Revenues for Nature Guidebook Series

Revenue Models and Financing Mechanisms for Wildlife Conservation in Sub-Saharan Africa

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Revenues for Nature

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Revenues for Nature Project

Revenues for Nature (R4N) is a global project led by the Green Finance Institute Hive, in partnership with UNDP Biodiversity Finance Initiative (BIOFIN) and UNEP Finance Initiative (UNEP FI).

R4N aims to contribute to the achievement of Target 19 of the Kunming-Montreal Global Biodiversity Framework (GBF) by supporting countries in identifying and implementing effective models for mobilising private sector finance into nature restoration and conservation.

The project's three pillars of work include:

1. **Knowledge Sharing,** with the publication of a series of detailed guidebooks capturing how to establish, replicate and scale high-integrity nature-based revenue models. The Guidebooks are complemented by a database of nature-based revenue models and markets which mobilise private sector finance into nature conservation and restoration.

2. **Multistakeholder Learning** via a Community of Practice which includes the private sector, governments, investors and funders, and project developers to support shared learning for the development of nature models and markets.

3. **Implementation** plans to support governments and relevant partners in rolling out impactful nature-based revenue models. In Phase 1 of R4N, we are working with partners in eight countries across the globe to support the replication and scaling of revenue models that span supply chain models and regulatory models and that have the potential to unlock an initial USD$200 million by 2027.

R4N is funded by the Gordon and Betty Moore Foundation.

Guidebook Series

The R4N Guidebook Series provides an in-depth analysis of models across the globe that unlock private sector capital into nature restoration or protection, including nature-based solutions (NbS). Each Guidebook offers detailed insights into the development of these models, the enabling conditions that allowed them to succeed, along with key lessons learned. The series examines the ecological, political, and socio-economic factors that support the replicability and scalability of these models in diverse regions, and explores how these models can generate revenue and improve biodiversity while leveraging private sector financing.

The R4N Guidebook Series currently include:

- Biodiversity Net Gain, England – October 2024
- Wetland Mitigation and Endangered Species Habitat Banking, United States – October 2024
- Habitat Banks, Colombia – October 2024
- Nature-based Models for Unlocking Private Investment into Water Quality and Availability, Part 1– October 2024
- Living Amazon Mechanism, Brazil – June 2025
- Supply Chain Models, Global – July 2025
- Project Finance for Permanence & Indigenous-led Conservation, Canada – July 2025
- Nature-based Models for Unlocking Private Investment into Freshwater, Expanded Edition – August 2025

The next publications of the R4N Guidebook Series will be released in 2026 and include:

- Marine and Coastal Conservation Models, Global
- Payments for Ecosystem Services, Sri Lanka

The Guidebook Series is aimed at policymakers, corporates and investors who are interested in scaling high-integrity models to mobilise private sector capital at scale into conservation and nature-positive outcomes.

About this Guidebook

This guidebook examines innovative revenue and financing models that support wildlife conservation across Sub-Saharan Africa. It is designed to assist policymakers, practitioners, investors, and conservation organisations in understanding how private capital can strengthen the resilience of protected areas and wildlife-rich landscapes. Through four case studies, the guidebook explores diverse mechanisms, including blended finance for conservation tourism, outcome-based financing, high-value ecotourism models, and regulated biodiversity offsets. It highlights the enabling conditions that allow these models to mobilise investment, deliver measurable ecological outcomes, and generate benefits for local communities.

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Executive Summary

Wildlife in Sub-Saharan Africa (SSA) is crucial to national economies, with the tourism industry, which relies heavily on wildlife accounting for 4.2% of GDP across the region, reaching over 10% when including indirect effects, yet the region faces accelerating biodiversity loss driven by habitat conversion, poaching, human–wildlife conflict and chronic underinvestment in conservation. Tourism-dependent protected areas, which safeguard much of Africa's wildlife, remain structurally underfunded and highly vulnerable to external shocks. While public and philanthropic funding remain essential, they are insufficient to meet the scale of need. Mobilising private capital is increasingly important for long-term conservation success, while meaningful benefit sharing with communities can maximise the social and environmental impact of existing revenue models.

This Guidebook examines four models that mobilise private capital to protect wildlife and strengthen the resilience of communities across SSA. These models illustrate how designing mechanisms to equitably share the benefits of conservation can increase community buy-in of conservation tourism and link economic incentives with ecological outcomes. The Guidebook also discusses key considerations for replication and scaling these models, exploring the ecological, economic and financial conditions that make these models successful, while drawing out key lessons learned for projects, governments and communities.

Summary of Case Studies within this Guidebook

The Africa Conservation and Communities Tourism Fund (ACCT Fund) was established to support tourism businesses affected by loss of revenue from the COVID-19 pandemic. The ACCT Fund deploys blended finance to provide flexible loans to conservation-focused tourism operators across Eastern and Southern Africa. Its multi-tranche capital structure helps to enable operators to retain jobs through economic downturns, and fund the management of more than 140,000 km² of critical wildlife habitat.

The world's first species-linked outcome bond, "the Rhino Bond" channels conservation finance directly to black rhinoceros conservation efforts in South Africa. Issued by the International Bank for Reconstruction and Development's (IBRD) Global Debt Issuance Facility (GDIF), the $150 million zero-coupon bond ties investor returns to rhino population growth, with success payments funded by the Global Environment Facility (GEF). The Rhino Bond is a scalable blueprint for outcome-based conservation finance and highlights the importance of enabling conditions such as strong monitoring systems, catalytic capital and secure outcome payers.

High-value tourism in Rwanda, Uganda, and the Democratic Republic of the Congo's (DRC) illustrate how wildlife-based tourism can sustainably fund protected areas, support livelihoods, and strengthen community participation in conservation. By using revenues from premium-priced gorilla-tracking permits to support park management, conservation and community livelihoods, these models have contributed to the recovery of mountain gorilla populations and generated substantial economic benefits. However, equitable inclusion, transparent fund allocation, and security considerations remain critical challenges.

South Africa's regulated biodiversity offset framework uses mandatory offset payments from developers to finance conservation and restoration of habitats impacted by development. New digital tools such as the National Biodiversity Offset Register and the SANParks Biodiversity Offset Bank improve transparency and decreases transaction costs. This model demonstrates the potential for regulated biodiversity markets to channel private capital into conservation when supported by clear policy, credible monitoring, and strong institutional capacity.

Key Findings and Lessons Learned

Successful conservation finance depends on aligning ecological outcomes, financial incentives, and community benefits. Where communities can see tangible, predictable benefits from conservation, they will be more inclined to support the initiatives, reducing conflict and strengthening long-term, community-led stewardship of wildlife and protected areas. Revenue-sharing mechanisms must be transparent, well-communicated, and actively monitored to ensure that the benefits reach those bearing the costs of conservation, particularly women, Indigenous Peoples, and marginalised groups. Tourism and conservation models should focus on equity and meaningful participation of affected groups throughout the lifetime of the project.

Catalytic and concessional capital can be fundamental in mobilising private investment for conservation. In high-risk or perceived high-risk environments, such as SSA, grants, guarantees, and outcome payments provided by donors, philanthropies, and multilateral development banks (MDBs) can de-risk transactions and crowd in additional private capital.

Transaction costs and capacity constraints are barriers to scaling conservation finance. Modular system design, through the development of standardised legal templates, streamlined reporting, and tiered monitoring frameworks tailored to site capacity can reduce costs, address capacity gaps, and enable replication at scale.

Not all sites or species are suitable for every financing instrument. Outcome-based mechanisms and bonds tend to favour charismatic, well-known species and ecotourism tends to work best in areas with strong local capacity and high levels of security and political stability. Though these factors are important to the success of these models, there is a risk of excluding areas and species most in need of finance. Addressing this will require bespoke funding for less-charismatic species, capacity-building for less experienced communities, and greater tolerance for risk among investors and public and philanthropic funders.

Governance quality and institutional capacity are often decisive success factors in wildlife conservation finance, but they can come with trade-offs for equity and inclusion. Many revenue models and financial mechanisms are designed and implemented by large international conservation organisations and financial institutions. This has clear advantages: these actors carry international legitimacy, can standardise and streamline processes, and are often better positioned to mobilise capital at scale.

However, this centralised model can also limit participation from local organisations and communities. When decision-making is held primarily by funders and international NGOs, local actors are frequently positioned as implementers rather than core partners. While deeper local engagement would slow process timelines, it would also produce more inclusive, context-appropriate, and ultimately more durable solutions.

Technical Assistance (TA) can help to fill capacity gaps and increase investment-readiness. Many conservation projects demonstrate strong ecological potential but are not investment-ready due to financial, technical and governance capacity constraints. Dedicated TA facilities which support early-stage design, baselining, development of MRV systems, legal preparation, stakeholder coordination and training can support the development of a viable pipeline of investable projects.

Introduction – The state of global wildlife and impacts on economies and society

The loss of wildlife and the habitats on which they depend is accelerating globally. The WWF estimates that between 1970 and 2020, global wildlife populations declined by 73%, with Latin America and the Caribbean experiencing a decline of 95%, and Africa of 76%.[1] This trajectory is particularly concerning given Sub-Saharan Africa's (SSA) ecological richness - the region hosts the world's largest populations of elephants, rhinos, lions, gorillas, and numerous endemic species.

In SSA, this process has been primarily driven by habitat loss and poaching, with deforestation from agriculture and the expansion of wood harvesting for charcoal burning as key drivers of habitat degradation. Deforestation has led to a loss of Tropical Africa's forest cover of 22% since 1900 and sees 4 million hectares cut each year.[2] This destruction has fragmented habitats, reduced carbon storage capacity, and contributed to the decline of species populations, many of which also hold cultural, spiritual, and medicinal significance for local communities. The illegal wildlife trade, valued at up to USD 23 billion annually, also directly threatens wildlife through poaching, with rhinos, elephants and lions particularly at risk.[3]

The impacts of wildlife decline extend beyond ecology, affecting economies and societies across the continent. Habitat loss often forces animals into more populated areas in search of food and water, increasing the risk of human–wildlife conflict. Crops can be destroyed, livestock injured, and people harmed, undermining rural livelihoods and community resilience, while driving communities to address wildlife directly.

[1] WWF (2024) Living Planet Report 2024.
[2] Aleman, Jarzyna & Staver (2017). Forest extent and deforestation in tropical Africa since 1900
[3] United Nations Environment Programme (2016). The rise of environmental crime: A growing threat to natural resources peace, development and security - A UNEP—INTERPOL rapid response assessment

Economically, the decline of wildlife jeopardises tourism, one of Africa's most important industries. Many countries rely heavily on revenues from nature-based tourism, much of which is driven by the opportunity to experience wildlife. Without effective conservation, the collapse of wildlife populations threatens a key pillar of sustainable development across the region.

Business Case for Investing in Wildlife Conservation

Tourism is a significant contributor to GDP in SSA countries. In South Africa it accounts for 7% (directly and indirectly) and in Tanzania 10%. Across the region, travel and tourism directly accounted for 4.2% of GDP, reaching 10.9% when including indirect effects.[4] In Latin America, the industry accounts for 9% of GDP[5] and about 9% of all jobs.[6] In Africa, over one third of all direct tourism GDP across the region can be attributed to wildlife.[7] Some 80% of trip sales for tour operators on the continent were made for wildlife watching.[8] National parks and reserves attract millions of international visitors annually, generating revenue through entrance fees, lodge operations, concessions, and ancillary services. Investing in wildlife in this region is therefore not only an ecological necessity, but also a direct investment in economic resilience.

However, reliance on eco-tourism as the dominant financing model carries risks. The COVID-19 pandemic starkly revealed the vulnerability of tourism-dependent conservation, with many protected areas facing funding crises when international travel collapsed. Climate change is also impacting wildlife populations and tourism particularly through water shortages due to persistent droughts. Furthermore, eco-tourism revenues are unevenly distributed, with flagship parks benefiting disproportionately compared to less-visited but equally critical ecosystems.

Compounding these challenges, the business case for activities that harm wildlife and habitats, such as poaching, charcoal production or clearing land for agriculture (or harmful tourism activities such as trophy hunting), can be more immediately lucrative and predictable than those associated with conservation. Without dependable conservation revenue streams, communities and local actors may be pushed toward activities that degrade ecosystems and threaten species survival.

These dynamics highlight the need for diversified, reliable, and inclusive revenue models for conservation. Tourism remains a powerful economic engine, but it must be complemented by mechanisms that make protecting wildlife and ecosystems financially competitive with activities that degrade them.

Challenges in funding wildlife conservation

Protected and Conserved Areas (PCAs) are a cornerstone of conservation strategies, safeguarding critical habitats and supporting species recovery, while providing economic benefits like improved fisheries stocks and ecotourism opportunities. Globally, they now cover 16% of land and 8% of seas.[9] However, many of these areas are underfunded and poorly managed, limiting their ecological and social benefits. Financing of protected areas is a key challenge. Given additionality, the restoration of degraded lands and seas can generate revenues through, for example, carbon or biodiversity credits. However, financing intact landscapes before they need restoration, as well as limiting economic activities in those areas to ensure effective conservation, faces fewer opportunities for revenue generation.

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[4] Manrai, Lascu & Manrai (2020). A study of safari tourism in sub-Saharan Africa: An empirical test of Tourism A-B-C (T-ABC) model
[5] World Travel and Tourism Council (2024). Travel and Tourism Economic Impacts 2023: Latin America
[6] World Travel and Tourism Council (2024). Unlocking Opportunities for Travel and Tourism Growth in Latin America
[7] World Travel and Tourism Council (2019).
[8] World Tourism Organization, "Towards Measuring the Economic Value of Wildlife Watching Tourism in Africa", 2015.
[9] WWF (2024) Living Planet Report 2024.

Underfunding of protected areas can lead to understaffed ranger forces, inadequate monitoring and enforcement, poorly maintained infrastructure, and limited community benefit-sharing. Shortfalls also can undermine governance, creating space for illegal logging, poaching, and land conversion.

Financing challenges facing wildlife conservation are also compounded by structural issues:

- **Donor dependence:** Many conservation programs rely heavily on short-term project grants, which provide little stability or long-term planning capacity.
- **Limited domestic budgets:** Governments in the region face competing development priorities to invest scarce resources into healthcare, infrastructure and education, often leaving conservation underfunded.
- **Volatility of tourism:** Revenues are highly sensitive to global shocks.
- **Capacity gaps:** Even where revenue opportunities exist (e.g., carbon or biodiversity credit markets), limited technical and financial capacity inhibit scale.
- **Conflict:** Many of Africa's protected areas have been affected by war, armed conflict and sociopolitical instability.[10] Conflict threatens ecosystems directly and increases risk to capital.

The creation of revenue-generating opportunities that support conservation is fundamental to ensuring the region can protect and restore wild species and support mutual benefits between economies and ecosystems.

