Coalition for Nature and People are 30x30 initiatives. Protecting 30 percent of the planet with the highest biodiversity would protect up to 80 percent of plant and animal species, 60 percent of carbon stocks and 66 percent of clean water resources. Many experts view the 30x30 target as inadequate and call for setting aside half or more of Earth by 2050. For them, the 30x30 target is simple a milestone—“just a start”—rooted more in politics than science.

With the GBF, attention shifts to implementation and monitoring the 23 targets to ensure adherence to the community provisions. Core concerns remain about the 30x30 target. Communities and their allies worry that a drive to expand traditional PAs rather than more rights-based approaches could prompt mass evictions, cause social harm to poor rural people and lead to human rights violations.

KEY INSIGHT 1: COMMUNITY LANDS HOLD CONSIDERABLE SPECIES

Perhaps 13 million or more species of animals, plants, fungi and protozoa inhabit Earth, although fewer than 2 million species have been described by science. Much of the world's terrestrial species exist on community land. Communities combine wild and domesticated species in their farms, creating highly diverse ecosystems. They also maintain many remaining local varieties and breeds of plants, animals and fungi.

About half the world's land is community land, although estimates range from 32 percent to 65 percent or more. IPs alone hold 25 percent of the world's land. Community land exists on all continents except Antarctica, with Africa having more community land than any other region. Community land provides a range of ecosystem services that generate local, regional and global benefits, including climate change mitigation.

Community land overlaps with many PAs, Key Biodiversity Areas and the ranges of terrestrial species. An estimated 20.7 percent of Indigenous land alone is within PAs, encompassing at least 40 percent of the world's terrestrial PAs. When all community land is considered, the overlap could be as high as 80 percent of PAs. Community land contains at least 36 percent of the world's Key Biodiversity Areas—sites of global importance for species diversity and wildlife habitat. In many countries, more than half of the nation's Key Biodiversity Areas coincide with community lands. In Nicaragua and Venezuela, for example, more than 60 percent of these biodiversity-important areas are on Indigenous lands (see maps below).

Recent research found that 23 percent of 4,460 mammal species had more than 50 percent of their ranges on Indigenous land, and 60 percent of the species had more than 10 percent of their ranges on Indigenous land. Of the 1,002 threatened species, 47.2 percent occurred on Indigenous lands, and 26 percent had more than 50 percent of their habitat on Indigenous lands. In Australia, 45–60 percent of threatened species occur on Indigenous lands.

Species richness is often higher on community lands than in PAs. A study of mammals, birds, reptiles and amphibians in Brazil, Canada and Australia found that Indigenous lands were slightly more species rich than PAs. Indeed, there is no consensus of the efficacy of PAs in maintaining species. A recent survey of 1,506 PAs and 27,055 waterbird populations found that PAs have a mixed impact on wildlife and do not always boost biodiversity. A meta-analysis found that the evidence remains inconclusive that PAs are effective at maintaining species populations. Another study found that the global PA network is, on average, just 41 percent effective at retaining species richness and 54 percent effective at retaining local abundance. In Africa, there has been a 43 percent decline in lion numbers in just 20 years, along with declines in their prey.

WHAT IS COMMUNITY LAND

For communities, land is a source of food, medicine, fuelwood and materials as well as employment, income, welfare, security, culture and spirituality. Community land is also a basis for social identity, status and political relations. Communities commonly hold their land in a collective manner, regardless of recognition under national law. A sizable portion of community land overlaps with different types of government, corporate and private control. Most of the world's community land is managed under customary tenure arrangements—rules that govern the allocation, use, access and transfer of land and natural resources. Although communities distribute rights to land in diverse ways, they often allocate some land to households for homesteads, family farms and other purposes while holding other land as common property that is available for the benefit of all members, such as forests and rangeland.

Indigenous and community lands and key biodiversity areas in Nicaragua and Venezuela

■ Indigenous and community land ■ Key biodiversity areas



Source: LandMark (2023) LandMark: The Global Platform of Indigenous and Community Lands. Available at <http://www.landmarkmap.org/> and BirdLife International (2022) World Database of Key Biodiversity Areas. Developed by the KBA Partnership: BirdLife International, International Union for the Conservation of Nature, American Bird Conservancy, Amphibian Survival Alliance, Conservation International, Critical Ecosystem Partnership Fund, Global Environment Facility, Re:wild, NatureServe, Rainforest Trust, Royal Society for the Protection of Birds, Wildlife Conservation Society and World Wildlife Fund. September 2022 version. Available at <http://keybiodiversityareas.org/kba-data/request>.

