



BEFORE IT'S TOO LATE

Deriving Sustainable
Value from Wildlife in
the Western Congo Basin

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the Western Congo Basin



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Design and layout: Francis Gagnon, Voilà Information Design, Montreal, Canada

Acknowledgments

This report was prepared by a team led by Julian Lee, and composed of Micah Effron (chapter 2, section 5.b), Douglas J. Graham (Box 5), Raymond Lumbuenamo (chapter 3), Brian Mullis (section 5.a.i, appendix A), Jean Maurice Muneza and Lauren Williams (WRI, section 5.c.iv), and Jean-Claude Nguingiri (FAO, sections 5.a.ii and 5.a.iii). The team received overall guidance from Elisabeth Huybens, Benoit Bosquet, and Laurent Debroux. Corneille Moukson Kutia-Kwa-Nzambi (WWF) and Josias Sipehouo conducted focus groups, and Cédric Sepulcre and Pauwel de Wachter (WWF) facilitated their organization. More than 100 government officials and civil society and indigenous peoples' representatives participated in consultation events in Bangui, Brazzaville, Douala, Libreville, and Yaoundé,

which were facilitated and organized by Loïc Braune, Idriss Deffry, Salimata Follea, Pierre Guigon, Cyrille Ngouana Kengne, Erik Winter Reed, Chrystelle Tapouh, Laurent Valiergue, and Mundele Wavellellah. Loïc Braune, Richard Damania, Douglas Graham, Shaun Mann, Simon Robertson, Claudia Sobrevila, Elisson Wright, Andrew Zakharenka, Bernard Noiret (Doli), and Fiona Maisels, Emma Stokes, and Michelle Wieland (all WCS) provided helpful comments and guidance. Last but not least, interview partners who are too many to name here contributed their expertise and time to the research. The team is indebted to all.

Contents

Acknowledgments	5
Contents	7
Abbreviations and Acronyms	11
Executive Summary	13
1. Introduction	19
2. Poaching and Unsustainable Hunting: Threats to a Sustainable Forest Economy	23
a. Subsistence Hunting	23
b. Commercial Bushmeat Trade	24
c. Poaching for High-Value Products	24
d. Conclusion	27
3. Who Are the Poachers? A Typology of Actors	29
a. Demographic Characteristics	29
b. Drivers of Poaching	31
c. What Might Dissuade Poaching	33
d. Conclusion	34
4. The Policy, Legal, and Regulatory Context	37
a. Analysis	37
b. Recommendations	39
5. Increasing the Value of Wildlife: Approaches for Communities and Governments	43
a. Creating New Economic Value	44
b. Sharing Value	62
c. Creating the Enabling Conditions for Creating and Sharing Economic Value from Wildlife	72
6. Conclusion: A Course for Deriving Economic Value from Wildlife in the WCB	75
Appendix A: Assessing the Current State of Tourism in the WCB	79
a. Tourism Market Dynamics	79
b. Structural Barriers to Wildlife Tourism Development	80
c. Poaching as a Challenge to Tourism Development, and Tourism as an Incentive for Conservation	82
d. The Benefits of Wildlife Tourism Development	82
e. Rapid Assessment of Wildlife Tourism Potential	82
Appendix B: Methodology	85
Notes	87
References	91

List of figures

- Figure 1: Map of the Western Congo Basin Forests and Protected Areas 20
- Figure 2: Model of the Pressures on Wildlife and Solutions 21
- Figure 3: The Simplified Supply Chain for High-Value Illegal Wildlife Trade Products 30
- Figure 4: Drivers of Supply and Demand of Unsustainable Wildlife Products 32
- Figure 5: Overview of Approaches for Creating Value from Wildlife 43
- Figure 6: Six Structural Barriers to Wildlife Tourism Development 49

List of boxes

- Box 1: Key Messages 13
- Box 2: The Complex Role of Alternative Income-Generating Activities in Disincentivizing Poaching 33
- Box 3: Defining Wildlife Tourism 44
- Box 4: How Does Wildlife Tourism's Potential Compare to Other Use Values of Wildlife? 46
- Box 5: Under What Conditions Can Sport Hunting Sustainably Provide Economic Value for Wildlife? 47
- Box 6: Building a Tourism Sector from Scratch: The Case of Rwanda 50

List of tables

- Table 2: Competitiveness Rankings of WCB Countries 48
- Table A.1: Value of the Overall Tourism Sector in the WCB 80
- Table A.2: Assessment of the Current State of Tourism in the WCB 81
- Table A.3: Potential of WCB Protected Areas for Tourism Development 83
- Table 1: Value of Existing and Projected Wildlife Tourism in Selected Protected Areas 45
- Table 3: Overview of Priorities to Address Barriers to Wildlife Tourism 51

Abbreviations and Acronyms

CAR	Central African Republic
CARPE	Central Africa Regional Program for the Environment
CBD	Convention on Biological Diversity
CBNRM	community-based natural resource management
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COMIFAC	Central African Forest Commission
CPF	farmer-forest committee
COMACO	Community Markets for Conservation
DRC	Democratic Republic of Congo
EAGLE	Eco Activists for Governance and Law Enforcement
ECCAS	Economic Community of Central African States
FAO	Food and Agriculture Organization (of the UN)
GDP	gross domestic product
HWC	human-wildlife conflict
ICDP	integrated conservation and development project
IWT	illegal wildlife trade
MSMEs	micro, small and medium enterprises
NGO	nongovernmental organization
NRT	Northern Rangelands Trust (Kenya)
PA	protected area
PES	payments for ecosystem services
PPP	public-private partnership
REDD+	Reducing Emissions from Deforestation and Forest Degradation
ROC	Republic of Congo
RCP	Ruaha Carnivore Project (Tanzania)
SDC	community development block
TRIDOM	Trinational Dja-Odzala-Minkébé
VAT	value added tax
WCB	Western Congo Basin
WCS	Wildlife Conservation Society
WWF	Wide World Fund for Nature
ZICGC	community hunting zone (<i>zone d'intérêt cynégétiques à gestion communautaire</i>)

All dollars are U.S. dollars unless otherwise indicated.



Executive Summary

Wildlife in the Western Congo Basin is rapidly disappearing. The Western Congo Basin—WCB, defined here as being composed of Cameroon, the Central African Republic, Gabon, and the Republic of Congo—is rapidly losing a significant proportion of its wild animals to poaching and unsustainable hunting. This trend extends across many species that face pressure from hunting for bushmeat and for commercial export of valuable animal products, as well as habitat degradation.

Poaching and unsustainable hunting are development issues, and are causing the Western Congo Basin countries to lose an important resource for economic diversification

As a result of the overexploitation, the basis for building a sustainable forest economy is rapidly being eroded, the rule of law undermined, the protein supply of rural populations threatened, the regenerative capacity of forests used for commercial logging and subsistence purposes reduced, and their resilience to climate change threatened. In turn, the drivers for poaching and unsustainable hunting include poverty and weak governance. In short, poaching and unsustainable hunting are not merely conservation issues; they are development issues.

The conservation response has struggled in the face of limited value of wildlife to communities and governments

Poaching and unsustainable hunting are not new phenomena in the WCB. They have been the focus of significant efforts by governments and their development partners over the past couple of decades. Most of these efforts have concentrated on the establishment and protec-

Box 1

KEY MESSAGES

1. Wildlife in the Western Congo Basin is rapidly disappearing.
2. Poaching and unsustainable hunting development issues are causing the Western Congo Basin countries to lose an important resource for economic diversification.
3. Creating economic value from wildlife is key for building a sustainable forest economy and for conservation.
4. International experience provides lessons for how to derive more value from wildlife, including by developing new sources of economic value, and by sharing proceeds from the sustainable use of wildlife, in particular with communities.
5. Without the proper enabling governance conditions, deriving sustainable value from wildlife at scale will not be possible.

tion of protected areas. Especially where these have received significant external assistance and field well-managed ranger forces, they have succeeded in better protecting wildlife than areas outside protected areas.

However, the ongoing poaching epidemic has also shown the limits of an approach to conservation that is primarily rooted in outright protection and that relies on restricting access to wildlife resources and their habitat. In an environment where communities and governments derive relatively few direct benefits from wildlife, this approach on its own risks misaligning incentives for conservation. Compounded with weak governance and burgeoning demand for wildlife products, this has limited the conservation of wildlife resources.

Creating economic value from wildlife is key for building a sustainable forest economy and for conservation

There is therefore a need to create domestic conservation constituencies in both the communities that harbor wildlife—members of which presently engage in poaching and unsustainable hunting—and the governments charged with managing this resource. A direct way of doing so is to ensure that both constituencies stand to benefit financially from conservation.

International experience provides lessons for creating economic value from wildlife

Based on experience from around the world, this report argues that communities and governments can reap substantial gains from sustainably managing wildlife in the WCB. These approaches can be classified into three groups.

The first group comprises approaches that can create new economic value:

- 1) **Wildlife tourism** has an estimated theoretical potential to generate \$1.1 billion in the WCB. It is the only conduit this study identified that could generate substantial new revenue flows for conservation in the WCB. Realizing this potential will be a long-term effort that requires strategic investments and reforms to overcome significant

existing barriers. This includes developing strategic planning instruments, such as national and protected area conservation visions, strategies, and plans that protect wildlife and link to tourism; strategies and plans that guide tourism concessions and promote wildlife tourism; tourism zoning guidelines for product development within protected area management plans; and marketing and promotion to develop markets. It also requires improving the policy and regulatory environment, and strengthening tourism infrastructure and human resource capacity.