Role of Private Finance

The scale of the pressures facing wildlife in SSA means public and philanthropic funding alone will not be sufficient to address them. UNEP estimates that 86% of funding for NbS in Africa comes from public sources such as national government budgets and Official Development Assistance (ODA).[11] The global annual financing gap for nature is estimated to be approximately USD 700 billion, with Target 19 of the Global Biodiversity Framework aiming to close this gap by 2030 through substantial increases in public, philanthropic, and private financing.[12] The problem is particularly acute in SSA, which will require an increase of USD 54 billion in annual spending to achieve all climate and conservation targets.[13]

Broadening the flow of private finance into nature across SSA is therefore essential to support the long-term viability of wildlife conservation. But key barriers remain – many of which are relevant to nature finance more broadly, but, with wildlife-specific financing, are particularly challenging. These include high real and perceived risk, underdeveloped revenue models, insufficient or fragmented policy and regulations and a lack of bankable projects. The presence of more lucrative and familiar competing land uses is also challenging, with agriculture, logging or emerging extractive industries providing potential economic opportunities for communities while increasing pressures on wildlife.

Addressing these requires strong enabling environments, effective governance, and pipelines of investable conservation initiatives. As is demonstrated in the case studies in this guidebook, revenue models and financing mechanisms that include capacity building, and which meaningfully engage communities can help to mitigate real and perceived risks.

[10] Daskin & Pringle (2018). Warfare and wildlife declines in Africa's protected areas.
[11] UNEP (2021). UNEP & Nature-based solutions.
[12] Convention on Biological Diversity, n.d. Target 19
[13] UNEP (2022). The state of finance for nature in the G2: Leading by example to close the investment gap

Risks and Critical Considerations

Although tourism remains one of the most important revenue sources for wildlife conservation in SSA, recent developments across the region highlight the ecological, social, and governance risks associated with poorly regulated or rapidly expanding tourism infrastructure. These risks underscore the need for stronger safeguards when designing or scaling tourism-based conservation finance models, particularly those situated within or near critical habitats.

Ecological Risks

Tourism infrastructure situated within ecologically sensitive areas can undermine the very conservation outcomes it is meant to support. Lodges, camps and access roads can disrupt species' natural behaviours, degrade habitats and fragment previously connected landscapes.

A recent high-profile case, in which a major new luxury lodge was criticised for obstructing a key wildlife migration corridor, illustrates how even premium tourism ventures can exert significant ecological pressure if not properly sited or regulated.[14] The case demonstrates that, even with regulated ecological assessments, when there are significant potential revenues at stake, or when the assessment process is not grounded in robust science, these processes can be insufficient in mitigating harm.

- Key ecological risks to consider:
- Interruption of wildlife migration routes
- Degradation of vegetation and soil erosion
- Increased disturbance from vehicle traffic
- Increased pressure on water resources
- Cumulative impacts of multiple facilities within the same landscape

Community Rights and Social Equity

Tourism can generate significant social and economic benefits, but only when communities are genuine partners and beneficiaries and when initiatives are designed with community impact in mind. Tourism can also generate conflict where communities are excluded from decision-making, benefits are inadequately shared and facilities encroach on customary or community lands. Diverse communities can also have conflicting perspectives and interests. It is important to consider that communities and Indigenous groups are not a monolith and some groups may rely on ecologically harmful economic activities for their survival.[15] Strengthening community participation in projects from the outset and developing equitable and transparent revenue-sharing mechanisms is essential to long-term legitimacy of conservation tourism and in ensuring these initiatives deliver on their ecological, social and economic goals.

[14] The Times (2025) Ritz-Carlton under fire over $3,500-a-night safari camp

[15] On the west coast of Canada, over 20 First Nations are participating in the world's first Project Finance for Permanence, which drives financing into Indigenous-led stewardship and economic development. The Nations have a diversity of economic and cultural interests and priorities. Effective and meaningful engagement with and between Nations required recognition of this complexity and the development of flexible processes and standards to accommodate it. You can read more in the R4N Guidebook: Great Bear Rainforest Project Finance for Permanence

Case Studies: four models for funding wildlife conservation and habitat restoration

In light of the opportunities and risks outlined above, the following four case studies illustrate how well-designed revenue and financing models can direct private capital toward wildlife conservation while supporting community livelihoods and maintaining ecological integrity. Together, these examples demonstrate the diversity of mechanisms available to governments, investors, and conservation actors seeking to scale high-integrity and inclusive approaches to funding wildlife conservation in SSA.

Africa Conservation and Communities Tourism Fund

Overview

The Africa Conservation and Communities Tourism Fund (the "ACCT Fund") was launched in 2021 to support critical natural landscapes in SSA, and the biodiversity, climate resilience and local economic benefits these areas provide. The Fund was established to provide flexible loans to conservation tourism operators heavily impacted by the COVID-19 pandemic, helping to mitigate the impact of lost revenues on communities and to conservation.[16]

Since the end of the pandemic, the ACCT Fund has continued to finance conservation tourism projects that benefit both communities and wildlife. The Fund aims to address the interdependencies between conservation outcomes and community engagement. To confront harmful practices such as poaching and illegal wildlife trafficking, and to foster active participation in wildlife conservation, the ACCT Fund ensures that supported projects generate revenues for local communities and strengthen incentives to conserve wildlife.

The ACCT Fund is a multi-country investment vehicle with a primary focus on operators working in Botswana, Kenya, Namibia, South Africa, Tanzania and Zambia, though it has signed loans with operators in nine countries in SSA.[17] These priority countries reflect the importance of tourism to national economies and wildlife conservation in Eastern and Southern Africa. The sub-region contains more than 2 million km2 of protected areas, which require significant funding for effective management. Nature-based tourism has historically been a critical source of such funding.[18]

[16] The Nature Conservancy, "Investing for Impact: Backing Africa's Conservation Tourism Sector", 26 May 2023.
[17] Interview ThirdWay Partners, 6 January 2025.
[18] Global Environment Facility, African Nature Based Tourism Platform, "Data to Impact", 2023.

The Fund was launched in Luxembourg in 2021 with investment from several investors including:[19]

- The Nature Conservancy (TNC),
- KfW (Kreditanstalt für Wiederaufbau) on behalf of the German Federal Ministry for Economic • Cooperation and Development,
- the International Finance Corporation (IFC) of the World Bank,
- ASN Biodiversity Fund,
- Ceniarth, and
- clients of Align Impact.

The Fund provides loans to conservation tourism projects such as safari operators, camps, lodges or hotels and has raised USD 70 million in committed capital.

Design & Structure

To mobilise capital from diverse investors, the ACCT Fund uses a three-tranche structure: junior, senior and grant tranches. This catalytic design was essential to attracting private capital, given the perceived risk of sustainable tourism investments in SSA, especially during the COVID-19 pandemic. Recognising that conservation tourism enterprises require varied loan sizes and durations, the Fund offers financing tailored to these needs while ensuring all loans contribute to positive conservation and community outcomes.

According to the Fund's Portfolio Manager, investment in the tourism sector in SSA continues to be constrained by perceptions of high risk. Stakeholders consulted for this Guidebook do not anticipate major short-term changes in the investor landscape. Beyond existing national or regional investors, private international investment is likely to remain concentrated among impact investors and high-net-worth individuals.

Governance Model

The ACCT Fund's governance framework combines high-quality financial management with conservation expertise to ensure both impact and robust financial performance.

ThirdWay Partners serves as the Fund's Investment Advisor, providing strategic and financial guidance, while Innpact Fund Management acts as an Alternative Investment Fund Manager (AIFM), responsible for regulatory compliance. The Nature Conservancy serves as Conservation Advisor, ensuring that funded activities align with conservation and community objectives and deliver positive environmental and social outcomes.

Supply

The ACCT Fund aims to finance 20-30 projects over its lifetime. Initially, loans supported operators facing liquidity shortages due to the pandemic. While the tourism sector in the continent suffered severe disruption, long-term prospects are strong: according to Conservation Magazine, four of every five international tourists arriving in Africa visit a wildlife destination.[20]

[19] Innpact, Innpact partners with ThirdWay to support Africa's conservation tourism sector, 2023
[20] International Fund for Animal Welfare, "Ecotourism: An obvious panacea or a looming conundrum?", 1 May 2024.

Project revenues supported by the Fund generally fall into the following categories, as defined by the European Investment Bank (EIB):[21]

1. Revenues generated through direct tourism visitation.
2. Revenue generated through secondary activities (e.g. sale of souvenirs).
3. Income and livelihood opportunities to rural communities.
4. Revenue earmarked to biodiversity protection and the maintenance of habitats (e.g. park entrance and concession lease fees to pay park rangers salaries).

Carbon and biodiversity credit sales in these landscapes are expected to remain limited in the short term, in part because most emerging credit markets have not been designed to fully recognise or integrate the communal and public land tenure systems that dominate across SSA. In many cases, governments and communities, rather than individual private tourism operators own and steward the land. This is not a weakness of the tenure systems themselves, but rather a reflection of how credit mechanisms have not yet adapted to collective governance and equitable benefit-sharing with Indigenous Peoples and local communities.

The ACCT Fund focuses on countries where conservation tourism has been well-established and where the pandemic's impact on the sector was most severe. The Fund's Investment Advisor notes strong future growth potential in several countries including Tanzania (particularly the South), Gabon, and Mozambique. However, developing conservation tourism at scale requires stability and a supportive regulatory environment that offers long-term visibility for investors and operators, as well as security for consumers.[22]

Demand

The Fund's blended finance structure attracts investors interested in mechanisms that use concessional capital to unlock additional private and impact investment, combining financial returns with environmental and social impact.

Investments from high-net-worth individuals might increase in relevance for SSA as the continent has historically benefitted from investments from its diaspora. With the African diaspora[23] already estimated at 200 million people and expected to soon make up over 25% of the global population,[24] investments from high-net-worth individuals from the African diaspora are a real opportunity for the continent's conservation tourism sector.

The ACCT Fund illustrates the importance of MDBs/DFIs for conservation and communities financing in Africa with the IFC providing USD 13 million to the senior equity tranche of the ACCT Fund. However, the IFC's role is not limited to the provision of capital. It also delivers non-commercial risk mitigation and capacity building by supporting the development of climate guidelines in order set standards for the sector and help operators improve their environmental performance.[25]

[21] European Investment Bank and European Commission, "Investing in nature: financing conservation and nature-based solutions"
[22] Interview ThirdWay Partners, 6 January 2025.
[23] People of African descent living outside the continent.
[24] World Economic Forum, "How tapping into the power of the global Black economy can boost Africa's innovation and prosperity", 14 March 2024.
[25] International Finance Corporation, "IFC invests in the Africa Conservation and Communities Tourism Fund to support Ecotourism, Conservation in Sub-Saharan Africa", 29 May 2023.

Measurement, Monitoring, Verification

The ACCT Fund conducts rigorous due diligence to ensure financed projects align with its objectives of promoting sustainable tourism, community development, and conservation while minimising environmental and social risks.

Monitoring and evaluation are grounded in metrics that act as effective proxies for biodiversity and ecosystem health. Key indicators include:[26]

For communities		
Outcome	**Key Performance Indicators**	**Target**
Promoting employment in the conservation tourism sector.	Number of staff retained	5,300
Fostering community benefit from downstream flow of income from tourism employment.	Number of community members reached	37,100
Providing direct contributions to the socio-economic benefit of the community.	Value of annual salary and non-salary flows to community benefit	USD 2.5 million
For conservation		
Outcome	**Key Performance Indicators**	**Target**
Fostering land and water protection via local operators.	Square kilometers of protected area in which the operators are active	535,000
Providing direct financial flows to conservation landscape owners and/or managers.	Value of annual payments	USD 34.5 million

In addition to these key performance indicators, research on the benefits of conservation-focused tourism identified additional environmental benefits such as the growth of clean energy and improved waste management.[27] The Fund's investments are being assessed against the EU Taxonomy. While not yet classified as taxonomy-aligned, the framework is informing efforts to strengthen environmental sustainability.[28] The Fund does, however, qualify as an SFDR Article 9 Fund under the EU's Sustainable Finance Disclosure Regulation.

[26] Innpact, "ACCT Sustainability-related disclosures", December 2023.
[27] Rajashree Samal, Madhusmita Dash, "Ecotourism, biodiversity conservation and livelihoods: Understanding the convergence and divergence", International Journal of Geoheritage and Parks, March 2023.
[28] Africa Conservation & Communities Tourism Fund, "Our solution", webpage retrieved on 18 January 2025.

Impact

The ACCT Fund was initially designed to prevent the collapse of tourism revenues during the pandemic. It has since evolved into a long-term financing mechanism supporting sustainable tourism projects that benefit both nature and people. Wildlife remains the primary driver of tourism across much of Sub-Saharan Africa; by generating income for local communities through tourism, the Fund creates incentives to conserve their wildlife.

By the end of 2024, the ACCT Fund had financed 17 companies, helping them retain 1,768 jobs across 35 areas and driving USD 12 million into local economies through salaries and other channels. Portfolio companies contributed to the protection of 142,620 km2 of conservation areas through USD 13.6 million in annual payments to conservation landscape and managers.[29]

These impacts are expected to scale as more supported camps and lodges become operational and integrate into tourism circuits, increasing occupancy and thus delivering greater conservation and community benefits. Importantly, many concessions operate under 20- to 25-year renewable leases, meaning benefits will continue long after ACCT loans are repaid.

Replication & Scaling Considerations

The ACCT Fund demonstrates that it is possible to deliver meaningful biodiversity and community impact at scale, while also generating risk-adjusted financial returns through targeted financial structuring. There is a significant opportunity to scale this model across SSA and in other regions where nature is under increasing pressure and where sustainable businesses can provide enduring benefits for local communities and ecosystems.

Lessons Learned

- Raising large volumes of capital for conservation tourism requires proactive outreach to stakeholders able to provide grants, junior capital, or senior investment. MDB/DFI participation remains essential for de-risking and attracting additional commercial investors.
- The ACCT Fund illustrates the importance of bringing investors with strong environmental and social requirements who aim to address financing gaps while benefiting communities.
- For sustainable tourism projects, a pragmatic approach to metrics is desirable. Decades of parallel growth in tourism and wildlife conservation in SSA demonstrate their interdependence. Although key metrics such as wildlife population trends and employment figures can be monitored, complex and costly baselines are not always necessary.
- A governance framework that includes expertise in both finance and conservation is essential to ensure credibility with investors and to deliver financial returns alongside conservation outcomes.
- In high-risk or perceived high-risk environments, catalytic capital is often required to attract private investment.
- Mitigating foreign exchange risks by denominating most or all transactions in hard currency helps to attract capital at scale.

[29] The Nature Conservancy, "Investing for Impact: Backing Africa's Conservation Tourism Sector", 26 May 2023.

The Rhino Bond

Overview

The black rhinoceros is both a symbol of conservation urgency and a species critically affected by poaching and habitat loss in SSA. While traditional conservation finance, especially through grants and donor support, continues to provide essential support for biodiversity efforts, its structure can occasionally make it challenging to sustain longer-term, outcome-oriented approaches. The world's first Wildlife Conservation Bond (WCB), also known as the Rhino Bond, conceived as the first species-specific conservation bond, aligns financial returns with conservation outcomes and offers an outcome-based model that helps tap into private capital as a source of conservation funding.