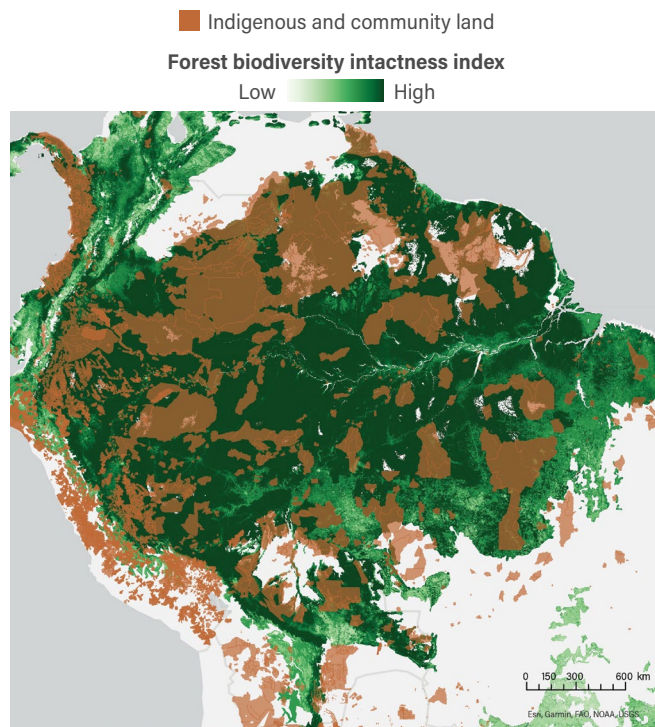
KEY INSIGHT 2: COMMUNITY LANDS HOLD MANY OF THE WORLD'S REMAINING NATURAL AREAS

Communities hold many of the world's remaining natural landscapes, which are critical for biodiversity. Although most community land is threatened, globally, 91 percent of community land is in good or moderate ecological condition and represents 42 percent of all global land in good ecological condition. About 64 percent of community land has no or low human modification, with 27 percent moderately modified and 9 percent highly modified. Indigenous land alone accounts for 37 percent of the world's terrestrial areas with very low human intervention, including 65.7 percent of the world's remotest and least inhabited biomes and less than 10.2 percent of the world's most developed lands. An estimated 67 percent of Indigenous land is classified as natural.

Biodiversity declines are largely due to human actions. During the last half century, the human population has doubled from 3.7 to over 8 billion, the global economy has grown nearly fourfold and global trade has grown tenfold, all driving up the demand for food, materials and energy. Land-use changes have the largest negative impact on terrestrial and freshwater ecosystems, mainly through habitat degradation and loss. In marine ecosystems, direct exploitation of organisms, mainly fishing, has had the largest relative impact. Other drivers include pollution, invasive species and climate change.

Community land holds significant shares of some of the world's most biodiversity-rich ecosystems. In the Amazon region, community lands in Suriname, Guyana, French Guiana, Brazil, Colombia, Ecuador and Venezuela have the highest forest biodiversity intactness of anywhere in the world—representing the top 10 percent of undisturbed forest ecosystems. Indigenous land alone holds at least 36 percent of the world's remaining unbroken swaths of natural forests (intact forests), which provide significant local and global ecosystem services. Community land also overlaps with at least 21 percent of the world's highest-performing areas of 15 critical ecosystem services. The 15 ecosystem services are carbon storage and sequestration, nature-based tourism, culture-based tourism, water provisioning, hazard mitigation, commercial timber, domestic timber, commercial fisheries, artisanal fisheries, fuelwood, grazing, nonwood forest products, wildlife services, wildlife disservices and environmental aesthetic quality.

Indigenous and community lands and forest biodiversity intactness in the Amazon region of South America



Source: LandMark (2023). LandMark: The Global Platform of Indigenous and Community Lands. Available at <http://www.landmarkmap.org/> and Hill, S. L., et al. (2019). Measuring forest biodiversity status and changes globally. *Frontiers in Forests and Global Change*, 2, 70. <https://doi.org/10.3389/ffgc.2019.00070>.

Science has identified 847 distinct terrestrial ecoregions grouped into 14 biomes, 426 freshwater ecoregions and 232 marine ecoregions of the coastal and continental shelf areas on Earth. Terrestrial ecoregions are areas of land containing a distinct assemblage of natural species, with boundaries that approximate the original extent of the species prior to major land-use change. Community land encompasses at least 75 percent of the world's terrestrial ecoregions and more than 30 percent of 7 terrestrial biomes. Community land covers the entirety of at least 14 ecoregions, 75 percent of 91 ecoregions and 50 percent of 179 ecoregions. In Namibia, Brazil and Canada, community land contains over 50 percent of the global extent of 10 terrestrial ecoregions and over 10 percent of another 20 terrestrial ecoregions.

KEY INSIGHT 3: AS MANY AS 1.87 BILLION PEOPLE LIVE IN BIODIVERSITY-RICH AREAS

Up to 2.5 billion people are members of communities, including 370 million to 500 million IPs in some 5,000 groups. Many community members live in important biodiversity conservation areas and would be significantly impacted by the implementation of the 30x30 target, or half-Earth proposal.

An estimated 1.65–1.87 billion people live in important biodiversity conservation areas—areas that encompass suitable portions of the ranges of more than 28,000 terrestrial species, including mammals, birds, amphibians, reptiles, dragonflies and crustaceans. These biodiversity areas include existing PAs, Key Biodiversity Areas, wilderness areas and other priority areas. These areas cover 47–51 percent of the world’s land (excluding Antarctica), depending on which biodiversity-rich lands are selected. Few people live on slightly larger areas when the overlap with human populations, infrastructure and suitable agricultural lands are minimized. The cost of compensating the

1.2–1.5 billion people living in the “unprotected” conservation areas is estimated to range from \$4.4 trillion to more than \$5.1 trillion.

Islands and other areas with high concentrations of endemic species (e.g., Madagascar) commonly have a high proportion of their population living in important biodiversity areas. An estimated 56% of people living in these areas are in low- and middle-income countries, principally the rural poor, with only 9% of the people living in high-income countries.

An estimated 247–363 million people currently live in PAs. If the 30x30 target were implemented through strict PAs, another 297 million or more people—roughly the population of the United States—would be impacted. These people reside on land with the highest biodiversity value; this is the land most likely to be proposed as new PAs to meet the 30x30 target. And three times that number, an estimated 759 million people, live in places that would likely be targeted for protection if the half-Earth proposal were implemented in all ecoregions.

New analysis found that about 1.2 billion people reside on the natural and seminatural lands that provide 12 local ecosystem services. The 12 benefits are livestock fodder, timber and fuelwood production, flood regulation, riverine and marine fish harvest, terrestrial and marine recreation (e.g., tourism), nitrogen and sediment retention for water-quality regulation, crop pollination and coastal risk reduction. These lands overlap with areas important for cultural diversity, including 96 percent of Indigenous and nonmigrant languages, suggesting that most of the 1.2 billion people are community members. An estimated 6.4 billion people—the vast majority of humans on the planet—however, directly benefit from at least one of these services.