- 2) **Community forest management** is a means for communities to more directly control the forest habitat that is home to wildlife and to more directly benefit from it, with an objective to realize sustainable resource management. Some WCB countries have a track record, however mixed, of experimenting with this approach. To improve performance, the adoption of multipurpose community management units whose remits go beyond forest products could be tested. Moreover, given limited availability of unallocated forestland, the coordination of uses in areas of overlapping rights is paramount. The devolution of rights should occur through a multitiered approach with performance milestones to allow for corrective action to take place. Lastly, community natural resource management cannot function without improved state control.
- 3) **Community wildlife management:** Community control over fauna resources would benefit from the formulation of a clear government vision, followed by an assessment of the approach's cost-effectiveness. If favorable, the legal and administrative environment would need to be adjusted to clarify tenure and use rights, as well as to promote value chain development. An adaptive approach of gradual devolution of rights could create control points. Lastly, a combination of this approach with the creation of alternative protein production could increase the sustainability of wildlife management.

The second group of approaches focuses on ways to distribute benefits to the communities that harbor and use or are directly affected by wildlife. WCB countries are already testing some of these approaches, some of which could be further developed, while others could yet be introduced. They include the following:

- 4) **Protected area benefit sharing** distributes resource flows from protected areas to constituent communities. Making such systems work requires protected area management frameworks (such as public-private partnerships) that are accountable, transparent, and free of political interference; the creation of funding flows, targeting on priority communities; and benefit flows that are ideally contingent upon performance.
- 5) **Payments for environmental services** reward communities or individuals for results in conservation. For this approach to work, among others, sustainable funding sources need to be ensured, the regulatory framework would ideally facilitate community monitoring, and wildlife managers would need to ascertain the feasibility of monitoring wildlife levels.
- 6) **Managing human-wildlife conflict** reduces the cost of living with wildlife. Managing human-wildlife conflict further depends on iterative approaches that combine multiple deterrence techniques and that are squarely based on community involvement. Governments should create the right policy environment to incentivize such solutions and provide funding for and facilitate compensation or insurance schemes. Land use planning can provide an underlying framework for minimizing conflict with wildlife.
- 7) **Governments must establish political commitment at the highest levels to improve the governance of wildlife.** This implies rooting out corruption, demonstrating that key actors—including government employees—in the illegal wildlife trade are not beyond the reach of the law, and better funding conservation.
- 8) **Improved law enforcement** is essential to controlling commercial actors in the illegal wildlife trade who are currently contributing to the decimation of wildlife resources. Strategies for doing so can be built on existing United Nations Office on Drugs and Crime assessments of wildlife law enforcement in Gabon and the Republic of Congo, and such analyses should be conducted in Cameroon and the Central African Republic as well.
- 9) **Organizational reform and capacity building** are essential for enabling wildlife administrations to better oversee their sector in general, and to engage in the types of collaborative approaches proposed in this study. This includes reviewing staff and skill deployment, equipment, policy coordination, and funding structures.
- 10) **Land use planning** can mitigate some natural resource management challenges that underlie the overexploitation of wildlife, develop a more coherent vision for the future, and connect communities to incentives for sustainable wildlife management. It could form a powerful long-term basis for sustainably managing wildlife.

Creating value from wildlife cannot achieve its goals absent the proper enabling governance conditions

The third group of solutions comprises the enabling conditions for deriving sustainable value from wildlife. That effort cannot succeed unless the WCB countries improve the environment writ large for conservation:

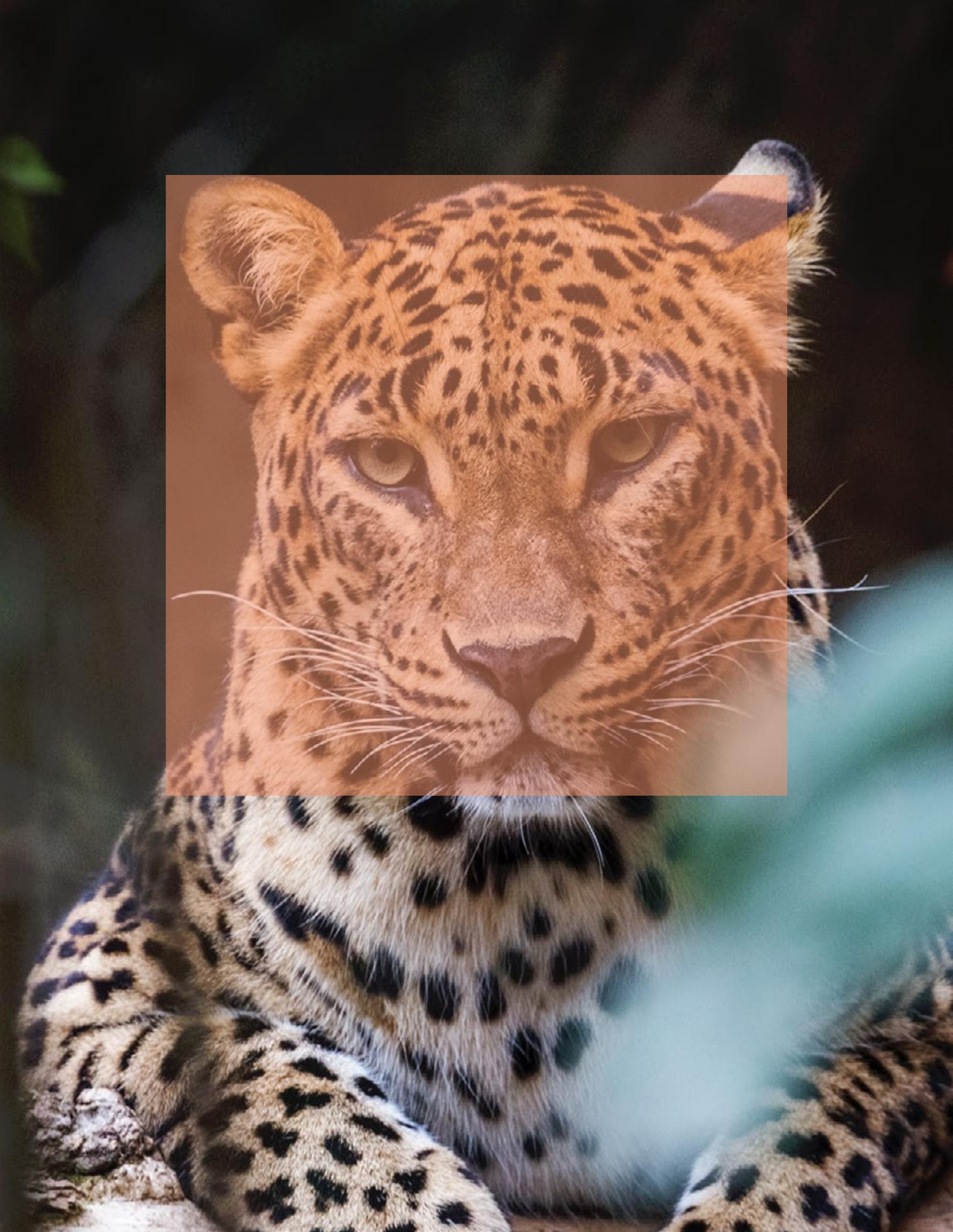
More broadly, governments would do well to improve the enabling environment to ensure that the private sector can mobilize the investments necessary to support the sustainable management of wildlife. Innovative partnerships with civil society and the private sector, whether for management of protected areas or law enforcement, have already proven their potential to improve management capacity and results in the WCB and elsewhere, and could be scaled up.

Building value from wildlife must be part of a broader conservation approach

Building the systems required to derive economic value from wildlife is not a silver bullet. The approaches in this study must be accompanied by traditional conservation work that provides the basic protection of the resource. This is particularly important in the short term, given the ongoing overexploitation of the resource whose very survival is threatened. Nor will countries and communities be able to derive value from wildlife overnight. The development of wildlife tourism, for example, requires sustained and coordinated reforms over many years. The development or improvement of systems that increase benefits from management of wildlife resources to communities is necessarily a long-run and iterative task that requires sustained financial and technical support. Approaches that tie funding to results could be tested in such an environment.

Producing value from wildlife is a key element to building sustainable, diversified rural

economies in the WCB, and has the potential to contribute to both poverty alleviation and conservation. Given the rapid decline of wildlife resources in the region, however, the urgency for governments to seize this potential has never been greater.