Developed by a coalition including the World Bank Group, the Global Environment Facility (GEF), the United Nations Development Programme (UNDP), Zoological Society of London (ZSL), Conservation Alpha, and Credit Suisse, the Rhino Bond is a pay-for-performance financial instrument. It links investor returns directly to verified ecological results, in this case, the population growth of black rhinoceros in selected protected areas.

In addition to delivering ecological outcomes, the bond aims to demonstrate that well-designed financial instruments can channel global capital into field-level biodiversity solutions, serving as a blueprint for future investment in high-conservation-value landscapes.

Design & Structure

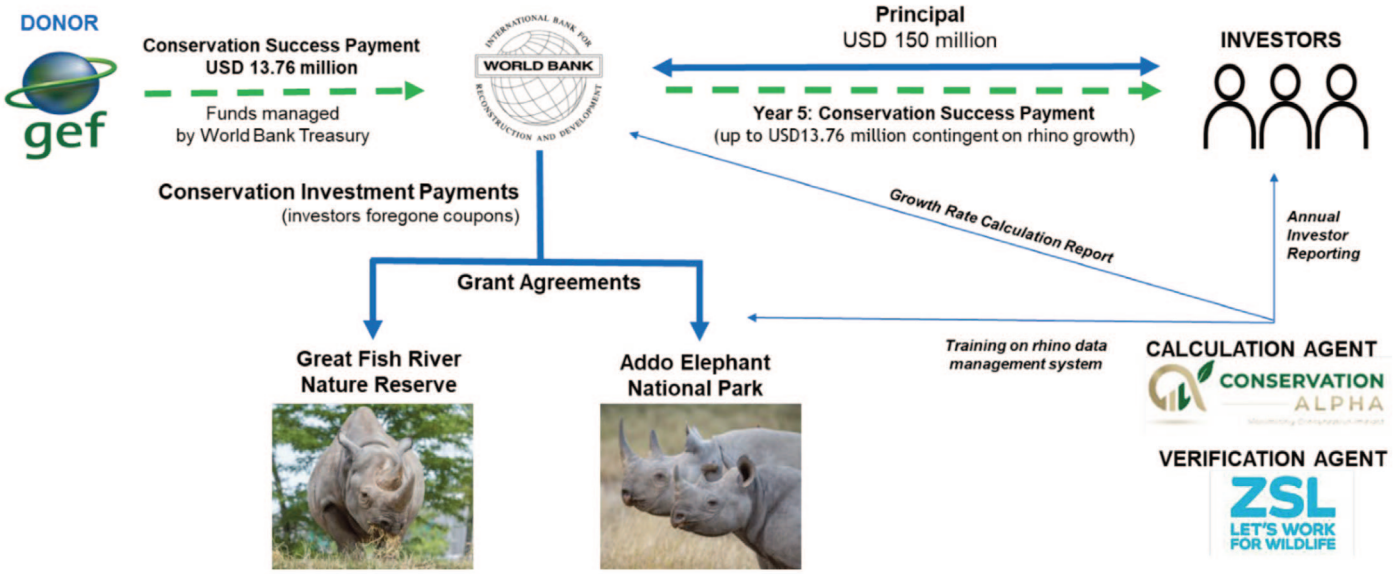
The Rhino Bond is a five-year, zero-coupon bond issued by the International Bank for Reconstruction and Development's (IBRD) Global Debt Issuance Facility (GDIF).[30] Investors receive no regular interest (coupon) payments; instead, the economic value of the foregone coupons supports conservation efforts in South Africa. At maturity, if rhinoceros population growth is independently verified, investors receive a 'success payment' paid out by the GEF.

- If rhinoceros populations increase by at least 4% annually over 5-years, the success payment exceeds the value of the foregone coupons.
- If growth is below 4%, the success payment is proportionally reduced.
- Regardless of conservation performance, the principal is repaid in full by the World Bank at maturity.

Bond proceeds are allocated to on-the-ground conservation activities aimed at improving rhinoceros survival and supporting population growth, including ranger training, anti-poaching patrols, habitat restoration, waterhole construction, fire management and community engagement.

This structure effectively decouples the principal from conservation risks while linking returns (via the success payment) to a clearly measurable, verified ecological outcome. The model shifts financial incentives from short-term inputs (e.g., ranger patrols) to verifiable long-term ecological impact.

Figure 2: Structure of Wildlife Conservation Bond



The Rhino Bond was designed to strategically blend public and private capital within a risk-mitigated framework capable of delivering measurable conservation outcomes. Issued by the World Bank at a discount (94.84% of its nominal aggregate amount), the bond ensured that investors would be repaid their principal at maturity, even if rhinoceros population targets were not fully met. Success payments, funded through a grant from the GEF were structured to be performance-based, triggered only when rhinoceros populations increased above defined thresholds. This passes project implementation risk to capital market investors as donors only pay on successful outcomes.

[30] The International Bank for Reconstruction and Development is the primary lending arm of the World Bank Group. The GDIF raises funds through capital markets by issuing debt securities.

The bond raised USD150 million from global investors and is one of the largest outcome-based biodiversity financing deals to date. Approximately USD10 million in foregone coupon payments was allocated directly to field-level conservation activities across two priority sites in South Africa; Addo Elephant National Park – located in the Eastern Cape Province, and Great Fish River Nature Reserve – also in the Eastern Cape Province.

The design also included concessional grant financing to cover core operational needs and the development of monitoring infrastructure.

The structure was initially piloted before issuance which was critical in validating the concept and determining appropriate areas for implementation. Conducted at Tsavo West National Park in Kenya, the pilot strengthened financial and conservation management systems and demonstrated the feasibility of the bond. However, a lack of institutional readiness in the park led to it being excluded in the final issuance.

Demand

While modelled on conventional financial instruments, the Rhino Bond differed in important ways. Rhino conservation is widely perceived as high-risk due to threats such as poaching, disease and slow reproductive rates. Offering high financial returns to compensate for these risks would have diverted resources away from conservation.

To address this, the bond structure was linked to a Triple-A-rated (Moody's/S&P), investment-grade instrument issued by the World Bank, guaranteeing principal repayment. Success payments remain fully performance-based and are funded by the GEF. This derisked structure made the bond significantly more attractive to institutional investors , including Nuveen as lead investor, Alliance Bernstein, ASN Impact Investors, Azimut Investments, BlueBay Asset Management, INGKA Investments, Mackenzie Investments, and some high-net-worth clients of Credit Suisse and Citi Bank. Their involvement demonstrates that, with appropriate risk mitigation and outcome transparency, private capital can be mobilised to support biodiversity conservation at scale.

Supply

Site Selection & Projects

Site selection was a critical component of the bond's structure, designed to maximise both ecological impact and measurability. A rigorous screening process was applied to identify sites with strong baseline data, ecological importance, and operational capacity.

Importantly, the selection of sites was influenced not only by conservation potential but also by broader institutional and policy readiness. Only sites with robust ecological data, transparent governance, and the institutional capacity to engage with outcome-based finance were eligible. For example, in the pilot phase, Kenya's Tsavo West National Park was included, but for the full issuance, it was excluded due to institutional readiness challenges, illustrating a broader tension between conservation urgency and investment feasibility.

Catalytic Funding Providers

The Rhino Bond was enabled by a diverse set of capital providers and implementing partners. Initial catalytic funding came from the GEF and philanthropic institutions including the Royal Foundation, UKAid, and the Oak Foundation. These contributions supported the foundational work needed to assess site readiness, build monitoring systems, and strengthen financial governance. Conservation efforts were delivered on the ground by the Zoological Society of London and local conservation authorities in South Africa, supported with performance management from Conservation Alpha.

Measurement, Monitoring, and Verification

The measurement and monitoring of the bond drew on existing national conservation plans and techniques that were already widely used across African black rhinoceros reserves. Interventions focused on supporting population growth by managing habitat quality and population density, while minimising mortality, particularly from poaching. Individual rhinos were captured before age three and marked with unique ear-notch patterns to enable reliable identification through aerial and ground surveys.

A private sector calculation agent assessed rhinoceros populations using a methodology that audited part of the population and extrapolated the findings to estimate total abundance. This process relied on a statistical model that compared baseline data (year 0) with data at the end of the bond period (year 5), while accounting for uncertainty in detection rates and the probability of survival based on sightings over time.

Verification was carried out independently by the Zoological Society of London, which played a vital role in maintaining transparency and credibility. Acting as an “honest broker,” the verifier ensured that performance claims were robust and defensible.

By anchoring success payments to a transparent, evidence-based monitoring system, the Rhino Bond demonstrated that outcome-based finance could deliver both ecological impact and investor confidence. The use of established techniques further contributed to the model’s practicality and replicability in other conservation contexts.

Impact

Since its issuance in 2022, the bond has begun delivering tangible ecological and socio-economic results. Targeted rhinoceros populations in South Africa are being actively monitored and protected, while surrounding communities are benefiting from nearly 2,000 tourism-linked jobs.

These employment opportunities, particularly for women and youth, have contributed to local economic development and skill-building in areas adjacent to protected zones, reinforcing long-term socio-ecological resilience. Field-level interventions supported by the bond have significantly improved the quality of rhinoceros habitats while maintaining critical ecosystem services. In parallel, the initiative is stimulating growth in ecotourism, supporting infrastructure development, and fostering stronger alignment between conservation priorities and community needs.

Replication and Scaling Considerations

The Rhino Bond provides a model for outcome-based conservation finance, with growing relevance for a broader class of biodiversity-focused financial instruments. With appropriate design and capacity support, the structure can be deployed to protect other species and ecosystems. Successful replication will require careful attention to stakeholder dynamics, ecological suitability, institutional readiness, and consideration of equity and inclusion.

Pipeline Development

Replication of the Rhino Bond model is already underway, with instruments such as a Chimpanzee Bond, Coral Bond, and water-related outcome bonds in development. Efficiency gains can be achieved by re-using MRV frameworks, legal templates, and structuring protocols from the Rhino Bond, reducing both time and cost.

However, a persistent bottleneck is the lack of Technical Assistance (TA) funding. Many sites show strong potential but are not "investment-ready." A dedicated TA facility could support baselining, MRV setup, and early design work before structurers and banks are willing to engage. For example, in June 2025, UNDP Biofin launched a Tiger Landscapes Investment Facility to drive capital into the protection and restoration of tiger habitats.[31] The Facility is structured with a De-Risking Facility, which provides guarantees to local financial institutions to de-risk financing to tiger landscape conservation projects and a TA Facility to develop an investable project pipeline by providing incubation assistance to community-based entrepreneurs and project developers. The TA Facility also supports businesses and projects with MRV by conducting third-party verification of outcomes reported by portfolio projects and businesses, and aims to enhance the enabling environment for tiger conservation by facilitating knowledge exchange between countries and collaborating with governments on capacity building.

Stakeholder Roles in the Rhino Bond

The Rhino Bond brought together a diverse coalition of actors across finance, conservation, philanthropy, and government. Despite this collaborative architecture, the initiative revealed asymmetries in power and technical capacity. Decision-making remained largely concentrated among international actors, with limited influence from local conservation stakeholders. While large, international organisations can provide consistency, speed and efficiency through centralized governance, this approach can also result in an impalance of power between large organisations headquartered in the Global North, and local implementation actors and affected communities. This imbalance underscores the need for future models to embed greater inclusivity and local ownership from the outset.

The sequencing of stakeholder engagement also emerged as an investment driver, with outcome payers—whether donors, governments, or multilaterals—as the linchpin of the structure. Only once outcome payers are secured can investors and structurers engage meaningfully. Investors such as asset managers, insurers, and pension funds require clear risk allocation and competitive returns, while structurers expect a pipeline of technically sound projects and have limited tolerance for lengthy preparation processes. Independent technical experts must also be engaged throughout to sustain confidence across all parties.

[31] UNDP (2025). Tiger Landscapes Investment Facility Brief.

Criteria for Selecting Species and Sites

Site and species selection were driven by a blend of ecological urgency and financial feasibility. Black rhinoceros were chosen as the focal species due to their conservation significance, relatively high visibility, and the availability of reliable monitoring data.

Sites were selected through a rigorous screening process assessing population density, existing management capacity, data availability, and governance transparency. Although over 140 protected areas in Africa contain black rhinoceros populations, around 90% of rhinoceros are found in just 18 sites. As a result, the Rhino Bond prioritised larger, better-monitored populations to ensure reliable measurement and investor confidence.

Although early iterations of the bond considered including critically endangered species such as the Javan and Sumatran rhinoceros, these were ultimately excluded. Their small, fragmented populations, coupled with the difficulty of obtaining statistically robust data, made them unsuitable for the outcome-based monitoring approach required by the bond. In addition to sufficient population size, selected sites were required to demonstrate effective management systems, offering confidence that the investment could yield verifiable, conservation-grade results.

Motivations and Experiences of Stakeholders

Stakeholder motivations reflected a diversity of institutional priorities. For investors, the Rhino Bond offered an opportunity to meet environmental, social, and governance targets while minimising financial risk through a principal guarantee. Development Finance Institutions and donors were motivated by the opportunity to catalyse private finance and test an innovative mechanism with long-term scaling potential. For conservation NGOs, the bond represented a shift away from short-term project cycles toward sustained, outcome-focused funding.

While many stakeholders reported positive experiences - particularly regarding transparency, alignment of incentives, and ecological ambition - challenges emerged. Conservation actors often found the legal and financial structuring unfamiliar and resource-intensive, requiring external legal and advisory support. Some donors and practitioners also raised concerns about the time and complexity involved in bringing the instrument to market. Outcome funders emphasised the importance of early-stage coordination and clearly defined roles to ensure shared risk and accountability.

A key lesson was the importance of shared vision and trust across sectors. Despite the challenges, the Rhino Bond demonstrated that with adequate facilitation and transparency, diverse actors can align around a common objective of financing conservation at scale.

Risk Management & Credibility

Effective replication of outcome-based conservation instruments requires proactive risk management and credible design features. Four categories of risk must be explicitly addressed in any structure:

1. Financial risk – ensuring repayment of principal and interest.
2. Performance risk – confirming that ecological outcomes are measurable and achievable.
3. Monitoring risk – securing a robust, independent, and cost-effective MRV system.
4. Reputational risk – protecting all parties from loss of trust if outcomes are not achieved.

In the Rhino Bond, the decisive factor for institutional investor participation was the World Bank's role in providing credit enhancement, guaranteeing principal repayment even if the outcome payer defaulted. This highlights an important consideration for scaling: trusted guarantors, such as MDBs, can play a pivotal role in de-risking biodiversity bonds and making them investable at scale. Without such mechanisms, even well-designed instruments may struggle to mobilise mainstream capital.

Decision-Making and Stakeholder Influence

Governance in the Rhino Bond followed a centralised model. Strategic decisions, including site selection, legal structuring, and investor engagement, were primarily made by a core group including the World Bank, ZSL, Conservation Alpha, and key funders. While this enabled technical consistency and efficiency, it limited the influence of local implementers and communities during the early design phases.