NUMBER OF PEOPLE IMPACTED BY IMPLEMENTING THE HALF-EARTH PROPOSAL

Countries	No. of people (millions)	Share (%)
Low income	75	10
Lower-middle income	403	53
Upper-middle income	234	31
High income	47	6
Total	759	100

Source: Adapted from Schleider et al. (2019).

PEOPLE LIVING IN IMPORTANT BIODIVERSITY CONSERVATION AREAS

Measures of Important Biodiversity Conservation Areas	Percentage of world’s land, excluding Antarctica (million km ²)	Number of people living in the area (millions)
Minimizing the land area required	47% (63.8)	1,871.9
Minimizing overlap with human populations and infrastructure	48% (64.6)	1,647.4
Minimizing overlap with agriculturally suitable lands	51% (68.2)	1,762.4

Source: Adapted from RRI 2020.

KEY INSIGHT 4: COMMUNITIES MANAGE LAND IN WAYS CONSISTENT WITH BIODIVERSITY

Communities sustainably manage their lands in ways that align with, and often actively support, biodiversity. They create landscapes with high habitat heterogeneity, coproducing, sustaining and protecting genetic, species and ecosystem diversity. Communities also play an active role in restoring degraded ecosystems to produce essential ecosystem services.

Although preventing land-use change does not always conserve biodiversity, many communities manage their lands in ways that reduce human pressures on ecosystems, keep natural resource use within ecological limits, conserve wild species and maintain the genetic diversity of crops and domestic animals. Community management systems are often designed to be resilient, enabling them to collectively respond and adapt to changes, including climate change.

A large body of literature shows that communities sustainably manage their lands, especially forests. Communities patrol their lands to protect against invaders, restrict the illegal use of their natural resources, suppress fires and take other measures that lead to lower deforestation rates than on lands managed by others. About 80 percent of community land facing high development pressure is still in good or moderate ecological condition. Although not all community land is intact, in areas experiencing threats, nature and biodiversity decline more slowly on community land than elsewhere.

In Latin America, IPs reduced fire incidence on their lands by 16 percent from 2000 to 2008, over two and a half times as much as other areas. In the Amazon in Bolivia, Brazil and Colombia, deforestation rates in Indigenous lands from 2000 to 2012 were two to three times lower than in similar land not managed by IPs. In Brazil, Indigenous and Afro-descendant (*quilombola*) lands exhibited low deforestation between 1985 and 2018. A review of community forests in 51 countries found that forest conditions improved in 56 percent of the cases, incomes increased in 68 percent and resource access rights increased in 34 percent of the cases. Further, intact forest loss rates are lower on Indigenous lands than on other lands.

Like community lands, PAs also prevent habitat loss, especially forests. A study of 12,315 PAs in 152 countries found that PAs are effective at conserving nature, although they have not reduced human pressure when compared to matched unprotected areas. A study of 93 PAs in 22 tropical countries found that most PAs stopped land clearing and, to a lesser degree, logging, hunting, fires and grazing.

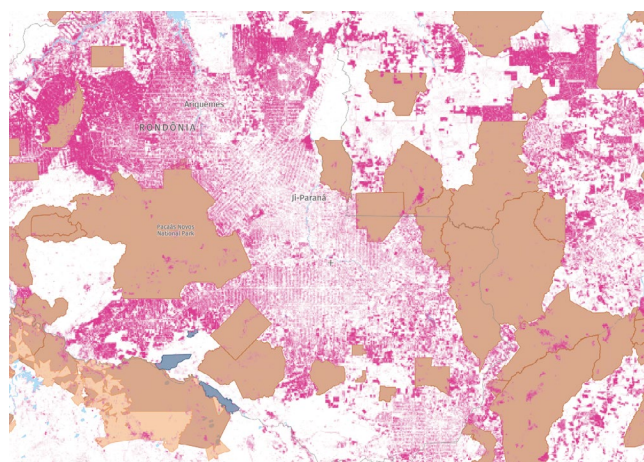
Community land often exhibits conservation outcomes equal to or better than PAs. One study found that deforestation rates in Indigenous lands and PAs are comparable with Indigenous

lands in PAs having particularly high forest integrity. Another study found that community forests experienced lower and less variable deforestation rates than PAs. In the Peruvian Amazon, PAs experienced deforestation rates twice as high as Indigenous land from 2006 to 2011. In the Brazilian Amazon, Indigenous lands and PAs were equally effective at avoiding fires and deforestation, with Indigenous lands particularly good at protecting forests from high pressure. From 2000 to 2021, only 5 percent of net forest loss in the Brazilian Amazon occurred in Indigenous lands and PAs, even though they cover 52 percent of the region's forest.

Community land is commonly managed by traditional institutions and customary rules and practices. These systems are based on local knowledge and are encoded in cultural practices, local innovation, spiritual beliefs, kinships and stewardship ethics. In Indigenous worldviews, people are seen largely as intrinsic elements of nature rather than separate from it. For IPs, the attention to human-nature relationships has created flourishing social-ecological economies that fulfill material and nonmaterial needs. For example, certain species and areas have strong cultural or spiritual significance or are important for health and well-being (e.g., medicinal plants). These species or areas are actively conserved through totem beliefs and use restrictions, hunting and harvesting taboos and sacred groves, rivers and springs.

Tree cover loss surrounds indigenous and community lands in the Amazon forest of Rondonia, Brazil

- Tree cover loss 2001-2021
- Community Lands - Acknowledged by Government
- Indigenous Lands - Acknowledged by Government
- Indigenous Lands - Not acknowledged by Government



Source: LandMark (2023). LandMark: The Global Platform of Indigenous and Community Lands. Available at <http://www.landmarkmap.org/> and Global Forest Watch (2023). Available at <https://www.globalforestwatch.org/>.

KEY INSIGHT 5: TENURE SECURITY IS FUNDAMENTAL TO COMMUNITY LAND MANAGEMENT

Various factors enable and encourage communities to sustainably manage their land and conserve biodiversity, including supportive policy and economic incentives. Land and natural resources, together with labor, are principal community assets and, as such, attention has focused on the role of land rights and tenure security.