1. Introduction

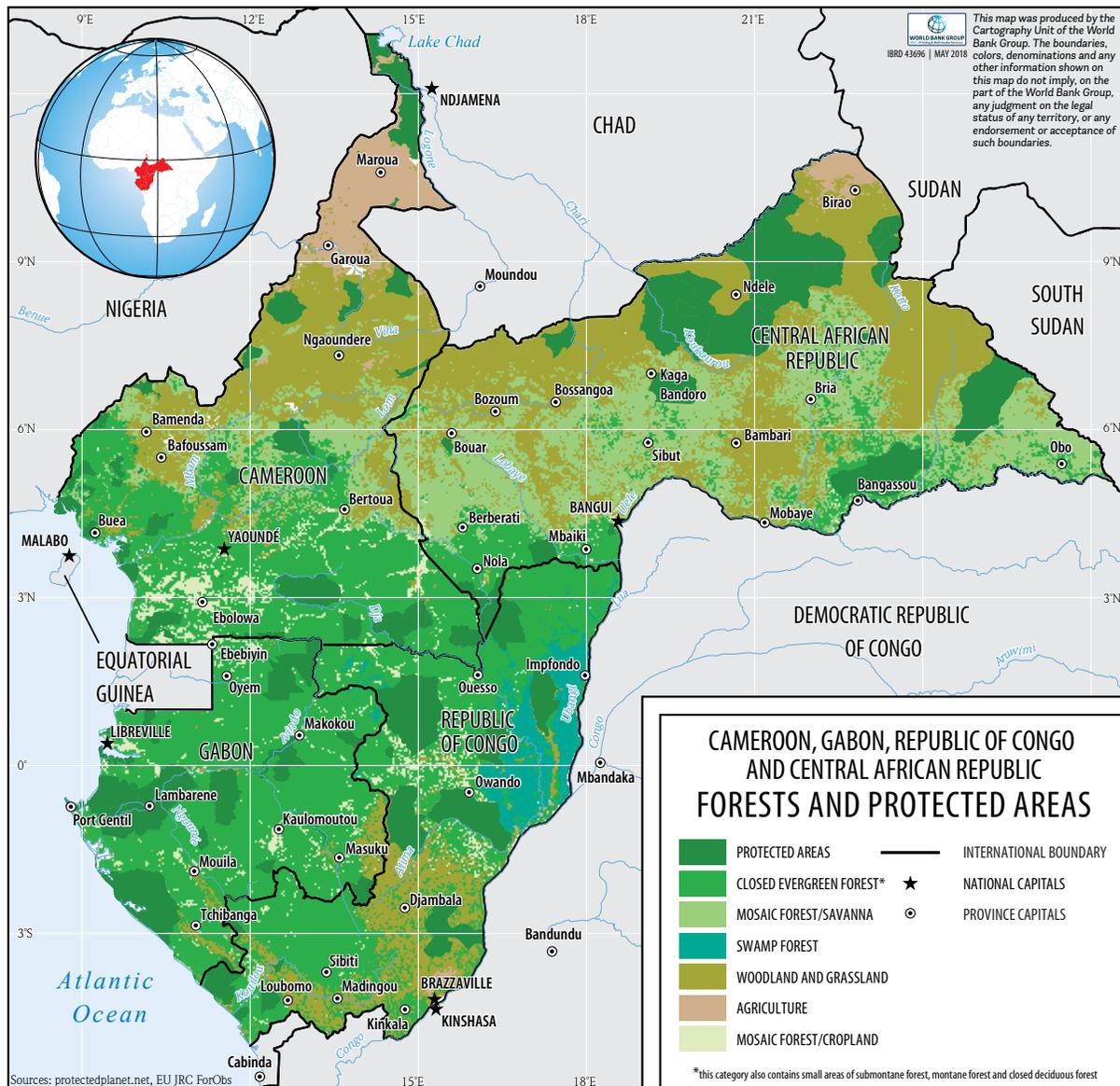
The Western Congo Basin—defined here as comprising Cameroon, the Central African Republic, Gabon, and the Republic of Congo—is being rapidly emptied of its wild animals, with alarming rates of poaching in all four countries.

High levels of poaching have numerous deleterious effects for sustainable development: They deprive economies of a resource on which to build a wildlife tourism sector that can serve as a source of foreign exchange earnings and rural job and income creation, which is currently significantly underexploited. Poaching for high-value species is often perpetuated by organized criminal networks, which run an illicit parallel economy and undermine established governance and legal regimes, and capture high rents that don't accrue to the state or to local communities. Poaching and unsustainable hunting reduce the cultural and subsistence value of forest ecosystems for local communities and indigenous people, including by threatening the protein supply and income of rural populations. By reducing the number of animals in the ecosystem, both practices also diminish the dispersion of tree seeds, much of which relies on animals in tropical forests.¹ This diminishes the regenerative capacity of the forest, and it could lead to extinctions. It would further negatively affect the diversity and resilience of forest ecosystems, including in the face of climate change, and ultimately contribute to the long-term degradation of this

economic, environmental, and cultural resource. If wild fauna does not receive better protection, important building blocks of a sustainable and diversified forest economy risk being irretrievably lost—to the detriment of local and national economies.

In the WCB, efforts to protect wildlife have focused heavily on the establishment and management of protected areas, often within the context of a landscape-based approach that attempts to engage nearby communities and other land users.² These approaches have produced measurable conservation results.³ There has been less emphasis on understanding the value and economic opportunity of wildlife conservation through a community lens. Communities may perceive wildlife as a source of protein or hunting revenue, a threat to crops, or the trigger for strict conservation measures that limit traditional rights of access, use, and management of customary lands. The resulting dynamics pose a threat to the sustainable management of wildlife, which is typical of common-pool resources.

Figure 1: Map of the Western Congo Basin Forests and Protected Areas



The low perceived value of forest wildlife resources for local communities is partially attributable to a lack of economic opportunities currently derivable from the sustainable management of wildlife assets. Poaching and the illegal wildlife trade are striking manifestations of that low economic value, and they can occur whenever the value of a dead animal exceeds the value of a live animal and the governance environment is weak. The income from poaching presents incentives for short-term gains that currently often outweigh the possibilities

of long-term sustainable income streams from the live animal.

In a bid to help the WCB countries address this downward spiral, this study identifies approaches that can enhance the economic value of wildlife resources for local communities and governments as a contribution to poverty reduction, economic development, and conservation. The recommendations are grouped into three pathways: (1) Deriving new economic value from wildlife, (2) sharing value created from wildlife, and (3) creating the enabling gov-

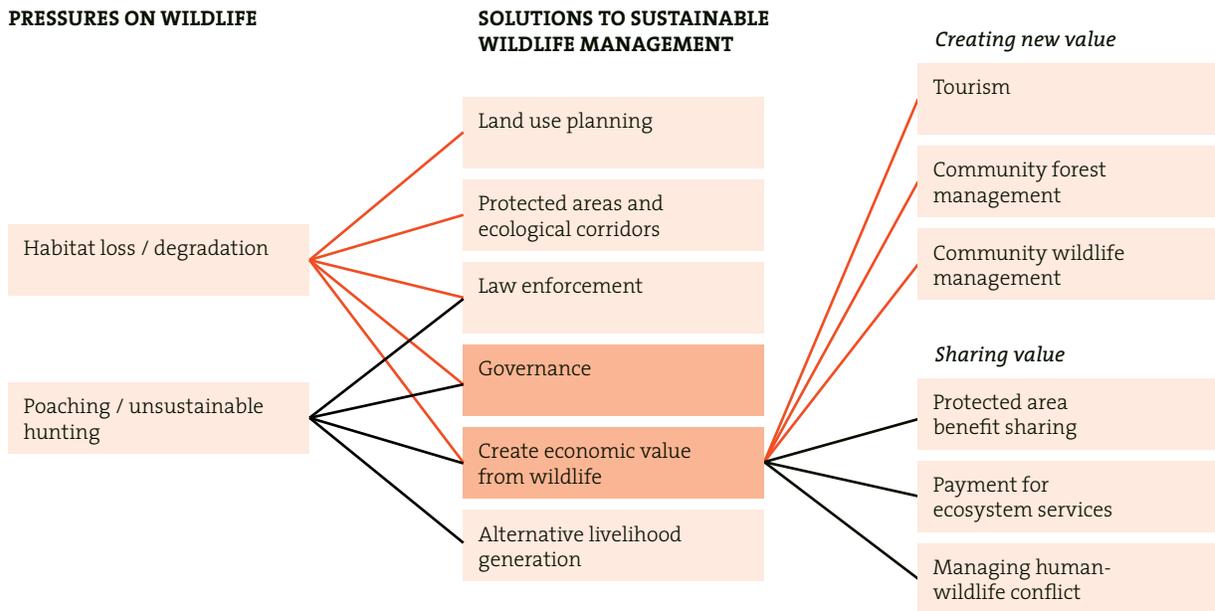
ernance conditions for the first two pathways to succeed. These pathways are designed to be mutually reinforcing.

While the study focuses on identifying ways to create of value from wildlife, this should not be seen as a silver bullet: By itself, it cannot stem the pressures wildlife faces. The full assemblage of tools for sustainable wildlife management presented in Figure 2 must therefore be brought to bear. However, much attention has already been devoted to the other tools, so they are not the focus of this study.

The study targets policy makers seeking to rethink approaches to conservation in light of both high ongoing levels of poaching and unsustainable hunting and national policy dialogues that emphasize economic diversification. It aims to do so at the regional and national levels as a single country cannot

address this crisis given the fluidity of both borders and wildlife in the region. Naturally, the set and sequence of solutions most appropriate in any given setting will depend on a number of country-specific conditions. Nevertheless, the majority of the recommendations in this report apply to all four WCB countries. In that spirit, the study first provides an overview of the poaching crisis, using elephants as a case study to illustrate the scale of the problem (chapter 2). It then proceeds to analyze who the poachers are (chapter 3) to better understand drivers of poaching, while Chapter 4 analyzes the policy framework. Chapter 5 proposes approaches for creating economic value from wildlife, sharing it with communities, and creating the necessary underlying governance conditions, providing best-practice examples from other parts of the world. Chapter 6 presents conclusions.

Figure 2: Model of the Pressures on Wildlife and Solutions





2. Poaching and Unsustainable Hunting

Threats to a Sustainable Forest Economy.

The WCB faces numerous anthropogenic threats to its rich biodiversity. Poaching and unsustainable legal hunting, along with habitat loss, are the primary threats to wildlife.⁴ Poaching and unsustainable hunting affect a wide variety of species in the WCB.⁵ In some places, they are driving empty forest syndrome, where the forest looks otherwise healthy but contains very few animals. This study focuses on poaching and unsustainable hunting as primary drivers of wildlife loss because they are an expression of a lack of economic value being derived from the resources. To simplify the terminology employed, the study interprets poaching to collectively encompass both illegal hunting and unsustainable legal hunting.¹ The latter most often occurs when actors from outside the communities that host the wildlife resource (and who are usually allowed to hunt certain species) purchase wildlife legally hunted by authorized local hunters, which tends to lead to unsustainable offtake.

i This simplification is employed because in well-regulated management regimes quotas would be used to manage the populations of species that can legally be hunted, and exceeding those quotas would be illegal.