Over time, efforts were made to broaden participation. The World Bank's social safeguard policies required the inclusion of community engagement plans and local job creation targets. However, local stakeholders remained largely implementers rather than co-designers. As a result, the process revealed the need for more inclusive and participatory governance in future conservation finance mechanisms.

Box 1: To scale and replicate outcome-based biodiversity bonds, four strategic implications stand out:

1. **Build a Technical Assistance Facility** – fund preparatory work to bring sites to investment-ready stage.
2. **Focus on investment-ready projects** – prioritise those with credible data, governance, and mandates.
3. **Engage outcome payers earlier** – Institutional donors, philanthropies, and governments must be systematically brought in at the outset.
4. **Bundle projects for scale** – aggregation is needed to reach the average USD 150 million issuance size that institutional investors require.

Embedding community agency, Indigenous knowledge systems, and equitable benefit-sharing mechanisms will be essential to strengthening legitimacy, accountability, and long-term sustainability in future bonds.

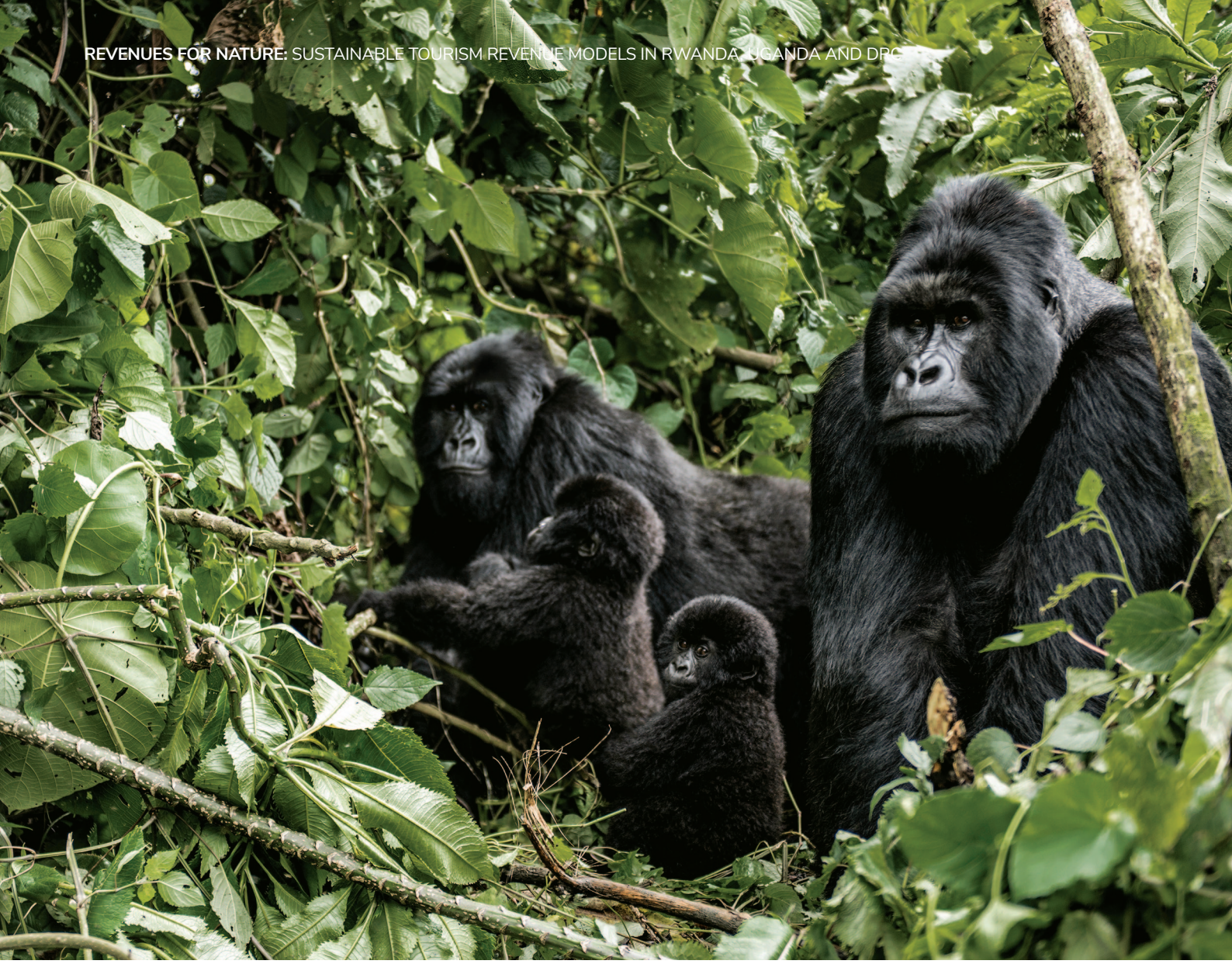
To enable broader replication, a modular blueprint is emerging. This includes readiness assessments (both ecological and financial), tiered monitoring systems tailored to site capacity, and standardised legal templates to reduce transaction costs. Preparatory grants can help conservation actors build necessary systems and capacity.

Nonetheless, it is clear that conservation bonds, by design, favour contexts where species are charismatic and measurable, and where financial governance is strong. This introduces a structural risk; that places and species most in need of conservation finance may be left behind due to their perceived investment risk or data limitations.

Lessons Learned

- Species that are charismatic, measurable, and familiar to investors (such as rhinoceros, elephants, or orangutans) are more likely to be featured in bond structures. Similarly, countries with stable governance, robust monitoring systems, and transparent financial processes are better positioned to attract investment.
- MDBs can help de-risk conservation investments in lower-credit countries by offering guarantees and concessional capital, creating enabling conditions for outcome-based finance in frontier markets.
- Financial capabilities are often a barrier for local actors. Standardising legal templates, offering tiered monitoring frameworks tied to performance-based payouts, and streamlining financial documentation can help lower these barriers.
- Transaction costs make scale critical. Lessons from the Rhino Bond indicate that:
  - At least USD 10 million per site is needed to justify overheads.
  - Total issuance must reach in average USD 150 million or more to attract institutional investors.
  - Projects below USD 5 million are better structured as bilateral results-based contracts, not bonds.
- Investor demand exists but outcome payers are the bottleneck. Unless donors, philanthropies, and governments commit to pay for results, deals cannot move forward. In the case of the Rhino Bond, securing a committed outcome payer was a major obstacle during the design phase. GEF stepping in allowed for the bond's issuance to proceed.
- Successful outcome-based instruments must be built on rigorous design foundations. Without independent, science-based baselines and reliable verification, disputes between investors and outcome payers are inevitable, and bankability is lost.
- Not all sites are suitable for such bonds. These instruments work best for top-performing protected areas with strong management capacity, clear mandates, and enabling governance environments.
- Innovative financing mechanisms can benefit significantly from a piloting phase, which can help in identifying potential challenges and inform the design of a larger project. In the case of the Rhino Bond, the pilot phase allowed implementers to determine that the pilot park was not suitable due to institutional limitations and informed the need for the bond to better embed gender and community engagement metrics.
- Supply strategies should embed Indigenous and local community perspectives and priorities from the outset, not only as beneficiaries or implementers but as co-creators of investable conservation models. In this case, while conservation was implemented locally, most design decisions were centralised among international actors.
- Building the supply of nature-based investment opportunities requires dedicated support for the invisible infrastructure, legal templates, monitoring protocols, stakeholder coordination, and readiness assessments, that often go unfunded. Standardising these tools and offering technical assistance to less-resourced actors will be essential to democratise access and expand the pipeline of viable conservation finance projects.

Ultimately, democratising conservation finance means more than expanding access to capital. It requires embedding local knowledge, governance systems, and decision-making authority into long-term stewardship models.



Sustainable tourism revenue models in Rwanda, Uganda and DRC

The sustainable tourism revenue models in this case study link the economic value of gorilla-based tourism revenues to the long-term funding of conservation initiatives. In the context of mountain gorilla conservation, these models rely on gorilla tracking permits as the main source of revenue. By making gorilla tourism exclusive (requiring paid permits), these models create a predictable stream of funds to be reinvested into biodiversity conservation, the promotion of local ecosystem stewardship, and the enhancement of livelihoods for surrounding communities. These approaches align with IUCN Resolution 130, which recognises the vital role of nature-based tourism in supporting biodiversity conservation while generating economic benefits and strengthening the resilience of local communities.[32]

The following cases examine how Rwanda and Uganda implement sustainable tourism revenue models, and how the Democratic Republic of Congo (DRC) integrates eco-tourism within a broader transformative economic approach that combines conservation, community development, and sustainable livelihoods.

[32] IUCN (2025) Strengthening Sustainable Tourism's Role in Biodiversity Conservation and Community Resilience

Table 1. Overview of the sustainable tourism revenue models for Gorilla conservation

Country	Main National Parks Involved	Ecotourism Revenue Model	Brief Description of the Model
Rwanda	Volcanoes National Park	High-value low-volume tourism + Tourism Revenue Sharing Program (TRSP)	Visitors purchase premium-priced permits for gorilla trekking, generating significant foreign revenue. 10% of revenue is shared with local communities; 5% supports human-wildlife conflict mitigation.
Uganda	Bwindi Impenetrable National Park, Mgahinga Gorilla National Park	Community-based revenue sharing model	20% of park revenue plus $10 per gorilla permit is shared with local communities. The model prioritises community benefits and integrating Indigenous knowledge into conservation.
Democratic Republic of Congo (DRC)	Virunga National Park	Embedding ecotourism within broader economic development model	The Virunga Alliance links conservation with green energy, sustainable agriculture, and job creation, aiming to reduce armed conflict incentives and improve livelihoods while protecting biodiversity.

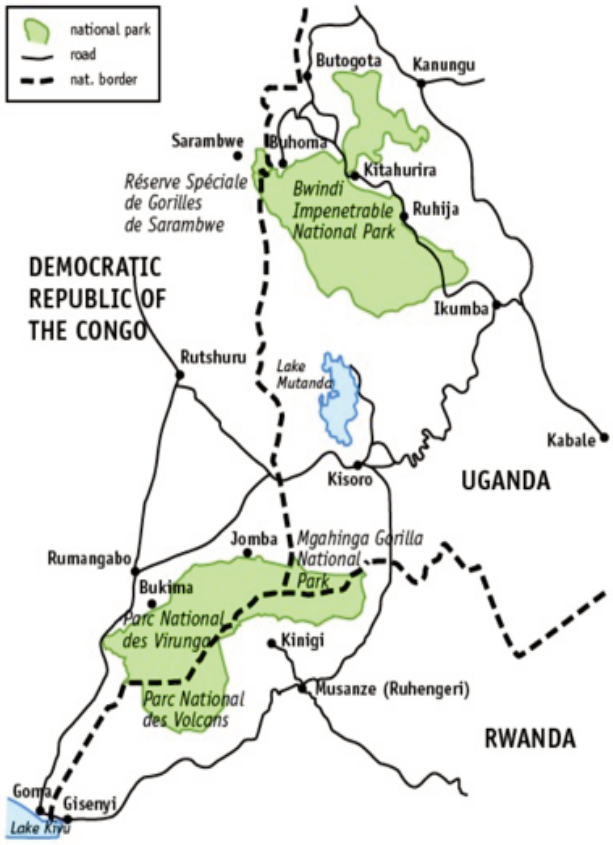
Context

Mountain gorillas (Gorilla beringei beringei) inhabit the Afromontane forest habitats that span the shared borders of Rwanda, Uganda, and the DRC.[33] Despite being one of humanity's closest living relatives, the gorillas' survival is primarily threatened by human activities such as deforestation, habitat degradation, disease transmission, poaching, and civil unrest.[34] Until 2018, the species was classified as critically endangered, but consistent conservation efforts have since contributed to a remarkable recovery. Today, the global population is estimated at 1,000 individuals, with slightly more than half living in the Virunga Mountains, and the remainder found in Uganda's Bwindi Impenetrable National Park.[35] Although the species remains endangered, increased regulations and investments have shown some success as populations have recovered from below 400 individuals in the early 1980s.[36]

[33] IGCP (2025) Mountain Gorilla Threats
[34] IGCP (2025) Mountain Gorilla Threats
[35] WWF (2025) Mountain Gorillas
[36] WWF (2025) The Great Gorilla Count

Protecting mountain gorillas is not only critical for continuing to recover their population, but also for maintaining the health of the ecosystems they inhabit. Mountain gorillas are large-scale grazers that primarily consume vegetation. Their foraging creates small clearings in foliage and aids in seed dispersal, allowing diverse plant species to grow while supporting forest regeneration and ecosystem health.[37] The absence of mountain gorillas would disrupt the natural balance of the food chain.[38] As an "umbrella species", the mountain gorilla plays a vital role in maintaining ecological stability, and its conservation indirectly safeguards numerous other species within the same expansive habitat.[39] Thus, efforts to protect mountain gorillas contribute broadly to biodiversity preservation and the environmental well-being of the region.

Figure 3. Distribution of the Mountain Gorilla[40]



The value of protecting mountain gorillas is well recognised in the region, with all four remaining mountain gorilla habitats in Rwanda, Uganda, and the DRC, now designated as protected areas (PAs). These habitats are distributed across four national parks: Virunga National Park, DRC; Volcanoes National Park, Rwanda; Mgahinga Gorilla National Park, Uganda; and Bwindi Impenetrable National Park, Uganda (see Figure 1). This achievement reflects sustained collective efforts among several actors including the governments of the three countries, PA authorities, international and local conservation organisations, research and veterinary institutions, the Greater Virunga Transboundary Secretariat (GRASP), the private sector, and local communities.[41]

[37] WWF (2023) How Helping Gorillas Helps Forests
[38] WWF (2025) Mountain Gorillas: Close Relatives at Risk
[39] Village Monde (2025) Umbrella Species: Guardians of Biodiversity; One Earth (2024) Mountain gorillas: One of Africa's Most Magnificent and Essential Species
[40] Berggorilla (n.d.) Mountain Gorilla
[41] Volcanoes Safari (2025) Marking 100 years of Mountain Gorilla Conservation

The ecotourism industry is regarded as the leading factor contributing to the protection of mountain gorillas across these countries.[42] The sector has played a central role in funding the preservation of national parks, strengthening national economies, and providing livelihoods for surrounding communities across the region.[43] Given that each country employs slightly different policy responses and ecotourism models, this case study will examine these unique strategies to understand the impact on communities and wildlife conservation.