A large body of literature shows “that strong indigenous/local tenure is associated with forest management outcomes that are at least as good (as) or better than outcomes for areas owned and managed by the State (such as protected areas).” Research shows that tenure security is not just correlated with positive environmental outcomes but also results in sustainable land management. In the Peruvian Amazon, the titling of Indigenous lands from 2002 to 2005 reduced forest clearing by more than three-quarters and forest disturbance by about two-thirds in just the first two years. In the Bolivian lowlands, IPs with legal land rights inhibited deforestation from agriculture and cattle ranching from 1992 to 2004. In the Brazilian Amazon, the titling of Indigenous lands from 1982 to 2016 produced a 66 percent reduction in deforestation. The effect did not exist in untitled Indigenous lands. Another study in the Brazilian Amazon found a 30 percent decline in deforestation after the Indigenous lands were legally established.

THE BENEFITS OF TENURE SECURITY

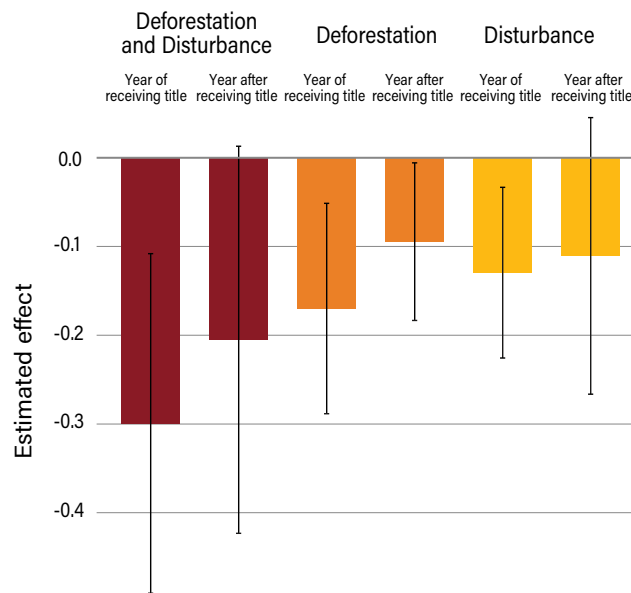
Land tenure is the legal or customarily defined relationship among people, as individuals or groups, with respect to land. Tenure security provides landholders with assurances that they can use their land for their own preferences. It provides an expectation that a person or community can use land and be free from unreasonable threats or interference from other people or entities.

Land tenure affects people’s ability and incentive to use and manage their land. As a development enabler, secure tenure encourages people to make investments of labor, resources and other assets in their land by providing them with high expectations of rights over the returns. Tenure security also promotes local empowerment and is an enabling factor for outside public and private investments.

In the Colombian Amazon, Afro-descendant communities with land titles reduced deforestation by an average of 30 percent from 1990 to 2010. In Benin, the titling of community land resulted in a reduction in tree cover loss of about 20 percent and a reduction in fires of 5 percent from 2009 to 2017. In Brazil’s Atlantic Forest, forest outcomes in Indigenous lands improved—reducing deforestation and/or increasing reforestation—from 1985 to 2019 after the lands were formally recognized and documented with a presidential decree.

The sustainable management practices of communities with tenure security often create conditions that lead to high biodiversity, such as relative stability, high resource availability, diversity of microniches and environmental heterogeneity. Many communities have managed their forests for generations, maintaining stability. At the same time, many also sustainably harvest trees and other products from their lands, practices that establish new microhabitats and create a diversity of microniches.

The effects of titling indigenous land in the Peruvian Amazon



Source: Adapted from Blackman et al. (2016).

KEY INSIGHT 6: COMMUNITY LAND IS A COST-EFFECTIVE APPROACH TO BIODIVERSITY CONSERVATION

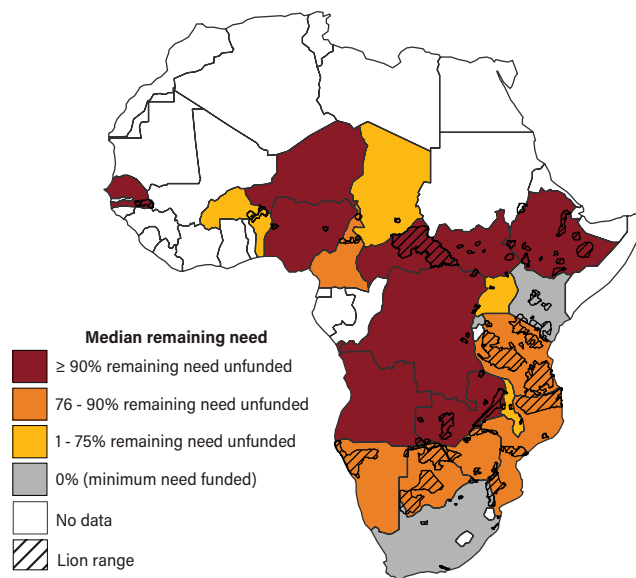
Economic analysis shows that the benefits of community land and PAs far outweigh the costs. For community lands, the value of benefits from seven ecosystem services over a 20-year period were, in 2016, estimated to range between \$4,559 per hectare (ha) to \$10,274/ha, whereas the costs of securing community land were estimated between \$6/ha to \$68/ha—less than 1 percent of the benefits. The seven ecosystem services are carbon storage, hydrological services, nutrient retention, regulation of local climate dynamics and water cycling, pollination, recreation and tourism and existence value. The value of just four ecosystem services—carbon sequestration, air quality, maintaining water cycles and biocontrol—from the world’s community land was estimated in 2020 at \$1.16 trillion per year (yr). For PAs, one analysis found that investments in PAs yield returns in benefits on the order of 25:1 to 100:1. A more recent analysis found that the benefits of achieving the 30x30 target in PAs outweigh the costs by a ratio of at least 5:1.