Poaching in the WCB can be divided into three main categories: (1) subsistence; (2) to supply bushmeat markets, primarily located in urban areas; and (3) for high-value products valued for medicine, prestige goods, pets or other uses, often abroad.ⁱⁱ Each of these requires different management approaches.

a. Subsistence Hunting

Bushmeat has always been a critical part of local diets. Indigenous peoples in particular rely primarily on subsistence hunting for their protein needs, but Bantu populations also readily access bushmeat to complement their nutrition.⁶ The high levels of poverty in the WCB, particularly in rural areas, create a high level of dependence on bushmeat; wealth and

ii The three cannot always be cleanly separated: For example, when an elephant is killed, whether legally or illegally (depending on each country's legislation), its tusks enter the commercial, high-value ivory market (poaching for high-value products), whereas its meat is often either distributed to the hunters (subsistence hunting) or sold in the commercial bushmeat trade.

bushmeat consumption are negatively correlated in rural African communities, while they are positively correlated in urban areas.⁷

Subsistence hunting can be legal or illegal, depending, among others, on the species hunted and the season. Local subsistence hunting generally does not constitute a threat to the sustainability of wildlife resources where population density is low.⁸ The dynamic can, however, become less sustainable when strong, concentrated population influxes are recorded, such as when major mining or forestry projects attract settlers into once sparsely inhabited forest areas.⁹ These latter conditions most often overwhelm regulated hunting regimes, irrespective of whether they employ traditional or modern regulatory means.

Although numbers on the volume of the bushmeat trade in the region vary between studies, between 2.2 and 4.7 million tons of bushmeat are estimated to be consumed annually in the Congo Basin, with most consumption taking place in rural areas.¹⁰ Irrespective of the exact numbers, it is beyond doubt that demand currently outstrips supply,¹¹ and given the lack of management of the resource, the number of animals is rapidly declining.

b. Commercial Bushmeat Trade

Population growth and growing urban demand—driven in part by increased urbanization, more efficient transport networks, and rising incomes—have combined to create a highly unsustainable bushmeat trade.¹² Subsistence hunters often sell some of their harvest to urban centers, representing an important, growing source of revenue for many rural residents.¹³ Near Boumba Bek National Park in Cameroon, commercial hunters sold 70 percent of their meat and made 19 times the amount earned by subsistence-level village hunters, who only sold 17 percent of their meat.¹⁴

As customary land tenure is often ill defined or not applied, there is an absence of local management and control over wildlife resources.¹⁵ Higher levels of hunting occur not only near roads (including those servicing min-

ing and logging operations) and human settlements but also near national parks, with strong evidence showing reduced wildlife populations in these hot spots.¹⁶ Blue duiker is the single most traded bushmeat species in Central Africa; rodents and ungulates are the most commonly traded groups. Endangered and vulnerable species (eight primates and elephants) make up 12 percent of the trade.¹⁷ The trade has significant deleterious effects on the health of forests¹⁸ and their ecological and economic functions.

c. Poaching for High-Value Products

The main focus of this overview is on poaching of high-value species, with the majority of the discussion centering on elephant (*Loxodonta africana*) poaching,ⁱⁱⁱ given the particularly dramatic scale of the ivory trade and the potential of the species to constitute an anchor for alternative economic uses such as tourism development. The dynamics of two other prominent high-value species traded in the WCB, pangolins (*Phataginus tetradactyla*, *Phataginus tricuspis*, *Smutsia gigantea*) and African gray parrots (*Psittacus erithacus*), are also included for comparison.

i. Elephants

Scale of the Poaching Problem

In Central Africa and across the rest of the continent's elephant habitat, poaching for ivory has decimated elephant populations over the past two decades. Significant poaching was occurring in Central Africa as early as 2003, well before it became unsustainable in East Africa.¹⁹ The volume of seized ivory and poaching incidents greatly increased from 2005 to 2015. While the most recent estimates show a stabilizing trend in poaching across Africa

iii This report follows IUCN and CITES in treating elephants as a single species, *Loxodonta africana*, while recognizing ongoing scientific debates that suggest that there may in fact be at least two species, the savanna elephant (*Loxodonta africana*) and the forest elephant (*Loxodonta cyclotis*). Where cited references explicitly refer to forest elephants, this terminology has been left in place.

overall, poaching in Central Africa remains high and unsustainable.²⁰

In 2010, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) “African Elephant Action Plan” ranked poaching and the illegal ivory trade as the greatest threat to elephants.

Poachers are pushing ever deeper into forests as habitat conversion for alternative land uses (for example, agriculture, mining, and human settlements) and habitat degradation (for example, wood fuel collection and artisanal logging) worsen.²¹ Poor governance and enforcement of wildlife protection exacerbate the problem.²²

Of the four WCB countries, the International Union for Conservation of Nature (IUCN) *African Elephant Status Report 2016* estimates that Gabon harbors half of Africa’s remaining forest elephants (ranging between 66,115 and 74,152, although Poulsen et al. [2017] estimate this number may already be significantly lower), followed by the Republic of Congo (ROC) (26,351–32,999), and, with some distance, Cameroon (8,815–8,964) and the Central African Republic (CAR) (1,401–1,528).²³

Demand for Ivory

The rising demand and price for ivory in Asia, but primarily in China, has historically fueled the growing illicit ivory trade,²⁴ although Western markets also contribute to demand.

In January 2018, China shut down its domestic legal ivory market, which was mainly supplied by the onetime (legal) sale of ivory from several African countries in 2008, but which failed to prevent new illegal sources from entering it.²⁵ It is widely hoped that the closure of this market will significantly reduce demand. In fact, in anticipation of this ban, prices for raw ivory in China decreased by as much as 65 percent in 2017 compared to 2014.²⁶ A World Bank study suggests that elephant poaching in Africa would be expected to decrease by 34 percent given this 65 percent decrease in price,²⁷ provided demand in alternative markets does not pick up. While substantial, such a decline in poaching activity will likely be insufficient given the current rate at which elephant populations are being lost.

Ivory Trade Routes

Most raw ivory departs Africa by sea in large shipments. Although there is some use of air freight, over 70 percent of the raw ivory seized between 2009 and 2013 was shipped by sea. China and Thailand are the main destination markets for raw and worked ivory.²⁸ Seizures were greatest in Nigeria among all Sub-Saharan African nations.²⁹ There are two main regional ivory transport routes, and they have not changed significantly over the past few decades. One involves ivory moving across the northern Gabon border into southern Cameroon, and then via road to coastal ports in Cameroon and especially Nigeria.³⁰ The other involves the transport of ivory from the CAR, ROC, and the Democratic Republic of Congo (DRC) along the Oubangui and Congo Rivers to Kinshasa and Brazzaville; the ROC also serves as transit point for ivory originating from Angola. However, numerous other trade routes exist, including those that extend or branch off from these major ones. An illustrative example comes from five large seizures in Lomé, Togo: Of the collective 13 tons confiscated, approximately 70 percent originated from Gabon and the ROC.³¹

Domestic Ivory Market Dynamics

Since 1999, domestic open ivory markets in the WCB have largely been shut down, with nearly a 100 percent decrease in ivory items displayed for sale between 2007 and 2015. In contrast, DRC open ivory sales remained stable over that time period. Vendors highlight increasing enforcement as well as a lack of supply and higher prices (generally up 20 percent since 2007) as the main drivers behind their inability to procure and sell ivory craft items. Ivory still available for domestic special order sales was generally in smaller sizes than in the past and as compared to the raw ivory shipped in bulk to Asia. Domestic buyers (for both worked and raw ivory) are now predominantly ethnic Chinese nationals, whereas previously they were mainly European expats and tourists.³²

Poaching Hot Spots and Impact on Central African Elephant Populations

Poaching hot spots in the WCB include southeastern Cameroon, southwestern and northeastern CAR, northern Gabon, and northern ROC. These hot spots overlap with

the transborder area between northeastern Gabon, southwest Cameroon, northern ROC, and southwestern CAR, known as the Trination- al Dja-Odzala-Minkébé (TRIDOM) and Sangha Trinational landscapes, which are considered the final stronghold of the region's elephants.³³ Minkébé National Park in Gabon suffered a particularly dramatic decline 2004–2014, losing 78–81 percent of its elephant population, or up to 25,000 individuals. Most of this decline was driven by cross-border poachers, who are reportedly guided through the dense forest by Baka tribal members, although poaching occurs from within Gabon as well.³⁴

Other critical poaching levels have been reached in the ROC's Ndoki landscape, which lost 3,000, or 50 percent, of its elephants, and in Cameroon, which lost several thousand within the TRIDOM landscape, and 50 percent of several smaller populations. Nearly all of the CAR's savanna elephants have been killed, so the country's only remaining elephant populations inhabit its southwestern forest.

While there are many threats to elephants— land use pressure, habitat loss, and human-el- ephant conflict, to name a few—poaching is the most important determinant of elephant distribution and abundance in the region, and the most important driver of their decline.³⁵

Therefore, high human population density, hunting intensity, absence of law enforcement, poor governance, and proximity to expanding infrastructure were the best predictors of popu- lation declines in one study.³⁶ Models based on known populations estimate that the number of Central African elephants decreased by over 62 percent in the period 2002–2011, and an esti- mated 80 percent of individuals have been lost in the past 25 years.

Ecological Impact of Elephant Decline

Elephants play a critical ecological role in maintaining the health of forest ecosystems:

Their feeding behavior and toppling of trees helps forests regenerate while controlling growth into adjacent savannas. Elephants are also one of the most important seed dispersers in the tropics. As elephants disappear, seed dispersal will likely decline for certain tree species not consumed by other major vertebrate taxons (for example, primates), reducing tree spe- cies richness and relative abundance.³⁷ It may

also reduce the resilience of forests to climate change–driven stressors.³⁸ Elephants are also a flagship species whose protection facilitates the protection of other species with which they coexist.³⁹ Therefore, the disappearance of ele- phants is likely to have ecological consequences that extend far beyond the loss of this single charismatic species.