Rwanda: High-Value Low-Volume Tourism Model

The Rwandan government's strategic investment in tourism as a pillar of economic diversification has generated substantial economic benefits. By 2025, the sector is projected to support more than 402,000 jobs, representing more than 8% of total employment, with mountain gorilla trekking playing a significant role.[44]

In 2023, tourism revenues surpassed USD 500 million, with 60% attributed to gorilla trekking.[45] From 2023 to 2024, gorilla-focused tourism revenues rose by 27%, exceeding USD 200 million, a significant share of overall tourism revenues. Growing foreign interest in gorilla tourism is evidenced by an 11% rise in RwandAir's non-resident ticket sales.[46]

Visitors to Volcanoes National Park are required to purchase a permit for mountain gorilla trekking, ensuring park authorities can regulate the number of daily visitors and collect funds for reinvestment in conservation and community development. The cost of a single mountain gorilla tracking permit is USD 1,500 for visitors outside Africa, USD 500 for foreign residents of Rwanda and citizens of other African countries, and USD 200 for citizens of Rwanda and other east African countries.[47] These figures are higher than in Uganda and the DRC, which cost USD 800 and USD 400 respectively for non-resident foreigners.[48]

Premium prices for permits act as a limiting factor on the number of tourists entering the park, ensuring gorilla tourism is less affected by mass tourism, making the experience more exclusive. In this way, gorilla tourism has become a highly sought-after luxury activity, offering a rare and intimate encounter with an endangered species. Visitors are also encouraged by the assurance that the revenue from their tracking permits is directed toward supporting local communities through benefit-sharing policies.

Tourism Revenue Sharing Program

In 2005, the Rwandan Government initiated the Tourism Revenue Sharing Program (TRSP) to ensure that communities adjacent to the PAs receive tangible benefits from tourism.[49] Some 10 per cent of pooled revenue from Rwanda's four national parks (Volcanoes, Akagera, Nyungwe, and Gishwati-Mukura) is channeled to neighboring communities to improve livelihoods.[50] A further 5 per cent is allocated to fund programmes aimed at mitigating human-wildlife conflict.[51] This latter pool funds interventions such as erecting barriers to prevent wildlife encroachment and providing compensation to local farmers for crop damage.

[42] IFAW (2024) Ecotourism: An obvious panacea or a looming conundrum?
[43] Volcanoes Safari (2025) Marking 100 years of Mountain Gorilla Conservation
[44] WTTC (2025) Rwanda's Travel & Tourism Sector Broke all Records in 2024, reveals WTTC
[45] The Great Lakes Eye (2025) How Gorilla Tourism Revitalizes Rwanda
[46] Rwanda Development Bank (2024) Annual Report
[47] Safari Bookings (2025) Gorilla Permit Rwanda 2025 – Everything You Need To Know
[48] NEXTGEN Safaris (2025) How Much Does Gorilla Trekking Cost in Uganda and Rwanda?
[49] Rwanda Development Board (2018) Tourism Promotion Will Better the Lives of Rwandans
[50] Snyman et al. (2023) Benefit-sharing from protected area tourism: A 15-year review of the Rwanda tourism revenue sharing programme
[51] World Bank Group (2023) Making the Most of Nature Based Tourism in Rwanda

The TRSP targets its funds toward each park's 'Zone of Influence'- the area where community members either impact or are impacted by the national park (including sectors bordering the park boundaries), and prioritises low-income and disadvantaged groups within these target areas.[52]

The main objectives are to enhance conservation, livelihoods, and relationships:

- **Conservation goals** include reducing illegal activities such as poaching, promoting sustainable management of buffer zones, and strengthening community responsibility or "buy-in" for conservation.
- **Livelihood goals** include poverty reduction, compensation for loss of access to lands or crop damage, and supporting community-based conservation.
- **Relationship goals** focus on trust-building, increased local participation in conservation activities, and empowerment of communities.

Since 2005, the TRSP has invested USD 5.6 million in projects across target areas.[53] With the aim of improving the standard of living, funds from the TRSP have mainly been allocated to the development of infrastructure and social services such as schools, roads and bridges, water tanks, health centers, and sanitation.

Uganda: Moderate-Access Community-Integrated Model

Uganda employs a community-based, revenue-sharing eco-tourism model that directs a portion of tourism revenue to neighboring communities while retaining a degree of exclusivity through relatively high permit prices. Although park entry fees are lower than in Rwanda, they remain comparatively expensive: USD 800 for foreign non-residents, USD 700 for foreign residents, USD 500 for Africans, and UGX 300,000 (~USD 82) for East African Citizens.[54] Visitor numbers to Bwindi National Park have greatly increased over the past three decades-from 3,000 tourists in 1991 to now nearly 36,000 annually. Eight people are allowed to visit each gorilla group per day, and with 20 groups, daily visitation is capped at roughly 152 tourists. This strict management of visitor numbers helps minimise disturbance to wildlife while maintaining a high-quality, exclusive trekking experience.

Uganda is increasingly positioning itself as a premium tourist destination, with the government investing heavily in the sector to improve high-end accommodation standards and upgrade infrastructure to attract more foreign tourists.[55] These efforts are complemented by the revenue-sharing scheme which ensures local communities benefit directly from eco-tourism and helps sustain long-term support for conservation.

Revenue sharing includes 20% from park entry fees and USD 10 from each gorilla tracking permit.[56] According to the Uganda Wildlife Authority (UWA)'s guidelines, revenue sharing should serve the following three objectives:

1. To provide an enabling environment for establishing good relations between the protected areas and their neighbouring local communities,
2. To demonstrate the economic value of protected areas and conservation in general to communities neighbouring protected areas, and
3. To strengthen the support and acceptance for protected areas and conservation activities from communities living adjacent to these areas.[57]

[52] Ibid (2023)
[53] Snyman et al. (2023) Benefit-sharing from protected area tourism: A 15-year review of the Rwanda tourism revenue sharing programme
[54] Bwindi Impenetrable National Park (2025) Cost of Gorilla Tracking Permits in 2025/26
[55] Business Times Uganda (2025) Uganda Moving to Position Itself as a Premium Tourist Destination
[56] Interview with Monique Akullo, UNDP BIOFIN Uganda, 31 January 2025
[57] Green Policy Platform (2017) Lessons Learnt from 20 Years of Revenue Sharing at Bwindi Impenetrable National Park, Uganda

Funds are sent by the Ugandan Wildlife Authority to the districts, who keep 5% to cover administration costs while passing the remaining 95% on to the sub-counties for agreed projects.[58] Money can be allocated toward household or community projects that either meet the criteria of reducing human-wildlife conflict or improving the livelihoods of households in frontline villages. Only villages sharing a boundary with the Park qualify for funds as they bear direct costs of conservation, such as crop damage.

UWA's Revenue Sharing Regulations require district councils, frontline stakeholder committee, and community benefit sharing committees to maintain financial records and accounts of the revenue sharing funds, which fuels community-level oversight, meant to improve trust. Ensuring these committees are well-resourced is key to the programme's effectiveness. The UWA also requires funds to be managed with transparency, through audits that assess how the funds are used. Community members can see how these funds are managed through a legal route called the public access/disclosure obligation. These measures are meant to strengthen bottom-up accountability but must be accompanied by efforts to build and sustain local capacity.

Considerations for Neighboring Communities

The creation of the revenue sharing scheme has played a significant role in improving the relationship between neighboring communities and the Park, which was strained by the Park's establishment. This deterioration in relations was largely due to unfair treatment of the Batwa population, an Indigenous group from the Great Lakes region of Central Africa. The Batwa were historically forest-dwelling hunter-gatherers, but were driven from their ancestral lands to make way for national parks. Although evicted during the colonial era, they continued to live next to the forests and derive their livelihoods from it until 1992, when the designation of Bwindi forest reserve as a national park cut off their access to forest resources.[59] Unfounded rumors circulated that the Batwa were harming mountain gorillas despite no significant evidence linking Batwa presence to gorilla population declines.[60] On the contrary, Batwa cultural beliefs regard mountain gorillas as "forest guardians", highlighting their inherent respect for the species and the environment. The forced removal of the Batwa from Bwindi National Park represents the complex intersection of conservation goals and Indigenous rights. Action is being taken to restore the symbiotic relationship between Indigenous knowledge and wildlife conservation.

The revenue sharing scheme aims to support local communities, including Batwa households. The shared revenue is either distributed in the form of cash payments or small grants for projects. These may include individual initiatives like microenterprises or school bursaries, or community-wide projects like school infrastructure and road repair. Most funds have been invested in community-wide infrastructure projects rather than income-generating activities for groups or individuals. Notably, researchers conducted a multivariable regression analysis to identify which project types supported by TRSP had significant impacts on socio-economic well-being. They found that the construction of schools had a significant correlation with the socio-economic well-being of communities bordering Bwindi Forest Impenetrable National Park ($\beta = .164$, $P<0.05$).[61] However, the study also highlights that the overall effectiveness of the scheme is undermined by delays in fund disbursement from Local Government affecting the implementation and monitoring of TRSPs.

[58] Uganda Wildlife (n.d.) Revenue Sharing
[59] Green Policy Platform (2017) Lessons Learnt from 20 Years of Revenue Sharing at Bwindi Impenetrable National Park, Uganda
[60] Bwindi Impenetrable National Park (2025) Were the Batwa a Threat to Mountain Gorillas? Separating Fact from Myth
[61] African Wildlife Economy Institute (2023) Assessment of the Framework for Tourism Revenue Sharing Schemes in Uganda

While benefits from the Revenue Sharing Program are meant to reach most people in the community and improve social well-being, many are still left out. For example, a study by the American Journal of Humanities and Social Sciences Research (AJHSSR) found that 77% of women surrounding the Mgahinga and Bwindi conservation areas did not feel empowered by the scheme.[62] Researchers attributed this exclusion to factors such as corruption and bribery, political influence, and insufficient dissemination of information to women. These issues may be addressed through the implementation of legal measures to hold government officials accountable for corrupt practices.

The "Batwa Experience"

The national park supports employment in the tourism sector while promoting the cultural heritage of Batwa people. For USD $25, Batwa tour guides lead visitors on a cultural tour of the forest, taking them through a special Batwa trail which ends in a hike to the local Batwa village.[63] Tour guides receive a facilitation fee, and part of the income is invested into a community fund. However, forest guide income is not currently sufficient to support livelihoods, with guides typically needing additional income streams. Efforts are being made to channel earnings from the tourism industry toward the Batwa community. For instance, the Uganda Wildlife Authority prioritises Batwa youth for scholarships, and organisations like the Nkuringo Conservation and Development Foundation (NCDF) and UPR (Uplifting the Rural Poor) allow Batwa people to join beekeeping, mushroom farming, drama club and conservation awareness activities.

Still, the Batwa people continue to face structural issues of poverty, landlessness, and socio-economic marginalisation. Batwa communities possess generations of knowledge regarding nature-based solutions for biodiversity conservation, thus recognizing their expertise is not only beneficial to enhancing conservation efforts, but also to uplifting the Batwa communities which have been systematically disenfranchised.

The DRC: Transformative Economic Model

Virunga National Park in eastern Democratic Republic of Congo (DRC) is Africa's oldest national park and one of the most biodiverse places on the planet.[64] Here, mountain gorilla tracking permits are considerably cheaper than those in Rwanda and Uganda, costing USD 400, but tourists must weigh added concerns like security risks and weaker infrastructure when deciding whether to visit the Park.[65] Since the aftermath of the Rwandan Genocide, the eastern DRC has experienced persistent conflict, with numerous armed groups competing with the central authorities of power for control over territory and natural resources. In February 2025, M23 rebels, reportedly backed by Rwanda, captured key cities in the Kivu provinces, leading to mass displacement and significant civilian casualties.[66] As of January 2025, over half of Virunga National Park fell under rebel control, and 211 of its park rangers have been killed while on duty.[67]

This ongoing instability cannot be isolated from the conservation efforts in the region, as armed conflict, often funded by the extraction of natural resources, threatens wildlife protection efforts and the livelihoods of local communities. Some 11 million people in the surrounding areas live in extreme poverty, and this economic hardship often drives local people and armed groups to exploit natural resources such as firewood and charcoal for survival.[68]

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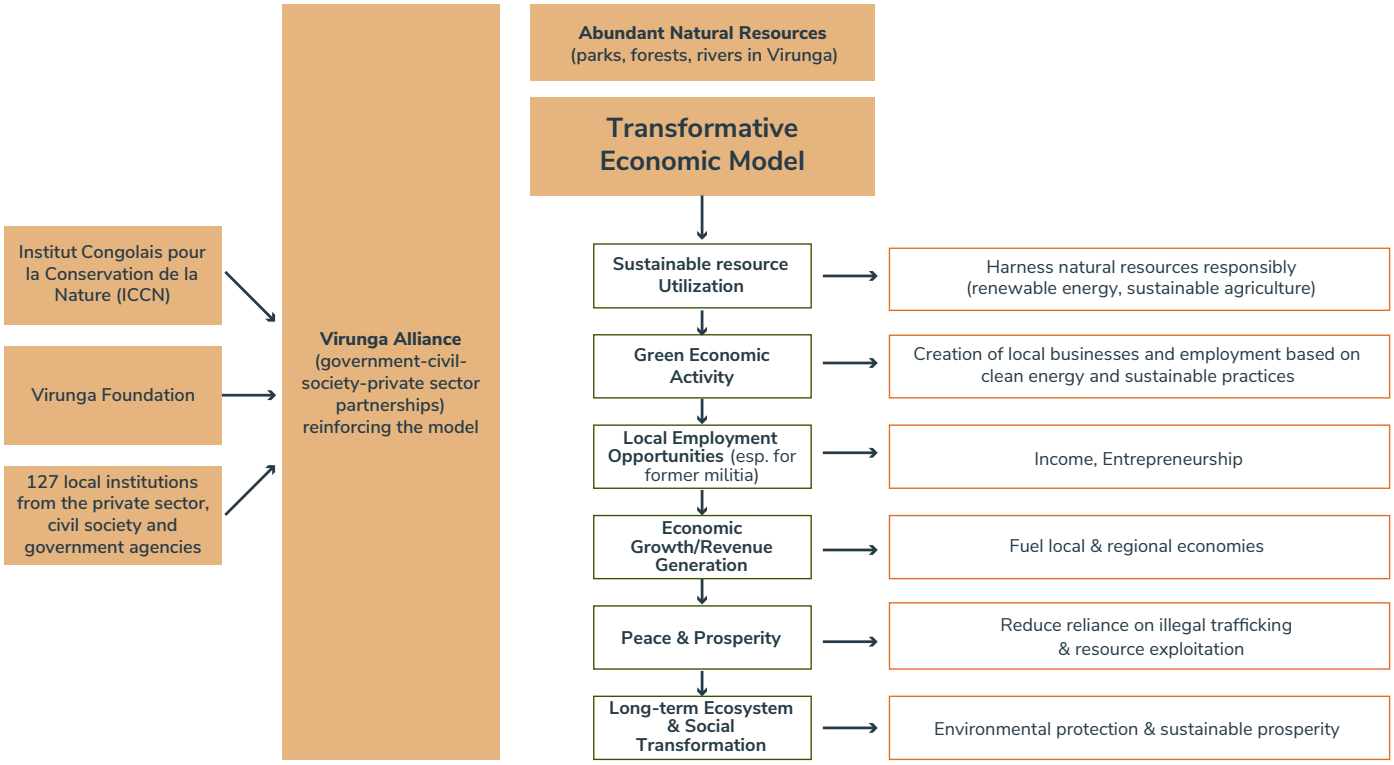
[62] AJHSSR (2021) Wildlife Authority Revenue Sharing Scheme and Women Empowerment
[63] WWF (2025) Tourism as a bridge: Baryakiza Annette and the "Batwa Experience" in Bwindi
[64] World Economic Forum (2025) The Democratic Republic of Congo to Create the Earth's Largest Protected Tropical Forest Reserve
[65] Silverback Gorillas (n.d.) Booking Gorilla Permits in Rwanda, Uganda and Congo
[66] BBC (2025) What's the Fighting in DR Congo All About?
[67] World Economic Forum (2025) The Democratic Republic of Congo to Create the Earth's Largest Protected Tropical Forest Reserve
[68] Ibid (2024)

Transformative Economic Model: Virunga Alliance

In response to the challenges facing the region, the Virunga Alliance, a public-private partnership formed in 2013 to address the twofold problem of chronic social injustice and violence from protracted war alongside the protection the wildlife in the Park.[69] This partnership is comprised of the Institut Congolais pour la Conservation de la Nature (ICCN), the Virunga Foundation, and 127 local institutions from the private sector, civil society and government agencies. Through a transformative economic model, the Alliance links conservation, green energy, and economic development, using the park's natural resources to drive green economic activity.