Community land, however, is a cost-effective approach to biodiversity conservation when compared to PAs. Moreover, community management often meets multiple objectives, such as local development, cultural well-being and conservation. In 2016, the costs of securing community land were estimated between \$1.35/ha/yr to \$5.58/ha/yr. These costs include establishing a supportive institutional and legislative framework; demarcating and titling community lands and establishing management plans; and monitoring and protecting community lands and resolving disputes. In 2020, the costs of registering and titling community land were estimated between \$3/ha to \$11/ha, and the value of time, labor and financial resources invested by communities into managing their land was estimated at \$3.57/ha/yr. Community actions include land management, fire protection, restoration, mapping and patrolling land.

The costs of managing PAs are higher than for managing community land and can reach more than \$10,000/ha/yr. For example, in 2018 the minimum required funding to effectively manage Africa’s PAs (with lions) was estimated to range from \$9.78/ha/yr to \$20.30/ha/yr. In central Africa, in 2004 the costs of managing 21.1 million ha in PAs was estimated at \$87 million/yr, or \$4.12/ha/yr. When adjusted for inflation, these figures would be much higher today.

Many PAs are not well managed and achieve poor biodiversity outcomes. A review of 4,000 PAs found that about 40 percent of PAs showed major management deficiencies, 14 percent showed significant deficiencies and only 22 percent had sound management. Many PAs are chronically short of the financial, human and technical resources needed for

Average funding shortfalls for lion conservation in protected areas in 23 of 27 lion-range countries



Source: Adapted from Lindsey et al. (2018).

effective management. A study of 2,167 PAs found that less than 25 percent of them reported having adequate resources in terms of staffing and budget. Conservation funding is especially inadequate in low- and middle-income countries, where biodiversity is high. Many PAs exist in legislation, but protection activities are insufficient (“paper parks”).

In 2018, African PAs (with lions) needed an estimated \$1.2–\$2.4 billion annually, yet they received just \$381 million/yr—a median of just \$2/ha/yr. Perhaps 88–94 percent of these PAs operate on budgets that are less than 20 percent of that required to perform effectively. In 2018, the investment in PAs and other efforts in six low- and middle-income countries was estimated at \$0.62/ha/yr in Brazil, \$4.04/ha/yr in India, \$9.21ha/yr in Indonesia, \$10.78/ha/yr in Kenya, \$3.78/ha/yr in Peru and \$2.82/ha/yr in Tanzania. There is also considerable variation within countries, with some PAs getting significantly more funding than others. For example, India’s 50 tiger reserves receive 70 percent of the national government’s PA budget, and the remaining 567 PAs receive only 30 percent.

In 2020, the projected cost to effectively manage the world’s current PAs was \$67.6 billion/yr, yet only about \$24.3 billion was actually allocated and spent, much of it in developed countries. The investment needed to implement the 30x30 target through effective PAs is estimated to range from \$103 billion to \$178 billion per year.

KEY INSIGHT 7: COMMUNITIES RECEIVE LITTLE FUNDING FOR THEIR BIODIVERSITY CONSERVATION EFFORTS

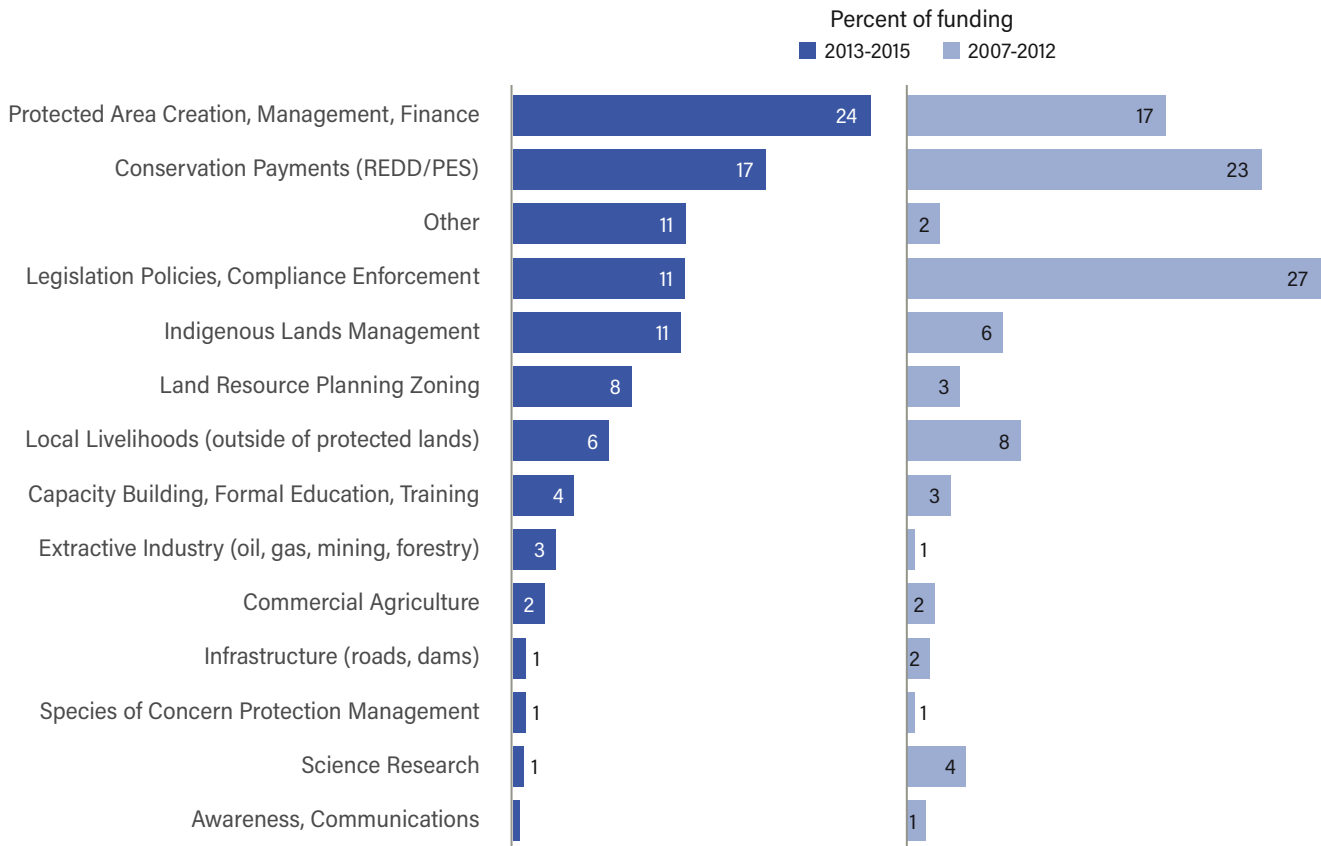
Reversing biodiversity decline and adequately conserving nature by 2030 will cost between \$722 billion/yr to \$967 billion/yr. In 2019, financial flows into global biodiversity conservation totaled between \$124 billion and \$143 billion, leaving a financing gap of \$598–\$824 billion/yr. Target 19 of the GBF, however, only calls to “substantially and progressively” increase the level of financial resources to at least \$200 billion/yr by 2030.