Importance of Corruption in Facilitating the Ivory Trade

Approximately half of raw ivory seizures showed connections to organized crime. Large seizures, connected to international crime syn- dicates, and the predominance of poaching hot spots point to the presence of a concentrated market dominated by a small number of major players.⁴⁰ High-ranking officials have been documented supplying weapons and ammu- nition or transportation to poachers, as well as assistance evading law enforcement. Bribery of lower-level officials at key checkpoints, markets, park boundaries, and ports also supports trade flows of illicit ivory.⁴¹ In Cameroon, for instance, the Last Great Ape Organization recorded brib- ery attempts in 85 percent of its enforcement operations and 80 percent of its court cases against wildlife and trafficking.⁴²

Ivory stockpiles lack transparency and are poorly controlled, and it is believed that they contribute significantly to the ivory trade, pri- marily through corrupt officials. There were an estimated 12 tons in national stockpiles in the four focal countries in 2015, although all of them publicly incinerated stockpiles after court cases were resolved.⁴³

ii. Pangolins

Pangolins have been referred to as the world's most trafficked mammal. They are valued for their keratin plates, which are used in African and Asian traditional medicines. They are also used for food, rituals, and art. All four Asian species are classified on the Red List as either critically endangered or endangered, with soar- ing demand from increasingly affluent Asian countries fueling their unsustainable harvest. There are four African species, but much less is known about their biology and population status. They are classified as vulnerable; CITES recently banned their trade, although national

implementation of these international agreements remains nascent, enforcement is weak, and cases rarely go to court.⁴⁴

As the availability of Asian pangolins has precipitously declined, poachers are shifting their focus to African species, so their populations are assumed to be declining.

Fifty-three tons of African pangolins destined for Asia were seized in 2013.⁴⁵ In contrast, before 2008 there were virtually no major recorded shipments of pangolins from Africa to Asia.⁴⁶ Despite the apparent primacy of the Africa-Asia trade network, CITES data indicates that the United States was a major importer of pangolin products during both 1977–2000 and 2001–2014, including large proportions from China. Furthermore, the growth in exports to the United States between these two periods was largely driven from South Africa, Togo, and Cameroon, the latter two of which are likely destination ports for Central African countries.⁴⁷

Pangolin poaching across six Central African nations (including the four WCB countries) is estimated to kill 0.4–2.7 million individuals every year, representing an increase of at least 145 percent between 2000 and 2014. It is likely that this trade is unsustainable. The price of giant and arboreal pangolins rose 5.8 and 2.3 times higher, respectively, during that period.⁴⁸

iii. African Gray Parrot

The African gray parrot is the world's third most traded bird. Unfortunately, the species is difficult to accurately assess but relatively easy to catch; it has been targeted for the domestic and international pet trade for decades. It makes up the greatest proportion of live bird imports to China, although three-quarters of this total were captive-bred.⁴⁹ Populations are patchily distributed across forests of Central Africa. A recent survey across 13 sites in five countries revealed particularly high abundance in protected areas in Cameroon, especially Lobéké National Park. Across Central Africa, significant populations can also be found outside of protected areas.⁵⁰

The International Fund for Animal Welfare (IFAW) estimates that, when including the illegal trade, 2.1–3.2 million individuals were traded between 1975 and 2013; from 1982 to 2001, 650,000 individuals were exported legally

across the continent, with over half originating from Cameroon.⁵¹ In 2016, trade was completely banned under CITES.⁵² The IUCN classifies the species as endangered, with available evidence indicating that their current abundance may represent only 1 percent of their historical total.⁵³ In addition to hunting, habitat destruction and fragmentation are driving the species' decline.

d. Conclusion

As this section has illustrated, the overall trend for wildlife populations in the WCB points sharply downward. While charismatic species such as elephants attract much of the attention devoted to the subject, the broad array of hunted species means that the effects of this dynamic are much more far-reaching. Larger mammals have slower reproductive cycles than smaller ones, meaning they are less likely to be able to recover from overexploitation. In addition to the poaching and unsustainable hunting threat, wildlife faces increasingly fragmented and shrinking habitat. Unless governments are able to stem these trends, the near-total or total local extinction of numerous species is very possible. This would mean the loss of an important resource for diversifying economies, which would both have negative impacts on existing users of wildlife as well as preclude future options for sustainable sources of income for government and local populations alike.



3. Who Are the Poachers?

A Typology of Actors.

Understanding who the poachers are and what motivates them is important for designing effective responses. Data on poachers is, however, notoriously difficult to obtain given the illicit nature of the trade and the sensitivity with which governments treat such data. This study therefore used a mix of methods and sources to construct a picture of the characteristics of poachers and other people involved in the illegal wildlife trade (IWT) in the WCB.^{iv}

^{iv} In addition to a survey of gray literature data, the study carried out two surveys: (1) A voluntary survey of a small sample (n=9) of convicted poachers was conducted in February 2018 in Ouessou, ROC. (2) To capture wider community viewpoints that were less susceptible to the bias of poachers, focus groups involving 52 people in Mintom and 60 in Ngoyla (both Cameroon) were carried out in December 2017. Participants included traditional chiefs, community forest associations, farmer associations, community hunting area wardens, women's associations, community anti-poaching committees, and an association of converted poachers.

a. Demographic Characteristics

The first distinction of poachers is between locals and foreign nationals: An analysis of convictions for IWT activities between 2008 and 2016 in the Republic of Congo found that, among those individuals for whom the nationality was recorded, 58 percent were Congolese nationals, with most of the remainder coming from Cameroon, the CAR, and the DRC. A smaller portion were nationals of China, Mali, and Angola.⁵⁴ In northwestern ROC, between 2015 and 2017 80 percent of all arrests for IWT infractions were of Congolese nationals, with 80 percent of the remaining arrests being of Cameroonians.⁵⁵ The mix of nationals and foreigners in the IWT trade is supported by accounts of poachers in Ouessou collected for this study.

When the poachers are not legal residents of the host countries, a law enforcement approach is the most common response to dealing with them. However, the reality of fluid borders and limited territorial control may require taking

foreign nationals into account when designing alternative responses to poaching, for when they settle in their host countries. This would also be the case for locals, for whom approaches that increase the value of live wildlife can also be promising (see sections 5.a and 5.b).

A second distinction is between Bantus and indigenous peoples. Survey participants in both the ROC and Cameroon stated that members of both groups engage in poaching. This is confirmed by arrest data from wildlife law enforcement patrols in northwestern ROC, where 24 percent of all arrests for poaching between 2015 and 2017 were of Baka people.⁵⁶ Both groups participate in supplying local, national, and international markets, with Baka often serving as guides and hunters. The distinction between these two groups matters because of their differing cultural backgrounds, which find their expression, among others, in their respective income-generating activities, places of domicile and sedentary versus seminomadic lifestyle, relationship to money, literacy rates, the gross power imbalance that exists between them, their connection to nature, the role that hunting plays in their livelihoods and culture, and gender roles related to hunting (in WCB indigenous communities, for example, women often make the decisions to hunt, while men carry out the activity). Any response to the poaching crisis involving local populations and indigenous peoples needs to consider these differences in the design of interventions, and reserve a targeted strategy for indigenous peoples.

A third distinction surrounds the role of participants in the IWT (Figure 3). The focus groups in Cameroon suggest the primary participants in poaching in the area can be grouped into three categories:

1. Sponsors and facilitators of commercial poaching in high-value species, which include local elites, such as government, judicial, military, and police officials; religious leaders; and holders of hunting permits who exceed their quotas.
2. Sponsors of bushmeat hunting from outside the community, who place orders for hunted animals and supply traps to local hunters and trappers. They can originate from outside the community, but in some cases they settle locally.
3. Members of the local community. These include hunters and trappers who are hired to carry out the actual poaching. They are usually from the poorer parts of the community and include community members from Bantus, Baka, and Kakous (from northern Cameroon) who exceed their hunting or trapping quotas; traditional chiefs, who generally know who the poachers are but don't denounce them; local businesspeople who act as transporters; and local associations that exceed their hunting quotas.

Beyond these local actors involved in poaching, sponsors and buyers located outside of the poaching hot spots connect to international IWT trade networks. These include business-

Figure 3: The Simplified Supply Chain for High-Value Illegal Wildlife Trade Products



people, government officials, and members of the armed forces.⁵⁷ In general, a response to the involvement of middlemen requires a law enforcement approach, given that these positions generally are motivated by the accumulation of wealth, and that the margins of the IWT are very high and render prohibitive the provision of alternative income-generating schemes. On the other hand, at the bottom of the IWT value chain, where poverty is a primary motivation for poaching (see section 3.b), responses that create economic alternatives can be tested as part of a broader anti-poaching strategy. The goal of any anti-poaching strategy, however, should not be to punish those at the bottom of the income pyramid who participate in the IWT due to a lack of alternatives.

b. Drivers of Poaching

Among the individuals surveyed for this study, poverty was the primary motivation identified for poaching (Figure 4). This driver can take two shapes: First, poaching can be a response to meet subsistence needs. This is most commonly the case for bushmeat hunters. Second, poaching can be a means to generate additional income beyond that necessary to meet basic needs. This is more frequently the case for individuals involved in commercial poaching. This pattern matches that identified elsewhere.⁵⁸ Poverty in the WCB tends to be particularly high in rural areas, which, especial-