Figure 4: DRC transformative economic model structure



The Alliance recognises that the survival of the Park depends on its ability to act as an asset for surrounding communities. Thus, its long-term goals include offering 100,000 jobs as an alternative for members of armed groups. As an example, the Alliance responded to militias' illegal charcoal revenue of USD 170 million in the Park by developing a community-led renewable energy program led by young technicians from local villages.[70] This initiative has increased earnings for 30,000 farming families and created 21,000 new jobs, with 11% of those jobs occupied by young people that have left militias.

[69] Virunga (n.d.) Virunga Alliance
[70] World Economic Forum (2025) The Democratic Republic of Congo to Create the Earth's Largest Protected Tropical Forest Reserve

Expansion of the Virunga Alliance: Kivu-Kinshasa Green Corridor

Building on these achievements, the Kivu-Kinshasa Green Corridor is scaling the Virunga Alliance model across the Congo Basin. Supported by new legislation passed by parliament in January 2025 to protect 540,000 km2 of land including 108,000 km2 of primary forest to create the world's largest protected forest area, this initiative consists of a network of economic hubs built on sustainable agricultural production, powered by hydroelectric energy derived from the Congo River.[71] The initiative aims to create 500,000 new jobs and transfer 1 million tonnes of food annually from Kivu to Kinshasa, linking the conflict-affected region with the nation's economic centre. It is designed around local consent and community benefit, with the goal of enhancing peacebuilding and national cohesion.

While the project has been legally established, some barriers remain to implementation. For example, 72% of the Green Corridor overlaps with government-planned oil blocks, risking conflict between environmental protection and fossil fuel development.[72] To address this, the government could formally delineate high-priority conservation zones where no oil exploration is permitted, suspend oil and gas licensing in sensitive areas, enforce rigorous environmental impact assessments, and establish buffer zones around critical gorilla habitats. Additionally, several issues have arisen regarding the human rights of local communities, such as their absence in consultations during the planning phase, violating the Principles of Free, Prior and Informed Consent (FPIC).[73] Such concerns may be mitigated through the implementation of legally binding consultation protocols that ensure that affected communities are actively involved in meetings and that their feedback is integrated into project designs. There are also issues regarding the limited capacity of the Congolese Institute for Nature Conservation (ICCN) to oversee the expansive Corridor. These capacity constraints could be overcome by recruiting and training additional rangers and conservation staff, providing technical support, and establishing partnerships with NGOs or international conservation agencies to co-manage portions of the Corridor.

Challenges

Allocation of Revenues

In Rwanda, although the TRSP model is functioning, challenges remain. For instance, based on a survey of community members living around Rwanda's three national parks, while 80% of spending has been allocated to infrastructure development since 2005, most beneficiaries indicated a preference for allocating a majority of the TRSP revenue to livelihood development programs instead.[74] A World Bank report emphasises that TRSP funds should not replace public obligations. Instead, they should address the needs of those directly affected by the establishment of national parks and PAs, and communities impacted by human-wildlife conflict, with provisions ensuring that these communities play an active role in managing the funds and resources allocated to them.[75]

The benefits of social infrastructure are not always associated with conservation or tourism, which can reduce community support for the TRSP and weaken the perceived link between tourism revenue and tangible improvements in local livelihoods.

[71] World Economic Forum (2025) The Democratic Republic of Congo to Create the Earth's Largest Protected Tropical Forest Reserve
[72] The Guardian (2025) Gorilla Habitats and Pristine Forest at Risk as DRC Opens Half of Country to Oil and Gas Drilling Bids
[73] UNOHCHR (2018). Free, prior and informed consent: a human rights-based approach
[74] Snyman et al. (2023) Benefit-sharing from protected area tourism: A 15-year review of the Rwanda tourism revenue sharing programme
[75] World Bank Group (2023) Making the Most of Nature Based Tourism in Rwanda

In Uganda, beneficiaries are not always synonymous with those who experience the costs of conservation through human-wildlife conflict or loss of land.[76] Though designed to target low income people, the poorest residents are often not the beneficiaries of revenue sharing, and dividing the share of revenue among a large amount of people means that the resources per person is minimal.

Awareness and Inclusion

One persistent challenge of revenue sharing has been the general lack of knowledge and awareness about these models for local communities, leaving potential beneficiaries and other impacted groups uninformed about project selection and subsequent monitoring and evaluation procedures. In Uganda, 73% of beneficiaries cite a lack of awareness and understanding of the Uganda Wildlife Authority's revenue-sharing guidelines.[77]

Survey results in Rwanda indicate that disadvantaged groups, women, and youth only occasionally benefitted or did not benefit at all from TRSP, highlighting the need to ensure equitable distribution of benefits. Similar challenges are evident in Uganda. Surveys in the country found that beneficiaries of revenue sharing are disproportionately men, and Batwa indigenous people are systematically underrepresented. Despite some attempts to monitor the degree to which the marginalised Batwa and women benefit from the revenue sharing scheme, their participation in the decision-making processes has not been effectively tracked.

These challenges necessitate shifting the revenue-sharing model towards a more accountable and inclusive approach that ensures communities are involved in project procurement processes and decision-making.

Ethical Eco-Tourism

While eco-tourism in the Virunga National Park helps promote peacebuilding and conservation efforts, it also contributes to the securitisation and militarisation of conservation areas through the creation of 'safe' tourist enclaves.[78] For instance, the Virunga Foundation has heavily invested in the securitisation of transport, tourist lodges, and the visa process, with tourists passing through villages with armed escorts and being accompanied by armed guards on their tours. The national park even issues its own special tourist visa and manages border logistics independently of the Congolese state, acting as its own "state within a state".[79] Designed to ensure safety and attract tourists, this "bunkerised" form of tourism ends up creating a strong divide between visitors and local communities. Contact with local communities is limited, and many visitors leave with little understanding of the region's deeper social and political challenges. Such a model of eco-tourism risks reproducing neo-colonial hierarchies, undermining the role and capacity of Congolese communities to support conservation. While security measures are indeed essential to establish the safety of tourists, the provision of safety measures should be prioritised for local communities. Additionally, eco-tourism revenues should be equitably shared with local communities.

Replication and Scaling

Eco-tourism revenue sharing models are critical to aligning community livelihoods with conservation outcomes. When implemented effectively, they can uplift local communities by equipping them with tangible benefits, and in turn, strengthen community buy-in for environmental stewardship.

[76] African Wildlife Economy Institute (2023) Assessment of the Framework for Tourism Revenue Sharing Schemes in Uganda
[77] Green Policy Platform (2017) Lessons Learnt from 20 Years of Revenue Sharing at Bwindi Impenetrable National Park, Uganda
[78] Marijnen (2022) Eco-war Tourism: Affective Geographies, Colonial Durabilities and the Militarization of Conservation
[79] Ibid (2022)

Expanding Revenue Sharing Models

Community-based revenue-sharing models can deliver substantial benefits for communities living adjacent to national parks, but they must be tailored to local needs and designed to genuinely empower those who are most often excluded. In many cases, women and marginalised Indigenous groups receive limited benefits, so scaling these models in ways that reach underrepresented groups, and at higher more reliable funding levels, will be necessary. Ensuring equitable distribution also requires strong governance and monitoring mechanisms. When replicating revenue-sharing, it is important to implement standardised reporting protocols, independent audits, and community oversight committees that track fund allocation and project outcomes with full transparency.

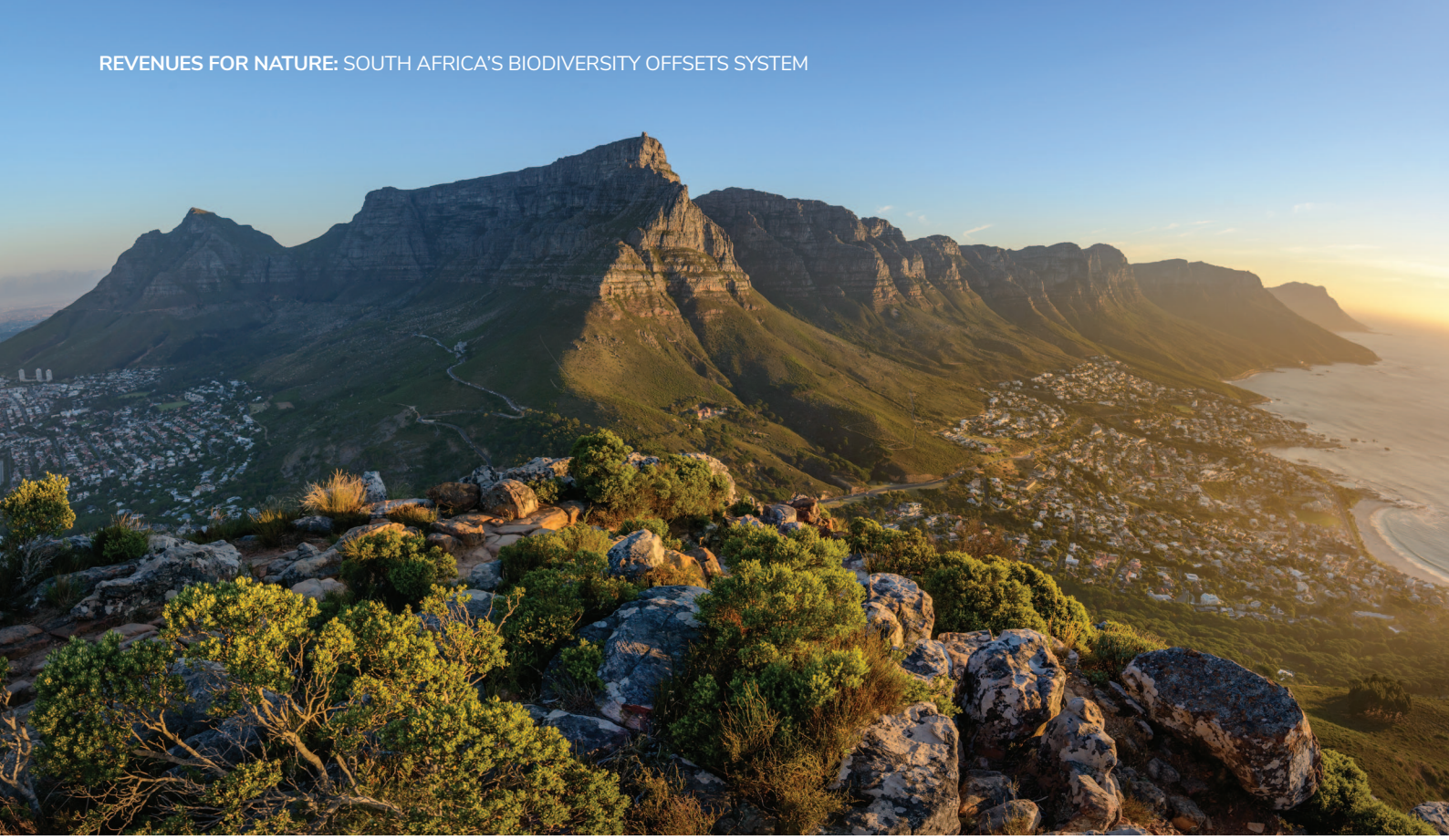
Enhancing Conflict-Sensitive Approaches

Providing employment opportunities in the clean energy and sustainable agriculture sector can drive long-term prosperity while promoting peace. When these sectors create meaningful livelihoods, they help stabilise communities and incentivise their active involvement in local conservation. In this sense, such a transformative economic model can be replicated in other conflict-affected areas seeking to safeguard their ecosystems and populations.

Such approaches ideally require effective multi-stakeholder coordination, political stability, and substantial investment. In contexts like the DRC, where political stability is limited, establishing a strong public private partnership is key. For instance, creating a multi-stakeholder body (like the Virunga Alliance) with a clear legal status, board, and formal governance and decision-making framework. Successful replication also depends on adapting models to local ecological, cultural, and institutional contexts rather than applying a single blueprint across different regions. This involves conducting conflict sensitivity assessments, mapping local resource use and tenure, engaging stakeholders through FPIC, and adapting benefit-sharing mechanisms to the specific needs, capacities, and norms of each community.

Lessons Learned

- Linking high-value tourism to community benefits strengthens local support for conservation.
- Controlled visitor numbers help achieve a balance between the ecological footprint of tourism and revenue generated.
- Inclusive community engagement (e.g., Batwa cultural initiatives) is essential for sustainable conservation outcomes. As an international example, in Canada's Great Bear Rainforest, Indigenous Peoples were involved in the design of the conservation financing mechanism which helped to increase buy-in and ensure the structure and operations were inclusive and respectful. You can read more about the Great Bear Rainforest Project Finance for Permanence in the R4N guidebook here.
- Revenue-sharing schemes need active monitoring and transparency and mechanisms to ensure marginalised groups benefit.
- Eco-tourism can contribute to conservation and peacebuilding but must balance security with genuine community engagement.



South Africa's Biodiversity offsets system

Although South Africa's biodiversity offset system is primarily designed as a habitat-focused mechanism, it plays a critical role in wildlife conservation. Habitat loss and fragmentation remain the leading drivers of wildlife decline across Sub-Saharan Africa. By legally securing, restoring, and connecting ecosystems, offsets can expand the availability and quality of landscapes that wildlife depend on.

Background

Biodiversity markets, through regulated offset systems, are increasingly seen as an innovative approach to financing wildlife conservation and ecosystem restoration. When underpinned by clear and robust national regulations, they can provide a credible mechanism to attract private sector investment in conservation activities that deliver measurable ecological outcomes, while sustaining economic growth. These markets can help bridge funding gaps and incentivize businesses to account for their environmental impacts.