Community contributions to conservation are recognized in the GBF, the CBD’s Strategy for Resource Mobilization and other CBD documents. Communities, however, do not attract the level of financial and other resources provided to PAs. The Global Environment Facility (GEF) has been the main financial mechanism for implementing the CBD. Of the \$4.2 billion disbursed between 1991 and 2014, only \$228 million went to community actions (5.4 percent of the funds). Through 2015, the GEF supported just 160 full- and medium-size projects involving IPs, and only about 15 percent of the GEF Small Grants Programme targeted and involved IPs.

From 2011 to 2020, bilateral, multilateral and private foundation donors disbursed about \$2.7 billion to projects supporting community land tenure and forest management in tropical countries. This amount is less than 5 percent of official development assistance for general environmental protection and less than 1 percent for climate change. About \$1.3 billion came from multilateral donors, with the World Bank providing about 80 percent of all multilateral funding and 41 percent of disbursements to community projects. Only 17 percent of global climate and conservation funding intended for communities, however, actually reached them.

Regional funds have not fared better. From 2013 to 2015, 43 donors invested about \$1.07 billion in conservation in the Amazon, of which only 11 percent was invested in IP land management and 6 percent on local livelihood initiatives outside PAs. The largest proportion of funds went to PA creation and management.

Funding allocations by international conservation organizations in the Amazon



Source: Adapted from Strelneck and Vilela (2017).

Trends are pointing toward greater investment in local conservation. In September 2021, nine private foundations pledged \$5 billion over a 10-year period to support the 30x30 target, the largest-ever private funding commitment to biodiversity. The idea was spearheaded by Costa Rica, France and the United Kingdom through the High Ambition Coalition for Nature and People. The foundations committed 20 percent of the pledge—\$1 billion—to support communities and to secure their lands.

In November 2021, Germany, Norway, the Netherlands, the United Kingdom, the United States and 17 private foundations committed \$1.7 billion over five years to secure and defend community rights to their forests. The donors also committed to delivering increased funding directly to communities

and promised them a role in decisions. In the first year, the donors disbursed \$322 million, or 19 percent of the pledge. Just 7 percent of the funds went to community organizations, and 51 percent was channeled to international CSOs, including regrantors.

Also in November 2021, governments committed to end tropical deforestation by 2030 and pledged about \$400 million over five years. A new Forests, People, Climate initiative was established to mobilize another \$1.2 billion to the cause and includes support to communities and their organizations.

KEY INSIGHT 8: CONSERVATION ACTIONS HAVE INFRINGED ON AND VIOLATED HUMAN RIGHTS

There is a large body of literature on the impacts of conservation efforts on local people. Although some efforts address local needs, many infringe on or violate human rights. The UN Special Rapporteur on the Rights of Indigenous Peoples has received numerous allegations of violations of the rights of IPs in the context of conservation measures. Conservation-related inequalities are more likely to take place in nondemocratic regimes than in democratic societies.

Many PAs have failed to align biodiversity goals with local values, needs and governance. Communities and their needs are often left out of PA management decisions. Communities often retain no or only limited rights over their traditional land in PAs, customary practices in PAs have been criminalized and little has been done to reconstitute communities for past violations. Even less “conservation-centric” PAs, such as multiple-use PAs, have resulted in conflicts and violations. Violations also often occur when governments place restrictions on the use of community land and natural resources for conservation purposes.

Although many conservation benefits are shared globally, the costs are often absorbed locally. PAs, especially in Africa and Asia, have displaced millions of people, with estimates as high as 136 million or more (“conservation refugees”). Once displaced, national laws do not always provide people with fair or adequate compensation for their losses. Even where investments bring jobs or other benefits, these do not typically compensate for the loss of land. As a consequence, forced evictions often result in the loss of livelihoods, food insecurity, deeper poverty and further marginalization.

Communities residing in or adjacent to PAs live in a near-constant state of confrontation with potential for violence, especially in places where there is obstruction of justice and remedy. Such conditions often lead to local noncompliance and poor biodiversity outcomes. The “militarization of conservation” has been documented in several countries, including the Central African Republic, the Democratic Republic of the Congo, Guatemala, India and South Africa. Communities have been forcibly evicted from their homes and have had their houses burned and productive assets destroyed. Conservation has been linked to state-sanctioned physical violence of local people, including torture, sexual assault and extrajudicial killings.