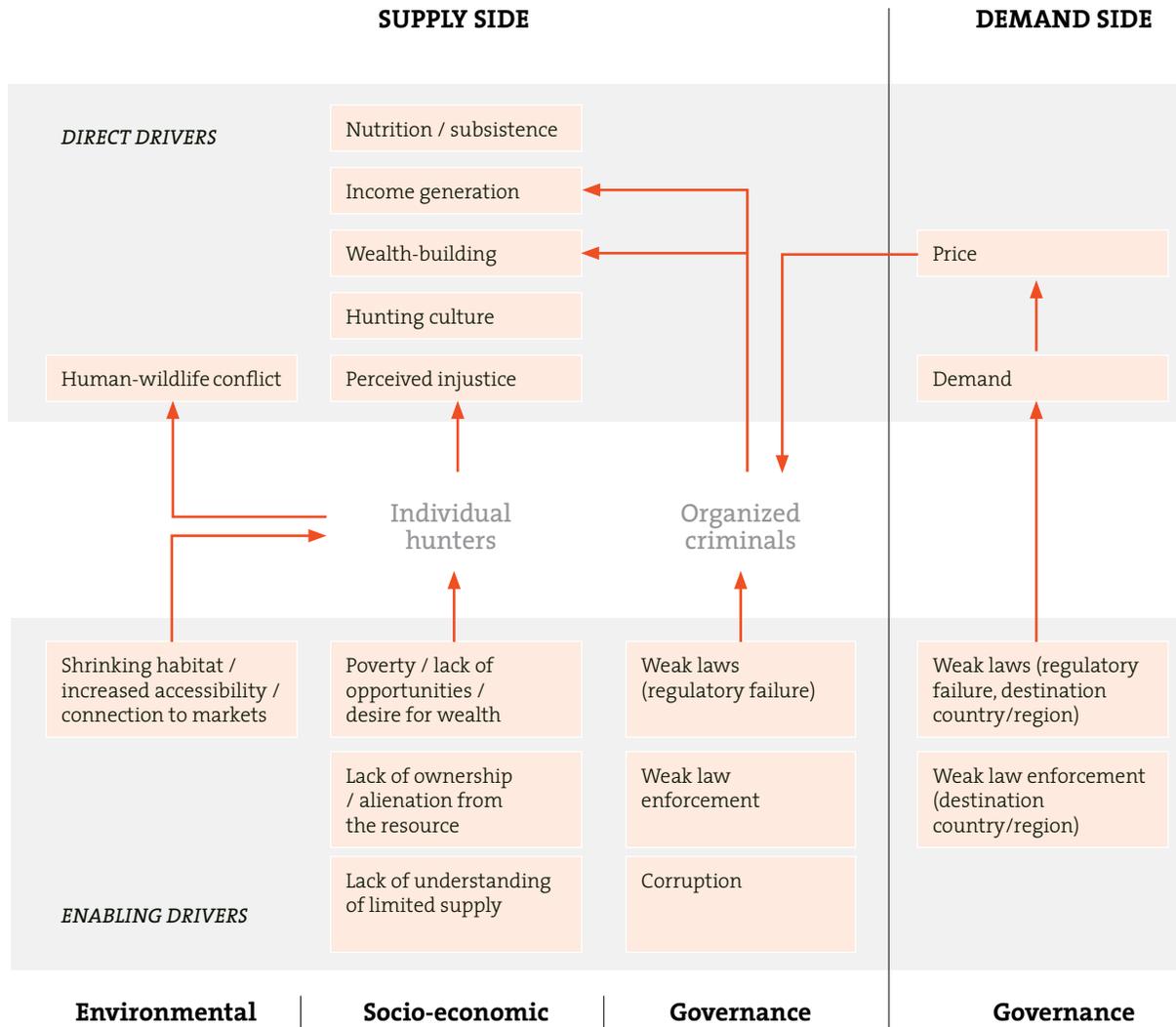
ly when coincident with forest cover, coincides with habitat for wild fauna, and therefore poaching. In the ROC and CAR, 69 percent of the rural population is considered poor; in Cameroon, 57 percent; and in Gabon 45 percent.⁵⁹

The Cameroonian focus groups suggested several factors exacerbate poverty:

- Benefit-sharing payments from forestry operations not reaching the general population (a problem also in the ROC)
- Lack of job opportunities, in particular for young community members, who favor quick revenue-earning activities
- Falling prices for agricultural commodities in the face of the high prices paid for poaching products on the international market
- The effect of human-wildlife conflict on farmers, and a lack of compensation for damages
- Lack of investment in rural development by the state

The poachers surveyed in the ROC concurred that poverty is the primary driver for poaching (78 percent), with motivations a mix of one-off need for income boosts and longer-term wealth building, compounded in a minority of cases (22 percent) by resentment toward the fact that access to fauna resources is restricted because of conservation efforts.

Figure 4: Drivers of Supply and Demand of Unsustainable Wildlife Products



c. What Might Dissuade Poaching

The research conducted for this study asked poachers and poaching communities their opinion to complement externally generated theories of what dissuades poaching.

Participants in the Cameroonian focus groups suggested that dealing with poaching necessitates a multipronged approach of (1) providing incentives to poachers to abandon their activities through job creation in trades and alternative income generation (agriculture mixing short- and long-cycle crops, pisciculture, livestock raising), (2) the operationalization of community hunting zones, and (3) improved law enforcement, including by working through community groups and traditional techniques, and sensitization. Participants in the Ouesso survey by and large concurred that if they had stable jobs (78 percent) and/or alternative income streams (44 percent), they would not need to poach. While the results of these surveys provide a direct voice to those closest to the IWT, a rigorous evaluation in the face of alternatives offered would be useful. The surveys also show that only half of the poachers reported awareness of wild fauna rapidly dwindling, which runs counter to scientific and anecdotal evidence. Combined with positive outcomes from behavior change campaigns elsewhere, this suggests that broader community campaigns that create awareness while shifting the social standing of poaching might have a positive effect.^v Such efforts can also build on the cultural value that wildlife plays in many rural communities, which some survey respondents highlighted.

On the other hand, as one moves up the IWT value chain, and as poachers are involved in poaching of higher-value species, the only plausible deterrent to poaching is effective law enforcement with dissuasive sanctions because the margins are in most cases so large that the creation of economic alternatives will hardly outweigh the profits of the IWT.

^v Behavior change campaigns have been shown to be successful in conservation. See, for instance, examples from rare (rare.org).

Box 2

THE COMPLEX ROLE OF ALTERNATIVE INCOME-GENERATING ACTIVITIES IN DISINCENTIVIZING POACHING

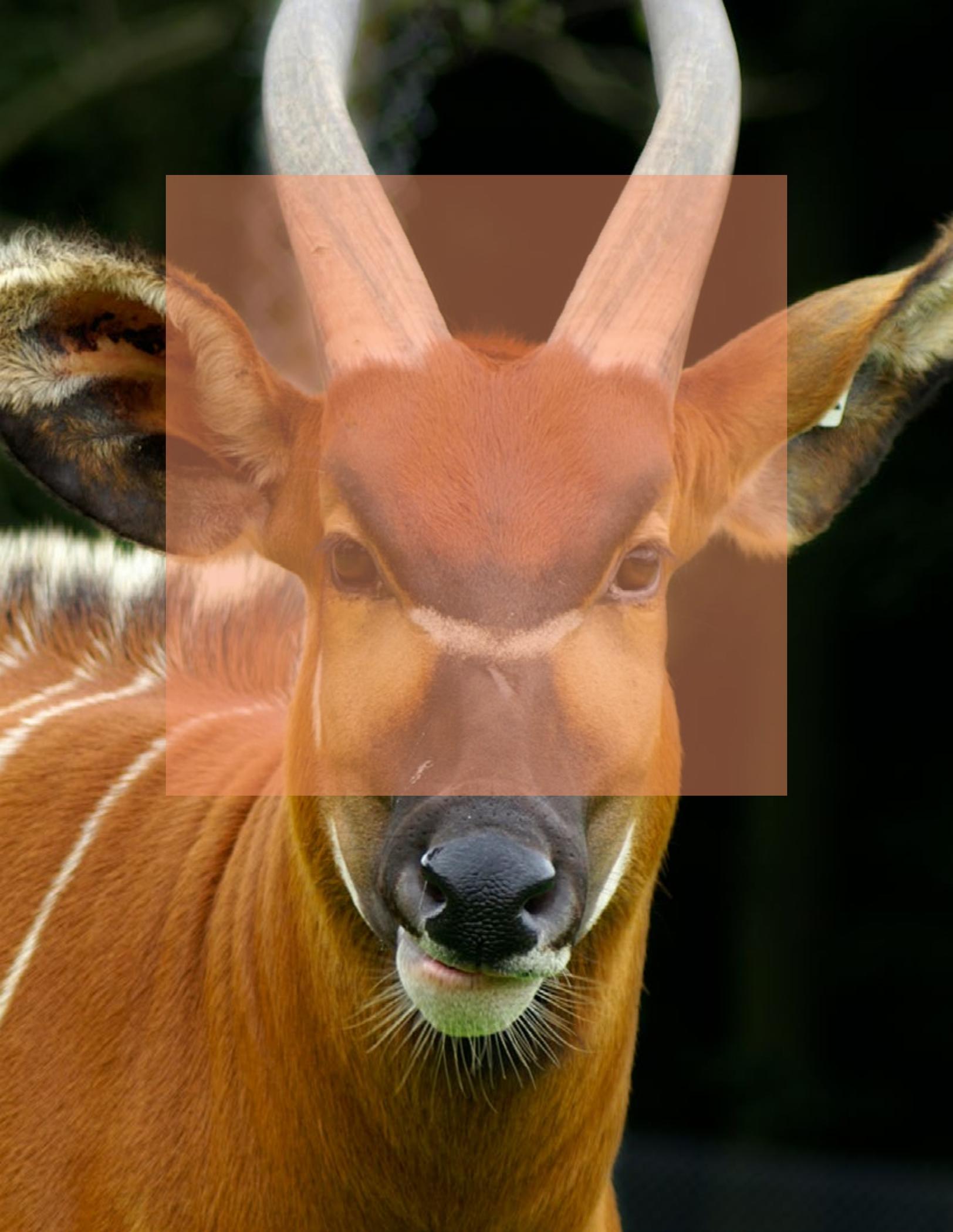
Much like focus group participants in Cameroon and survey respondents in the ROC, the conservation community has often looked to alternative income-generating activities to disincentivize poaching. Intuitively, this makes sense: By reducing the opportunity cost of poaching and enabling people to earn income through licit activities, poaching becomes relatively less attractive. This study does not intend to invalidate the responses and desires of survey participants. However, much like previous research,^a this study was unable to find robust or systematic evidence that alternative income-generating activities reliably dissuade poaching. In fact, in at least one instance in Ghana, a rebound effect was demonstrated: Increased community income from other sources enabled the purchase of more sophisticated poaching tools, and increased poaching.^b Moreover, poaching also occurs in wealthy countries where poverty is not necessarily a driver. This suggests that, in a best-case scenario, increased community incomes, which are necessary for obvious reasons that transcend conservation, should go hand in hand with more effective conservation.

a. Harrison et al (2015).

b. Damania, Milner-Gulland, and Crookes (2005).

d. Conclusion

The results of this research suggest that responses that seek to address poverty as a root cause of poaching should be adapted to the realities of both the position of participants in the IWT and the cultural context of the poachers. An effective response thus requires multiple approaches. In spite of the complexity that raised incomes present in the context of poaching (see Box 2), this does not mean that such approaches cannot work—sections 5.a and 5.b provide several examples of successful approaches. Instead, it means that clear linkages between income-generating activities and conservation need to be established to ensure that such activities are understood to be tied to behavior change. Moreover, experimentation and an iterative, adaptive approach needs to be taken, based on close involvement with the communities and long-term building of mutual trust, combined with robust monitoring and evaluation to assess their efficacy.