Offsets aim to achieve no net loss of biodiversity by restoring or protecting ecosystems equivalent to those affected by development. Under South Africa's National Biodiversity Offset Guideline (NBOG), offsets are applied only as a last resort, after all feasible steps to avoid, minimise, and rehabilitate impacts have been taken. Developers may be required by the Competent Authority (Department of Forestry, Fisheries and the Environment (DFFE) or a provincial department) to offset biodiversity impacts if they meet specific conditions through the Environmental Authorisation (EA) process, these conditions being residual impacts of medium or high significance and prior application of the mitigation hierarchy. Healthy habitats are fundamental to sustaining wildlife populations, including many of South Africa's flagship species such as elephants, rhinos, lions, and endangered antelope. By securing and restoring ecosystems through offsets, these schemes indirectly but materially support wildlife survival by expanding and improving the landscapes on which species depend.

Overview

Table 1. Investment-Outcome Table: South Africa's Biodiversity Offsets

Who Invests	How Funds Are Used	Mechanism	Main Outcomes
Developers (e.g. mining, energy, infrastructure)	Pay for land acquisition, restoration, and management to offset project impacts	**Mandatory biodiversity offsets under NEMA**	Aim for "No net loss" of biodiversity; restoration or protection of equivalent ecosystems
Developers (via SANParks)	Purchase biodiversity credits from pre-secured offset sites	**Biodiversity Offset Bank (SANParks)**	17,000 ha added to protected areas; long-term funding for site management
Conservation Trusts / NGOs	Manage offset funds (endowments or sinking funds) over 30+ years	**Endowment / Trust Fund model**	Sustainable financing for ongoing site monitoring and maintenance
Government & Partners (DFFE, SANBI, BIOFIN, DBSA, UNDP)	Build digital systems and provide technical support	**Offset Register & Portal**	Transparent tracking of offset sites and performance
Private Landowners	Enter legal agreements to conserve their land in perpetuity	**Biodiversity Stewardship Agreements**	Expanded conservation areas and stronger landscape connectivity

Figure 5. South Africa's Biodiversity Offset Structure

Phases of the Environmental Authorization Application Process	Steps in the Biodiversity Offsetting Process
1. Pre-Application Phase	• Identifying the need for a biodiversity offset
2. Environmental Impact Assessment Phase	• Determining the requirements of a biodiversity offset and preparation for a Biodiversity Offset Report • Selecting the Biodiversity Offset Site
3. Decision-making Phase	• Preparing biodiversity offset conditions and an Environmental Authorization • Securing the Biodiversity Offset Site
4. Post-Authorization Phase	• Preparing a Biodiversity Offset Management Plan • Concluding a Biodiversity Offset Implementation Agreement

Design and Structure

Legal and Policy Foundation

The South Africa National Biodiversity Offset Guideline (NBOG), published under section 24J of the National Environmental Management Act (NEMA), sets out the rules governing biodiversity offsetting in South Africa.[80] This guideline is specifically meant for applications for EA under Section 24 of NEMA and provides instructions and requirements for anyone seeking official permission to carry out activities in South Africa which may have environmental implications. When the Guideline is applied, it gives the Competent Authority, or the government department responsible for approving the EA, a consistent and standardized approach to decide when and how to require a biodiversity offset as a condition of that authorisation. The policy aim of the Guideline is to ensure "no net loss" and preferably net gain of biodiversity where development leaves residual impacts.[81] It does so by setting minimum national standards and basic rules for offsetting in South Africa (for terrestrial and freshwater ecosystems) and complementing existing provincial and sector-level guidance and planning instruments.

[80] DFFE (2023). The National Biodiversity Offset Guideline

[81] Endangered Wildlife Trust (n.d.) Biodiversity Offsets – The practical context for EAPs, specialists and developers

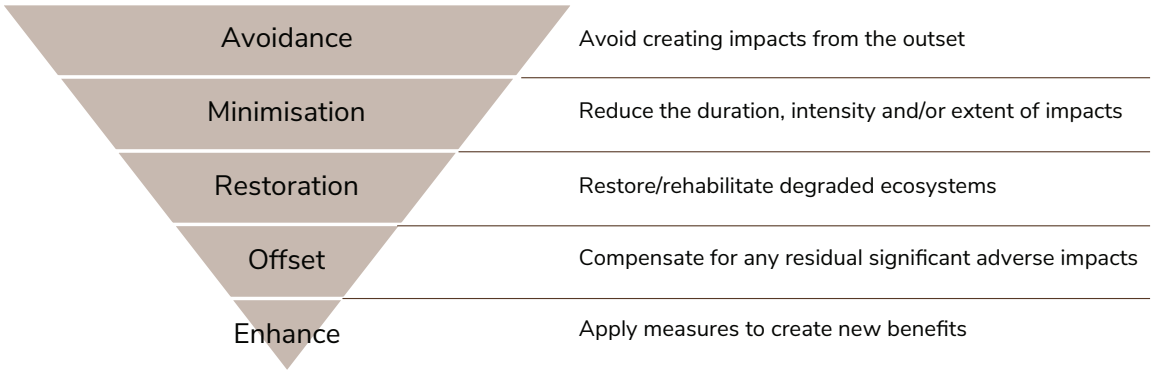
Determining Requirements for the Biodiversity Offset and Preparing the Biodiversity Offset Report (BOR)

According to the NBOG, the first step in the biodiversity offset process is determining the need for the offset during the Environmental Impact Assessment (EIA). As part of an EIA, the proponent, or the Environmental Assessment Practitioner (EAP), often supported by specialists, identifies potential impacts of an activity on biodiversity, guided by the mitigation hierarchy and assessment of residual negative impacts. The likelihood of needing an offset is often flagged early with the help of the National Environmental Web-based Screening Tool and a subsequent site sensitivity verification report of the affected project area prepared by the EAP or specialist.

Biodiversity offsetting is considered an option only after all preceding steps in the mitigation hierarchy have been fully and feasibly applied. This hierarchy entails that negative impacts on biodiversity must first be avoided, minimised, and remedied through rehabilitation (see Figure 6). As such, offsets are pursued only when residual impacts are of medium or high significance.

Regulators require documented evidence from the developer to be confident that harm has been avoided and minimised before any offset is considered. In practice, this usually takes the form of a report or project plan submitted as part of the Environmental Impact Assessment (EIA) or a dedicated Biodiversity Offset Report (BOR).

Figure 6: Mitigation Hierarchy[82]

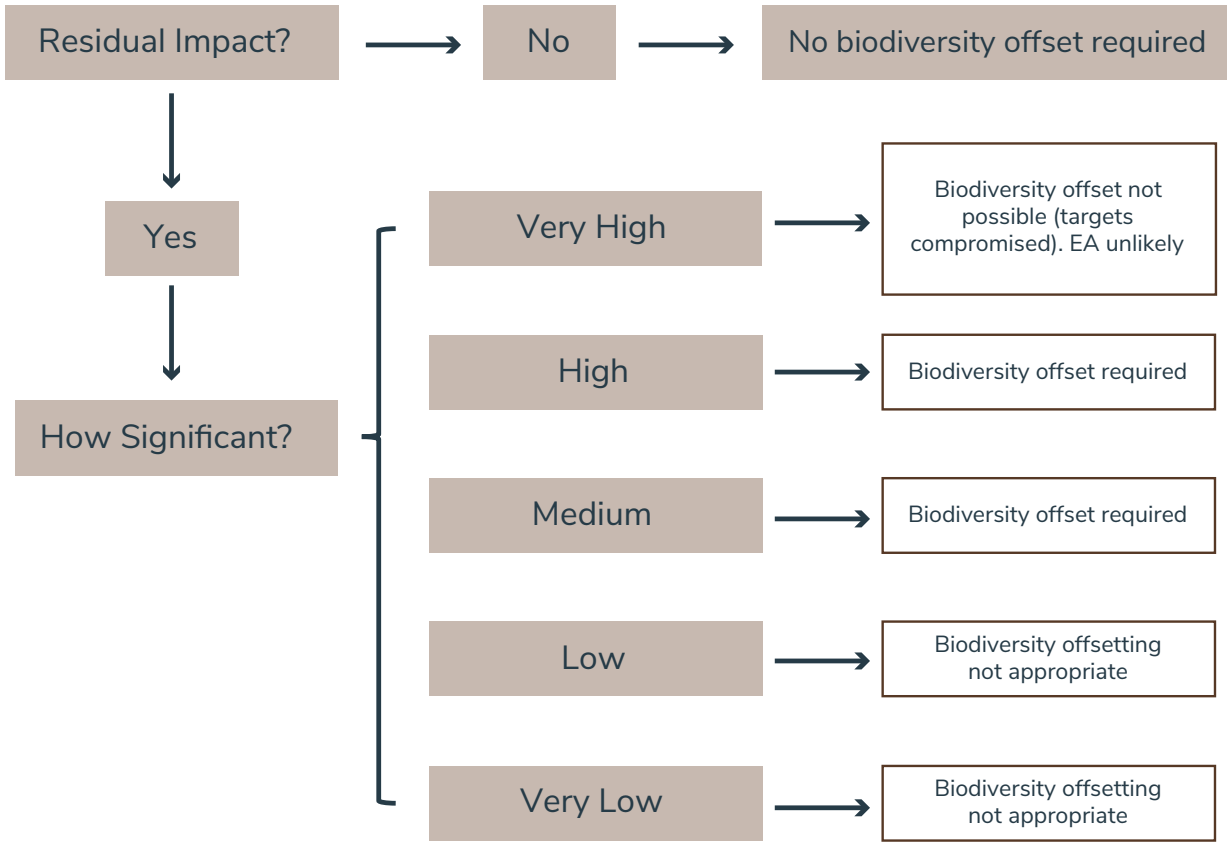


During this EIA phase, specialists working closely with the EAP to produce a Biodiversity Offset Report (BOR) with the aim of setting out the required biodiversity outcomes and identifying a portfolio of candidate biodiversity offset sites where those outcomes can be achieved. Several key technical steps are required for this process, starting with significance level and offset size calculations.

Significance levels are determined based on consequence (including the intensity, extent, and duration of impact) and likelihood of an impact occurring (see Figure 7). Any activity posing residual impacts on biodiversity of very high significance are deemed "fatally flawed" and should be avoided due to their irreversible and irreplaceable impact on biodiversity loss. If significance ratings are contentious or contested, the Competent Authority can call for an independent peer review of a biodiversity specialist study or biodiversity offset report to diminish uncertainty about the need for the offset.

[82] Cares et al. (2023) Investigating the implementation of the mitigation hierarchy approach in environmental impact assessment in relation to biodiversity impacts

Figure 7. Flow Chart for determining when an offset it required[83]



Once the significance has been identified, the size of the biodiversity offset is determined through the calculation of a basic offset ratio. This standard, area-based approach considers factors such as how much of that ecosystem is left (Ecosystem Extent), how well it is already protected (Ecosystem Protection Level), and how threatened it is (Ecosystem Threat Status). If the Ecosystem Extent is very low (less than or equal to 30% of its historical range), the precautionary principle requires that the maximum offset ratio of 30:1 be applied. This high ratio reflects the Threshold of Potential Concern (TPC), intending to encourage developers to avoid impacts on such highly threatened ecosystems.

Additionally, ratios are applied based on the threat status:

- Critically Endangered: **30:1**
- Endangered: **10:1**
- Vulnerable: **5:1**

The highest of the ratios derived from the Ecosystem Extent/Protection Level calculations and the Ecosystem Threat Status calculation is selected as the starting ratio, but spatial considerations influence the final ratio determination. For instance, if the biodiversity impact is likely to occur in a Critical Biodiversity Area: Optimal (CBA 2), it is advised that the ratio be adjusted by increasing it by a factor of 1.5 up to a maximum of 30:1. Different approaches are required for certain ecosystems, for example:

- **Wetlands:** Mitigation must address the loss of biodiversity as well as the impacts on wetland functioning, so this necessitates additional, targeted measures such as rehabilitation of degraded wetland systems beyond simple area replacement.

[83] DFFE (2023) National Biodiversity Offset Guideline

- **Natural Forests:** Since natural forests are protected under the National Forests Act (NFA) and destruction is only allowed in exceptional circumstances, any impacts are viewed as serious, and often "fatally flawed". This means that ecological compensation, such as activities that promote forest regeneration, would be required.

Additional considerations are made regarding unique features such as threatened species, special habitats, and the role of the area in key ecological processes, including the presence of ecological infrastructure, to adjust the biodiversity offset requirements. A portfolio of candidate offset sites is identified, which must align with biodiversity priority areas (as determined in spatial biodiversity plans) and follow the principles of ecological equivalence ("like-for-like") and additionality. For each candidate site, conceptual management arrangements and financing requirements are planned, including the costs of securing, rehabilitating, and managing the site for the liability period, (which is a minimum of 30 years or as long as the duration of the authorized activity, whichever is longer).

The EA holder is responsible for covering all costs. Financial planning must estimate funds for ongoing management, adjusting for future price increases over the liability period. The preferred mechanism for funding is a lump sum payment up front. Funds are best provided as an endowment (where only investment income is used) or a sinking fund (where the principal is gradually spent over time). These funds can be received, held, and administered by qualified conservation entities such as Non-Profit Organizations (NPOs), Public-Benefit Organizations (PBOs), or Trusts.

Engagement with conservation authorities and other commenting authorities is crucial during this step to ensure the proposed offset options are acceptable. The Biodiversity Offset Report is submitted together with the Basic Assessment Report or EIA Report to the Competent Authority, and the draft BOR must undergo a public participation process for at least 30 days.

Preparing Environmental Authorization Conditions

Once the Competent Authority has reviewed the BOR and other reports, if they decide to grant the EA, they must incorporate specific, outcome-focused conditions for the biodiversity offset. The Authorization must require the EA holder to:

1. Specify the biodiversity outcomes that must be achieved, including the required size and characteristics of the biodiversity to be secured
2. Select and secure a biodiversity offset site
3. Prepare a Biodiversity Offset Management Plan (BOMP) for the secured site
4. Enter a legally binding Biodiversity Offset Implementation Agreement (BOIA) with an implementing party, which states who will manage the offset site and what each party will do

Post-Authorization Phase

Once a project receives approval, the EA holder must ensure the land chosen for the offset is legally protected for conservation. The following mechanisms can be used to achieve this:

- **Land purchase or proclamation:** The proponent would "have to own or purchase suitable land" or arrange for it to become a protected area under South African law.
- **Biodiversity stewardship:** The proponent can work with private landowners who agree to manage their land for conservation in perpetuity, through an agreement
- **Conservation Servitude:** A legal restriction added to a property title deed stating that land must be used for conservation, binding even if the land is sold later.
- **Formal protected area expansion:** Where possible, offsets should contribute to the expansion of South Africa's protected area network and be made in respect of areas adjacent to existing protected areas.

Measurement, Monitoring and Verification

To uphold transparency and coordination, the NBOG recommends recording offset sites and statuses in the electronic National Biodiversity Offset Register, which is established and maintained by DFFE. Offset performance should be continuously monitored against agreed upon indicators and periodically audited. Non-compliance can trigger enforcement actions or remedial requirements. Although offsets are not species-specific instruments, monitoring habitat condition, vegetation integrity and ecosystem functioning provides strong proxies for wildlife outcomes, as improved habitats typically lead to increased species abundance and resilience.