As communities and their organizations take steps to protect their land from top-down conservation, many face threats. In 2020, 355 nonlethal attacks—involving surveillance, intimidation, smear campaigns, harassment, death threats, false criminal charges, arbitrary detention or torture—were

recorded on land and environmental defenders, with 83 percent of the attacks against community members. In 2021, at least 200 defenders were killed—nearly four people a week—with IPs accounting for more than 40 percent of fatal attacks. IPs are particularly at risk because of their unique vulnerabilities, including often living in remote areas. Since 2012, at least 1,733 defenders have been killed—an average of one defender about every two days. About a third of those killed were IPs or Afro-descendants, and over 85 percent of the killings happened in the Brazilian Amazon.

COMMUNITIES AND PROTECTED AREAS IN THE CONGO BASIN

The impacts of 34 protected areas (PAs) on communities in Cameroon, the Central African Republic, the Democratic Republic of the Congo, Gabon and the Republic of the Congo include the following:

- **Lack of respect for human rights.** There is a gap between human rights standards, obligations and commitments and practice. In the Congo Basin, rights are consistently neglected and, in some cases, violated.
- **PAs undermine customary land rights.** The creation of at least 26 of the 34 PAs resulted in the relocation or displacement of communities. Compensation was not provided to those who were displaced.
- **PAs diminish local livelihoods.** PAs create hardships, including limited access to food and forest products. Only 8 PAs reported revenues for local people, mainly from some employment as park rangers or guides.
- **Conflicts and human rights abuses.** Conflicts between park managers and communities were reported in 20 of 24 PAs. Human rights violations, often by park rangers, were usually associated with local hunting.
- **Limited participation.** Communities were consulted in just 12 PAs, and in only 2 cases did the consultations take place before the PA was created. Communities participated in management decisions in only 4 PAs, and in only 1 PA did they lead to decisions consistent with local interests.

Source: Pyhälä et al. 2016.

SIX MEASURES TO BETTER INTEGRATE COMMUNITIES AND COMMUNITY LAND INTO BIODIVERSITY CONSERVATION

With declines in biodiversity and projections predicting the trends will continue, it is clear the world is not doing enough. To slow biodiversity loss, transformative change is needed. The narrow focus on traditional PAs needs to shift to a rights-based approach to conservation that advances community needs. An explicit focus on collectively held lands and the communities that manage these biodiversity reservoirs can help turn the tide. The literature provides several measures that integrate communities and their land into biodiversity conservation while advancing local well-being.

Recognize the biodiversity conservation contributions of community land

The 30x30 target can be met, and possibly the half-Earth target, if the parties of the CBD were to recognize the biodiversity contributions of community land in national and international policy frameworks. Achieving this area-based conservation target does not necessarily require the creation of more exclusionary PAs. The GBF, however, does not explicitly recognize community land as a category of conserved area in its own right or as counting toward the 30x30 target. In countries with community land, governments should prioritize communities and their lands in national biodiversity policies, plans and investments. With some exceptions, however, communities and their organizations have remained politically marginalized in biodiversity decisions in their countries. Only 18 percent of CBD parties reported the involvement of communities in developing their National Biodiversity Strategies and Action Plans.

OECMs could provide a more equitable pathway to reaching the target, but challenges remain. Currently, the standards for OECMs are arguably higher than for PAs. Whereas PAs must only have conservation as an objective, OECMs must deliver conservation. Many PAs are underperforming, yet few have been degazetted, and more are being established without a clear strategy to ensure they will be effective. Moreover, the CBD's definition of an OECM does not include a measure for effectiveness. International Union for Conservation of Nature guidelines call for OECMs to demonstrably conserve native biodiversity and supportive ecosystem processes over the long term and be free of environmentally damaging activities and biodiversity threats. Under this definition, sustainable land use is insufficient.

There is also the concern that OECMs would make community rights reliant on conservation outcomes. Processes are needed to ensure OECM recognition strengthens, rather than displaces,

community management. Recognition of community lands as OECMs should help overcome challenges of insecure rights, insufficient funding and exclusion of communities from decisions. To address these and other concerns, governments and the CBD should establish robust participatory mechanisms supporting the inclusion of communities and their representatives in OECM policies, guidelines and planning decisions.

Help communities secure and protect their lands

Once recognized, community lands must be secured, protected and, where necessary, restored, and the communities and their management practices must be promoted and strengthened. Secure land rights are central to community efforts to sustainably manage their lands. Strong procedural rights—such as the rights of access to information; consultation; free, prior and informed consent; and justice—are key to facilitating full and effective community participation in conservation decisions.

In many countries, policies and laws fail to adequately support communities. Most of the world's forests are on traditional community lands held under customary tenure arrangements, although communities legally hold just 12.2 percent of the forest areas, with governments designating another 2.2 percent of the forest to communities where they hold some legal rights. Moreover, just 10 percent of the world's land is legally recognized as belonging to communities, with another 8 percent designated by governments for communities where they have some legal rights.

Even less community land is registered in a government cadastre and documented with an official land title or certificate. The amount of titled community land varies by country. In a few countries, most community land is titled (e.g., Tanzania and Mexico). In most countries, however, little or no community land is titled (e.g., the Democratic Republic of the Congo and Indonesia). The procedures to formalize customary land rights and integrate them into official legal systems are often burdensome, expensive and inaccessible. Governments must streamline overly complex procedures, amend steps that impose difficult burdens and allow for the formalization of all customary land and rights.

Engage communities in the management of PAs

For PAs, positive conservation and socioeconomic outcomes are more likely to occur when comanagement regimes are adopted, local interests are integrated, natural resources are open to sustainable use, economic inequalities are reduced and cultural and livelihood benefits are maintained. A meta-analysis of 171 studies found that PAs with positive socioeconomic outcomes were more likely to report positive conservation outcomes. A review of 169 publications found positive well-being and conservation outcomes where communities play a central decision-making role. A global analysis found that multiple-use PAs generally provide greater deforestation reduction than strict PAs.