4. The Policy, Legal, and Regulatory Context

The four WCB countries have put in place policy, legal, and regulatory frameworks to attempt to address poaching. This chapter briefly analyzes the state of play.

a. Analysis

WCB governments have committed to conserving their biodiversity resources through multiple global, African, and regional initiatives.

At the global level, having joined CITES and the United Nations Convention on Biological Diversity (CBD), all four governments have committed to conserving their biodiversity signatories.

At the African level, the countries have adopted the African Convention for the Protection of Nature and Wildlife. More recently, the African Union produced the African Strategy on Combating Illegal Exploitation and Illegal Trade in Wild Fauna and Flora in Africa, recognizing that such illegal trade is no longer a conservation issue alone, but is undermining security and wider sustainable development. This strategy emphasizes that “firm and strengthened action” and effective international cooperation are needed on both the supply and demand sides of the IWT. Its core objectives include promoting a participatory approach to economic development and community livelihoods through

sustainable use of wild fauna and flora.⁶⁰ Several species-specific intergovernmental initiatives that complement the range of policy tools deployed also recognize the need for creating benefits and reducing the damage live wildlife can inflict.^{vi} **At the regional level**, the Central African Forest Commission (COMIFAC) Convergence Plan aims to maintain the integrity of protected areas, increase the contribution of ecotourism to gross domestic product (GDP) by 20 percent by 2015, and stabilize populations of large mammals and other endangered flora and fauna. COMIFAC also adopted a Sub-regional Strategy for the Sustainable Use of Wildlife by Indigenous and Local Communities with the vision of ensuring the sustainability of wildlife management by involving indigenous and local communities, including by promoting wildlife product value chains and community management of hunting reserves.⁶¹ In addition, the Economic Community of Central African States (ECCAS) has promoted an emergency plan to fight against poaching in the northern zone of Central Africa.⁶²

vi See, for example, the CITES 2010 “African Elephant Action Plan.”

i. The Regulatory Framework for Hunting

The WCB countries have sought to regulate sustainable wildlife offtake through hunting.

Their legal instruments have put in place a set of prescriptions governing protected areas, hunting practices, and natural resource management at large.

Cameroon's legislative framework for wildlife management comprises hunting regulations and the repression or punishment of offenses. The classification of animals is reviewed every five years. The law proscribes hunting of certain species, including gorillas, chimpanzees, and elephants.⁶³ Hunting a less regulated category of species requires a legal permit. The law limits subsistence hunting to the least regulated of three classes of animals outside of protected areas. Sport hunting is limited to hunting areas leased to hunting guides, who are responsible for the management of their wildlife. A Bushmeat Action Plan was also produced in 2003.⁶⁴ Cameroon's national biodiversity strategy and action plan promotes a participatory approach to biodiversity conservation and led to the creation of a community-based natural resource management approach (see section 5.a.ii). To assist conservation, a framework law governs the national land use planning process.⁶⁵ It aims to organize land allocation in a sustainable development perspective, and applies to all land use across the entire territory. The process is still in the early stage of preparation.⁶⁶

In the **Central African Republic**, the law bans the offtaking of fully protected species, and limits hunting of partially protected species to certain circumstances and areas of the country through permits and quotas.⁶⁷ Game reserves can be conceded to hunting safari operators.

In the **Republic of Congo**, the forest code imposes a contractual obligation for wildlife management on forestry concessionaires. Furthermore, the right to subsistence hunting of unprotected species using traditional means is granted to everyone. However, it can only be exercised on nonprotected lands or designated hunting areas around the municipality where the hunter resides.⁶⁸ In October 2014, the ROC passed a law on land use planning and development that includes forest protection among its objectives. However, to this date, no land use plan has been

developed, and land uses and formal tenure rights continue to overlap, complicating land use management.⁶⁹

In **Gabon**, the 2001 forest code regulates hunting, allowing subsistence hunting for all members of the village communities living traditionally and close to game reserves. However, the ministry in charge of wildlife protection may restrict the free exercise of customary hunting rights on conservation or development grounds. Hunting for semi-protected species is permissible for a given period of the year and certain quotas. Progress has been made toward the elaboration of a national land use plan, with the creation of an interministerial committee for land use planning and funding secured to carry out the planning as such.

ii. The Regulatory Framework for Protected Area Management

The WCB governments have also sought to protect biodiversity by establishing protected areas. Historically, the WCB has seen the proliferation of a strict conservation model that aims to preserve wildernesses untouched by humans. While there are notable exceptions, in many instances, the governments' effectiveness in terms of conservation has been mixed. Several reasons help explain this:

- Protected areas (PAs) often lack legitimacy in the eyes of the local population, especially in cases where PAs have led to their physical displacement, or to a reduction of access to previously used resources. This is particularly the case when the perceived benefits that PAs deliver to communities are low.
- Government funding for conservation has in many cases been minimal, and governance of the sector weak, leading to weak protection regimes.
- High market prices for poached products provide strong economic incentives at all levels to poach.
- Habitat fragmentation has reduced the effectiveness of PA systems, which rely on ecological connectivity to be effective reservoirs of wildlife.

National legislative frameworks display certain weaknesses: First, they frequently lack context sensitivity. For instance, they assume the existence of a fully functioning and funded legal and administrative infrastructure and personnel systems. In reality, such systems are severely lacking. Second, they do not sufficiently address the region's development and poverty alleviation needs. Their primary purpose is to regulate wildlife management in the interests of wildlife, and they generally do not mandate involvement of decentralized administrations or communities in forest and wildlife management, nor do they effectively promote the generation of economic benefits from wildlife or the creation of sustainable funding streams for conservation. Conservation managers attempt to respond to this need as best as possible, but this does not occur as a matter of policy or regulation.

b. Recommendations

Integrate human and conservation needs:

For conservation to succeed, it must integrate diverse goals of human use, including protection, commercial exploitation, local subsistence use, agriculture, industry, and urban development within a complex mosaic of land and resource use.⁷⁰ This implies not only balancing the respective needs of each of these uses but also strengthening the position of conservation in this complex assemblage. This, however, requires capacity to conduct integrating planning exercises that include all stakeholders, and a government vision to achieve such outcomes. Both have been in short supply, although support for landscape approaches, such as the Central Africa Regional Program for the Environment, from the U.S. Agency for International Development (USAID), has spurred progress.

Build on community buy-in: To be successful, any strategy to create value for wildlife must build on local community buy-in for sustainable management of the resource, which implies building on local resource user systems that enjoy local legitimacy. It also involves successfully creating collective interests to promote ownership and use of resources.⁷¹ It is thus important that local social actors be identified, mobilized, and empowered to organize improved and en-

during forms of social organizations, tenure systems, and structures for collective actions as a basis for new incentives and benefit-sharing arrangements. These systems need to go beyond simple consultative roles or token presence in governance structures. Equal-terms community participation in collaborative management arrangements currently being promoted in the region would be worth exploring.

Create enabling environments for nonconsumptive wildlife-based economic activities:

Protecting biodiversity and meeting the often-conflicting needs of stakeholders are best addressed through open, informed, participatory, and nonconsumptive forms of wildlife-based economic activities such as wildlife-based tourism or community-based natural resource management. Such activities require the right enabling frameworks to flourish (see sections 5.a.i. and 5.a.ii, respectively).

Create hybrid governance systems: Such approaches require mechanisms for community inputs, increased awareness of resource rights and responsibilities, and greater government accountability. In the current context, it seems that neither central governments nor customary approaches alone can create the required conditions: Civil society and local government administrators lack the tools, information, and capacity to participate as equal partners; laws lack provisions to ensure that stakeholders are incorporated into policy reforms; and linkages between local and national governance bodies are weak or outright absent. There are no platforms or communication structures in place to ensure that local stakeholder "voices" are incorporated into forest and resource reform policies. Linkages between communities and decentralized administrative units (territory and province) are weak or absent. And historically, rural communities have had little opportunity to participate in national policy and legislative reform debate. Mobilizing their long-term engagement will depend greatly on whether their legislative representatives are informed and lobby for community-defined needs, as well as the actual and traceable transfer of forest concession royalties to decentralized administrative units.

This calls for hybrid (region/country/community) integrated governance systems.

This collective and concerted management approach should be anchored in harmonized legislation across the countries. The regional framework sets the overarching objectives, priorities, and implementation measures. Countries, in turn, would need to tackle the thorny issues of power and legitimacy through a devolution process that, while ensuring accountability and alignment with national agendas, would allow some transfer of authority from the central level to decentralized accountable groups to empower local-level actors who traditionally enjoy legitimacy in the community. Such a process, though anchored in traditions, would need to involve state oversight and nongovernmental organization (NGO) support. Responsibilities would need to be clearly defined at each level, with the goal of achieving more equitable distribution of power and economic benefits, reduced conflict, increased consideration of traditional and modern environmental knowledge, and sustainable resource use.

A first step would be to harmonize IWT legal frameworks across the region to avoid leakages, such that what is prohibited in one country is also illegal across others, and that legal frameworks offer sufficient deterrence throughout the WCB. A concomitant step would be to improve local institutions and realign natural resource use rules to the desired outcomes of citizen participation and wildlife valuation by communities (also see section 5.a.iii).