The South African National Biodiversity Institute (SANBI), in collaboration with DFFE, South African National Parks (SANParks), UNDP South Africa's BIOFIN, and the Development Bank of Southern Africa (DBSA), launched two tools to enhance transparency and accountability in biodiversity offset implementation: the public-facing National Biodiversity Offsets Portal, which contains the Biodiversity Offset Register, and the SANParks Biodiversity Offset Bank.[84]

The National Biodiversity Offset Portal

The SANBI National Biodiversity Offset Portal is designed to be a centralised online platform for tracking, managing, and monitoring biodiversity offset projects across South Africa. Within the Portal, the Register provides maps and geographic data of offset sites, impact liabilities (where development projects have or will cause biodiversity loss), and candidate areas (where potential offset sites could be created in the future) (see figure 8).

[84] BIOFIN (2025) South Africa launches biodiversity offset tools to transform conservation efforts

Figure 8. Biodiversity Offset Portal View

The portal also includes a list documenting all approved offset sites, making it easier for developers to find suitable locations for compensation efforts (see figure 3). Users can click on each site to view detailed information, including its size, ecological features, status, and any associated offset requirements.

Figure 9. Biodiversity Offset Register

Register Details

Filter

Offset Register ID	Project Title	Year of Authorisation	View
NCNC06-002	Residential development, Sishen Golf course, ERF 149, remainder of ERF 2974 Kathu and remainder of Portion 1 Farm UItkoms 423 Gamagara Municipality, Northern Cape	08/12/2006	
DENC14-004	Construction of a 75MW Shirley Solar Energy Facility on portion 1 of farm Shirley 367, Kuruman RD Gamagara Local Municipality, Northern Cape Provice.	11/12/2014	
DEKZ13-001	Proposed Mooi Mngeni-Phase 2, water transfer scheme, Kwazulu Natal province	26/08/2013	
DEKZ09-001	Mooi-Mgeni Transfer scheme (phase 2): Spring Grove dam and appurtenant works, near Nottingham road in Kwa-Zulu Natal.	15/06/2009	
DANC11-003	NCM and Dirleton have acquired a mangenese prospecting rights and are proposing to establish a manganese mine near Hotazel, John Taolo Gaetsewe District Municipality, Northern Cape Province	13/06/2011	
DAKZ15-001	Island View Storage Site	13/05/2015	
DAKZXX-001	Fairbreeze Mine		
DANCXX-006	Thunderflex 78 PTY LTD - Engeldewilgeboomfontein Diamond mine application for forest act licence	27/07/2016	
DANC10-001	The relocation of the sishen - Lyleveld turnout to Sishen load station' rail and the Postmastburg-Hotazel railwayline section at the sishen iron ore mine.	23/03/2010	
DANC13-001	Proposed development of a new waste rock dumps at Sishen Iron Ore Mine, Nothern Cape	22/02/2013	

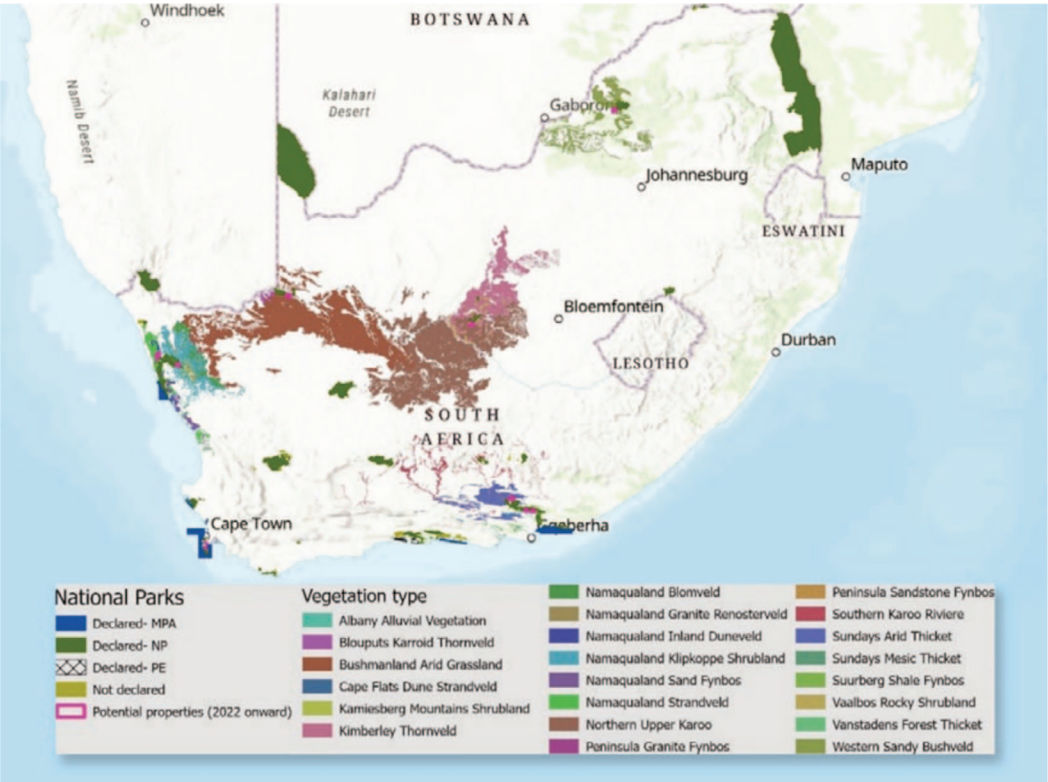
Items per page: 10 1 – 10 of 97

As the system is just now being rolled out and institutionalised, it is important to note that the portal may not yet include all offset sites or full data for every case. Additionally, variations in data quality and reporting standards across different projects can affect the consistency and reliability of information available on the portal. Accordingly, issues regarding incomplete data coverage and data quality should be addressed.

Biodiversity Offset Bank

The BIOFIN program has also partnered with SANParks to establish the country's first biodiversity offset bank. In this model, SANParks purchases land adjacent to its Parks, or uses recently acquired land, to create a bank of available offsets. This approach aims to avoid reactive site acquisition following the issuance of an EA, which can be costly, and put upwards pressure on land prices. As of May 2025, SANParks has secured 16,072 ha of land, forming the initial inventory of the Offset Bank.

Figure 10. The full extent of ecosystems covered by the Offsets Bank, as of May 2025[85]



The Biodiversity Offset Bank Ledger captures site details in an online repository which hosts data on biodiversity attributes such as specific vegetation types and ecosystems available as offset credits. The online repository is an internal document, but summary statistics and ecosystem maps covered by the bank are made public.

[85] BIOFIN (2025) A model for expanding protected areas through a proactive biodiversity offset bank

Figure 11. The Status of the Offset Bank ledger in SANParks, as of May 2025 [86]

SANParks' Management Region	National Park	Total Ha
Arid	Augrabies Falls	2043
	Namaqua	4650
	Mokala	1766
Cape	Table Mountain	4
Garden Route & Frontier	Addo	5210
Savannah	Marakele	2399
Grand Total		**16072**

Credit costing applies to credits supplied by the biodiversity offset bank. For these offset-bank credits, costing is systematically determined through three primary fee components: [87]

1. **Reservation Fee (10% of the capital fee)**
   a. Developers pay this upfront to reserve offset credits for up to five years while their projects move through approval or construction. Serves as a form of deposit that holds the conservation land for them.
2. **Capital Fee**
   a. Covers the actual costs of buying and securing the land, getting it legally protected, and setting up the conservation site.
   b. This fee increases each year by the long-term government bond rate to keep up with inflation and interest rates.
3. **Annual Management Fee**
   a. Paid every year for at least 30 years to fund ongoing conservation work to ensure the land stays protected and healthy in the long term.

These fees are derived from a systematic accounting of the transaction, purchase, establishment and forecasted management costs. Financial details, including acquisition and upfront capital costs, initial setup, and ongoing management expenses, are documented in separate spreadsheets for each property and park.

[86] Ibid (2025) A model for expanding protected areas through a proactive biodiversity offset bank
[87] Ibid (2025)

Wind Farm Offsets Purchase

An example of the Offset Bank in practice is a wind energy developer that needed to compensate for the residual ecological impacts of constructing and operating its turbines. Instead of identifying and managing the land itself, it purchased 500 hectares of offset credits directly from SANParks. The company paid approximately ZAR 1.6 million (~USD 93,000) upfront to cover land acquisition and establishment costs, along with an annual management fee of ZAR 100,000 (~USD 5,800 adjusted for inflation) for thirty years.[88]

Supply

South Africa's biodiversity offset supply is made up of conservation land available for developers to use in compensating for residual environmental impacts. The National Biodiversity Offset Register tracks these available offsets and lists 103 development projects as of November 2025.[89] Through the biodiversity offset banking modality, SANParks has secured approximately 17,000 hectares of land to create a ready supply of biodiversity offset credits.[90] These areas will serve as offset sites and expand the country's network of protected lands, contributing to the attainment of Target 3 of the Global Biodiversity Framework. If these 17,000 hectares of land are offset at the same rate as the initial 500 hectares, this could generate a capital expenditure of just over USD 2 million and annual management income of over USD 180,000 per year for 30 years.

Demand

There is a growing demand for biodiversity offsets, particularly in ecologically sensitive areas facing high land-use pressures. As development projects increase, more developers are required to compensate for residual environmental impacts, creating a steady and expanding market for offsets. Key drivers of demand include the growth of infrastructure, mining, and real-estate development, all of which tend to impact biodiversity-rich areas. For example, the South African construction sector is projected to expand at approximately 3.9% per year,[91] and the government has committed to significantly increasing infrastructure investment over the next few years, investing heavily in public-private partnerships and new capital projects. These kinds of activities will further increase pressure on ecosystems, creating a greater demand for biodiversity offsets.[92]

Impact

Financial benefits from biodiversity offsets have been estimated based on historical data. It is projected that avoiding land purchase and management costs for government-managed conservation could yield significant savings for the state. Specifically, costs avoided are estimated at ZAR 10,000 per hectare for land purchase and ZAR 250 per hectare annually for management, leading to anticipated annual net savings of approximately ZAR 218 million by 2030.[93]

[88] BIOFIN (2025) South Africa
[89] SANBI (2025) News Flash: National Biodiversity Offset Web Portal
[90] ESG Now (2025) SANParks' Biodiversity Offset Bank Shows Early Success
[91] Business Wire (2025) South Africa Construction Industry Databook 2025
[92] SA News (2025) Government on path to increase infrastructure development
[93] BIOFIN (2018) Biodiversity Finance Plan

Biodiversity-friendly development (such as offsets or restoration) is economically viable because wildlife-based land uses can generate significant economic returns. The biodiversity economy, particularly the wildlife sector, is vital to the South African economy. According to South Africa's National Biodiversity Economy Strategy, the wildlife sector's contribution to GDP contribution could reach ZAR 14 billion by 2030. The sector contributed to the creation of an estimated 74,000 jobs in 2014, with an annual growth rate of over 6%, and this is projected to double by 2030. The wildlife sector also makes a substantial contribution to rural development and national income. With the support of digital tools for monitoring and data management, biodiversity offsets can enhance conservation efforts while advancing sustainable development.

Challenges

Effectively implementing biodiversity offsets across South Africa poses some challenges. For instance, obtaining EA and offset approvals can be a slow and bureaucratic process, which can create uncertainties for developers and postpone the implementation of timely conservation measures. Additionally, many suitable biodiversity offset sites are located on communal or private land, requiring equitable consultation and benefit-sharing with local communities and landowners to ensure sustainable management. Long-term success requires effective site management and ecological monitoring, as well as reliable, sustained financing. Consistent application of rules and regular auditing are also necessary to ensure that commitments are implemented properly.

Replication and Scaling

Replicating South Africa's biodiversity offset system across additional provinces, or in other countries requires strengthening the enabling conditions that make offsets credible, investable, and implementable at scale. Scaling hinges not only on financial resources but also on governance quality, institutional capacity, and technical infrastructure. South Africa's system is comparatively mature: it benefits from a national policy framework (NBOG), established EA procedures, spatial biodiversity plans, and emerging digital infrastructure. These foundations lower transaction costs, improve transparency, and provide a pipeline of bankable, ecologically sound offset sites.

Scaling the offset bank model to additional provinces will require similar institutional readiness. Provinces with strong conservation agencies, established biodiversity stewardship programmes, and robust data on ecosystem threat status will be better positioned to adopt offset banking. Replication in additional countries in Africa and beyond the region will require even more foundational investments: governments must establish clear mitigation hierarchy rules, adopt transparent and consistent EA processes, and create or update spatial biodiversity plans to enable "like-for-like" ecological matching.

A critical condition for scaling is ensuring that offset mechanisms reflect local land tenure systems, especially where communal or customary land ownership dominates. Without doing so, offset supply may remain artificially constrained or generate legitimacy risks. Finally, scaling this model will depend on continued development of digital tools that make offsets visible, traceable, and verifiable. Replication efforts must include investments in MRV systems, public registries, and user-friendly portals to streamline processes.

Lessons Learned

- Standardised guidance (like the 2023 NBOG) improves compliance and ecological outcomes. Consistent oversight and enforcement are essential to ensure that guidance is effectively applied across sectors and provinces.
- Offsets must be treated as the last resort option and only applied after the avoidance, minimisation, and restoration phase, in line with the mitigation hierarchy. When residual impacts are uncertain or involve irreplaceable biodiversity, conservative offset ratios should be used to maintain ecological integrity.
- Strong institutional capacity to better support innovative tools like the SANParks biodiversity offset bank and the National Biodiversity Offset Register, enabling standardised tracking, monitoring, and transparent management of offset projects.
- Continuous ecological monitoring, periodic auditing, and adaptive management are necessary to track offset performance, address emerging issues, and ensure long-term ecological outcomes.

Conclusion

Protecting wildlife in Sub-Saharan Africa is ecologically, culturally, and economically vital. Keystone species underpin essential ecosystem services, tourism across the region is largely centered on wildlife viewing, and many communities live in close proximity to wildlife and depend on healthy ecosystems for their livelihoods.

The four case studies in this guidebook demonstrate that innovative revenue and financing models can mobilise substantial private capital for habitat restoration and species conservation when supported by strong collaborative governance and meaningful community engagement. While ecotourism itself is not new, embedding revenue-sharing mechanisms that benefit communities and implementing robust monitoring frameworks to ensure conservation outcomes can maximise the positive impacts of tourism and help ensure that tourism expansion does not inadvertently harm wildlife. The South Africa biodiversity offset system illustrates how economic development can be aligned with ecological outcomes through the regulatory application of the mitigation hierarchy and channelling developer funds into the restoration of critical habitats.

Collectively, these models show that conservation financing mechanisms are most effective when they link long-term ecological outcomes with incentives for communities through creating jobs, funding economic development initiatives and considering the potential negative impacts of wildlife proximity to crops, infrastructure and people.

Scaling these approaches across the region will require increased technical assistance, and deep collaborations between public, private, and community stakeholders.

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