Positive PA comanagement experiences exist around the world. In Belize, for example, the government and the Sarstoon Temash Institute for Indigenous Management, an Indigenous organization, developed a comprehensive management plan for the Sarstoon Temash National Park.

Integrating customary management systems into conservation efforts improves community acceptance and outcomes while strengthening traditional knowledge. Consideration of local knowledge has increased since the 1980s, and there is progress in bringing traditional and scientific knowledge together to further improve community land management. Major gaps remain, however, in documenting, valorizing and mainstreaming traditional knowledge and customary systems in policy, planning and programs. A literature review of conservation plans found only 0.42 percent incorporated local knowledge.

Provide more positive incentives for communities to sustainably manage their lands

Given their nature-based livelihoods, communities have strong incentives to sustainably manage their lands. Secure tenure provides further incentives, but communities, like others, respond to external social, economic and political pressures that can encourage unsustainable practices. Perverse incentives that promote land uses not consistent with biodiversity or incentives that are not adapted to ecological and social contexts affect many communities. For example, negative subsidies are three to seven times larger than investments in nature and need to be phased out, repurposed or reformed. Governments should also apply additional positive incentives that encourage communities to sustainably manage their lands.

Public policies that simultaneously promote social well-being and biodiversity conservation are lacking for many communities. The spread of modern lifestyles, values and technologies threaten the customary practices that have ensured sustainable human-nature relations. Around the world, customary laws and institutions are under threat, weakening and no longer able to ensure sound land management. Unsustainable practices are emerging in some areas traditionally managed by communities.

Positive incentives are more effective in halting biodiversity loss if they promote local economic opportunities and align with local values and needs. Involving communities in the design of such incentives increases the potential for achieving positive biodiversity outcomes and contributes to quality of life. Interventions aimed at improving access to social services and economic institutions can, in some cases, have greater land management impacts than those aimed at conservation alone. In rural Borneo, for example, Health in Harmony, a conservation-health care exchange, preserved globally important forest carbon and simultaneously improved human health and well-being.

Payments for ecosystem services (PES), which reward communities that protect biodiversity, are one approach that can create positive incentives. Arrangements for the systematic involvement of communities in PES policies, planning and implementation, however, are wanting, despite safeguards. Communities have not benefited significantly from PES or other economic incentives because they often lack formal land rights and are unable to access specialized markets.

Channel more conservation funds to communities and their organizations

Conserving biodiversity will depend on the actions of communities and their organizations. Community organizations are well placed to engage meaningfully at the local level and support the development of long-term capabilities and relationships to respond to the loss of biodiversity. Governments and donors should channel more conservation finance to the point of impact—at the local scale—and strengthen local organizations that protect and manage community lands for more conservation outcomes.

Current donor practices, however, create challenges for local organizations in securing funds to scale up their efforts. Donors often provide short-term project funding rather than core and flexible funding that aligns with the community organization's strategic plans and priorities. There are also often high costs to securing and managing donor funds (e.g., difficult reporting requirements), and funding through intermediary organizations is often inequitable in terms of the sharing of funds.

Donor operations need to change to better reach the grassroots. New funding strategies should be codesigned with communities to ensure they support local priorities. Donors must identify new approaches with low transaction costs to build relationships with local groups and to make larger numbers of grants. They must simplify proposals and reporting and provide longer-term, flexible funding aligned to outcomes rather than outputs. To help meet donor constraints, community organizations are creating their own funding platforms, such as the Nusantara Fund, Mesoamerican Territorial Fund, Indigenous Amazonian Fund and Shandia, to directly finance communities and their initiatives.

Many community organizations need long-term capacity development, such as fund-raising skills. Many also need to strengthen institutional processes, such as board development, strategic planning, fund-raising, financial management, communications and human resources. Several CSOs, such as Maliasili, provide capacity support and small grants to community conservation organizations.

End all human rights violations

As a matter of urgency, governments must suspend all conservation actions that violate human rights and remedy all cases of abuse. Donors should withhold support from projects that do not comply with relevant national and international laws and human rights norms. Independent reviews should be undertaken of all PAs to assess their effectiveness and document any human rights violations. Strong, enforceable safeguards for communities must be developed and applied to all new and existing PAs, and independent grievance

mechanisms must be established to address and resolve complaints. PA injustices should be rectified through restitution of lands, compensation or other means.

The conservation community must recognize and address the human consequences of area-based conservation measures, especially strict PAs. Community rights and needs should be integrated into conservation planning and management. Decisions on the creation of new or the expansion of existing PAs involving community lands should have the full support of the concerned community.

Many PAs were established by governments exercising their compulsory land acquisition authority, arguing that they serve a public purpose. The use of this authority, however, should be a last resort, only after all alternative ways of acquiring the land have been exhausted. Moreover, the legal procedures for exercising this authority must be followed and compensation for losses, damages and injuries must be awarded to all legitimate claimants. Ideally, compensation should improve or at least restore the living conditions of people to preresettlement levels. PAs that consistently underperform should be sufficiently resourced to achieve their stated goals or degazetted and the lands returned to the original holders.

To protect community land defenders, governments should establish enabling environments that strengthen safeguards and reduce risks, adopt mechanisms to better monitor threats and attacks, and ensure the people responsible for attacks are held accountable for their actions. Further defenders would benefit from better recognizing threats and minimizing risks, building skills in ways to de-escalate confrontational situations and having access to emergency funds and legal counsels.

CONTACT

PETER VEIT

Director, Land and Resource Rights Initiative

peter@wri.org

KATIE REYTAR

Senior Research Associate, Forests Program

kreytar@wri.org

ABOUT WRI

World Resources Institute is a global research organization that turns big ideas into action at the nexus of environment, economic opportunity, and human well-being.



WORLD
RESOURCES
INSTITUTE

10 G Street, NE
Washington, DC 20002
+1 (202) 729-7600
WRI.ORG