Although hybrid governance systems could ameliorate some of the governance challenges conservation currently faces in the region, they cannot operate in a vacuum and require significantly improved governance at the national level. Without this, deriving value from wildlife will remain an uphill battle. Sound political commitment to tackle the poaching crisis and create the enabling conditions for sustainable wildlife management is therefore a *sine qua non* without which the very basis for deriving value from wildlife—the wildlife itself—will remain at severe risk (see section 5.c).



5. Increasing the Value of Wildlife

Approaches for Communities and Governments

Solutions to deriving greater value from wildlife exist. This chapter provides examples based on international experience. It is divided into three groups of approaches (Figure 5): The first catalogs approaches that can create new value for local and national economies—namely, removing barriers to building a wildlife tourism sector and promoting community management of wildlife and forests. The second group consists of approaches that share revenues generated through other means with communities in an effort to build local conservation constituencies. These approaches include protected area benefit sharing, payments for environmental services, and managing human-wildlife conflict.

Each approach is illustrated by case studies and recommendations are given based on international experience for how governments and protected area managers could apply the lessons learned to the WCB context. In the discussion on tourism development, the recommendations provided are based on an in-depth assessment of the WCB tourism constraints. The third group of approaches discusses fundamental enabling conditions that must be put in place if economic value from wildlife is to be created and shared sustainably. These include demonstrated political will, improved law enforcement, organizational reform and capacity building, and land use planning.

Figure 5: Overview of Approaches for Creating Value from Wildlife



a. Creating New Economic Value

i. Building a wildlife tourism sector

This section will first estimate the potential value that could be created in the WCB by building a wildlife tourism sector. It then goes on to analyze which barriers would need to be overcome for this to happen.

Assessing the Economic Potential of Wildlife Tourism

The primary untapped nonconsumptive use for wildlife at the scale of national economies is wildlife-based tourism (see Box 3). **This does not mean tourism is a simple or the only response to the challenge of deriving sustainable value from wildlife.** Indeed, the development of a wildlife-based tourism sector would be a long-term and challenging undertaking in an area such as the WCB (see appendix A for an analysis of the state of tourism in the WCB and below for recommendations on removing barriers to tourism). Section 5.a.ii presents community-based management of natural resources as another approach to deriving economic value from wildlife. However, an estimation of its potential economic benefits exceeds the scope of this study.

Box 3

DEFINING WILDLIFE TOURISM

Nature-based tourism encompasses all tourism experiences centered on wild or natural environments including but not limited to wildlife tourism, ecotourism, adventure travel, and cultural tourism.

Wildlife tourism is a subsector of nature-based tourism, focused on viewing and encountering non-domesticated wild animals in either terrestrial or marine contexts. As this study focuses on the potential to develop protected areas whose primary tourism attraction resides in their fauna, this study assesses the potential of wildlife tourism rather than nature-based tourism more broadly.

Current visitor numbers to national parks, which at most measure in the low hundreds, suggest that the current contribution of wildlife tourism to GDP in the countries concerned is negligible.^{vii} However, this is due to a lack of strategic planning, reforms, and investment, and governments could change this state of affairs. To illustrate wildlife tourism's development potential, this study assesses the spend per visitor in a cross-section of protected areas in the region (see Table 1).

The examples in Table 1 illustrate that the average nightly value of a wildlife tourist can vary considerably depending on the type of tourism promoted. It can range from \$484 in Campo Ma'an, a relatively undeveloped protected area; to a projected \$1,662 in Loango, a protected area whose tourism development plan targets multiple markets ranging from budget to luxury; to \$5,600 in Odzala-Kokoua, a protected area that has initiated two luxury tourism concessions.

The economic potential of protected areas varies considerably, depending on their carrying capacity, size, location, attraction, and the model of tourism espoused, among others.

For example, the presence of iconic species like gorillas and the availability of a range of lodging and activity options will markedly increase visitor length of stay and visitor spend. However, extrapolating the examples in Table 1 across the 26 protected areas evaluated as having high or medium-high development potential in the WCB (see Table A.3) illustrates that the total economic potential of these parks could be as little as \$5.3 million per year if they remain relatively undeveloped like Campo Ma'an National Park, or as much as \$390 million per year if they all realize their diversified potential like Gabon's Agence Nationale des Parcs Nationaux plans for Loango National Park.^{viii} This range excludes

vii Available tourism data is inclusive of leisure, business, and diaspora travelers, making it difficult to ascertain current figures for wildlife tourism.

viii This assumes that each park could welcome 9,000 tourists a year. While this assumption would have to be subjected to a detailed analysis of the carrying capacity of the protected areas in question, it is conservative when compared to parks with similarly sensitive, forest-based wildlife resources, such as Uganda's Bwindi National Park (20,000 visitors per year) or Rwanda's Volcanoes National Park (which received 17,000 visitors as early as 2008). Such numbers would imply raising the share of wildlife tourists

Table 1: Value of Existing and Projected Wildlife Tourism in Selected Protected Areas

Protected area	Market	Number of lodges/campsites	Estimated average total spend per person-night (US\$)	Average length of stay (nights)	Estimated total spend per person (US\$)	Estimated total economic value (US\$)
Odzala-Kokoua National Park, ROC (existing)	Luxury	3	800	7	5,600	572,000
Campo Ma'an National Park, Cameroon (existing)	Budget (camping and lodges)	1 / 2	161	3	484	206,769
Loango National Park, Gabon (projections based on 9,000 visitors)	Luxury	7	831	2	1,662	15,000,000
	Standard	2				
	Budget (camping)	2				

Sources: Information on Odzala-Kokoua and Campo Ma'an National Parks courtesy of P. Telfer of the Congo Conservation Company and S. Noumeysi of the African Wildlife Foundation, respectively, via personal communications to author, January 2018. For Loango National Park, see ANPN (2014).

a more lucrative scenario exclusively based on high-end tourism such as that piloted in Odzala-Kokoua National Park, as it is unlikely that a market can be established for such an approach across a large number of protected areas.

The wider economic impact of wildlife tourism is greater than just in-park spending, however. The numbers in Table 1 do not include visitor spend outside the protected areas, including that related to travel to/from the protected area, and any associated overnight stays. Based on some simple assumptions,^{ix} but not assuming any connected travel within the country, this could add up to \$131 million per year to the local economy.

The economic impact of tourism spending is not limited to the tourism sector itself, however, as the funds earned cycle through the economy. Local research on the multiplier value in

of the overall tourism from near 0 percent today to about 7 percent of the projected total international visitor arrivals in 2027. The upper end of this range would imply that wildlife tourism would constitute 6.3 percent of the tourism sector's revenue in 2027, which is still well below values observed in more developed African tourism markets.

ix All wildlife tourists travel from abroad, with 1 overnight stay at either end of the protected area visit (\$100 per person-night), 1 dinner at either end (\$30 per person), and transfer to and from the protected area (\$150 each way).

the tourism market in the WCB is not available, but World Bank research in Zambia determined a multiplier value of 2.1.⁷² Applying this same value, the total potential economic contribution of wildlife tourism to the economies of the WCB could reach \$1.1 billion per year.

Of course, the above projections presuppose optimal development of the tourism sector, including the creation of a favorable business and governance environment (see below and section 5.c, respectively), which are currently highly lacking. It also is necessarily a long-term proposition, which would take many years to realize. Such numbers should be considered to be aspirational. For comparison, Rwanda, which in 2016 reaped \$470 million from tourism,⁷³ took 20 years of targeted and systematic investments and reforms to reach its current level of revenue generation (see Box 6). In addition, the development of wildlife tourism should be subjected to a detailed financial analysis on a case-by-case basis to assess its viability and the opportunity costs. The up-front development costs of tourism development can be significant, making tourism's payoffs elusive in some cases.⁷⁴ Nevertheless, it is hard to see how wildlife can contribute to significant economic growth and diversification unless governments develop their tourism markets.

The proceeds from wildlife tourism can be plowed back into conservation: For example, Virunga National Park in the DRC generated \$2.5 million in fees from 10,000 visitors in 2017.⁷⁵ The level of entry fees and wildlife viewing permit prices will depend on how developed the market is, and how high demand is for the wildlife product. The price of gorilla viewing permits for foreign tourists illustrates this well: In less developed destinations like Virunga and Kahuzi-Biega National Parks in the DRC, the cost for a gorilla viewing permit is \$400. In the better-developed market of Bwindi Forest National Park in Uganda, the permit costs \$450–\$600. In Rwanda’s Volcanoes National Park, which has created the best tourism infrastructure of these countries and draws high-end tourists, the price is \$1,500 for foreign tourists.

More important than fee generation, however, is the economic development potential, especially when leveraged through innovative collaborative management models and channeled through benefit-sharing schemes (see section 5.b).

Box 4

HOW DOES WILDLIFE TOURISM’S POTENTIAL COMPARE TO OTHER USE VALUES OF WILDLIFE?

The premise of this study is that wildlife is not sufficiently valued in the WCB to motivate its conservation. The study then suggests approaches to boosting that value with sustainable uses to monetize wildlife. The rationality assumption the study makes for its basic premise necessitates a comparison of the primary economic value creation, wildlife tourism, with currently unsustainable activities.

Bushmeat hunting: The estimated value of wildlife tourism has the potential to outweigh that of the bushmeat trade, which, including self-consumption of bushmeat in rural areas, is estimated to have a gross economic benefit of \$413 million across Cameroon, Gabon, and the ROC, but a net economic benefit (including the opportunity cost of labor) of only \$112 million. Of the estimated \$120 million in net profits the sector produces across the three countries, about 50 percent accrues to rural areas.^a While tourism would not have to outweigh this amount to displace bushmeat hunting as an income source—since, if managed sustainably, bushmeat hunting and tourism can in theory be additive activities—it is clear that for tourism to provide adequate incentives to “distract” bushmeat hunters from their activities, tourism will have to be structured to provide substantial returns for rural areas.

Sport hunting: The paucity of data does not allow a full accounting of the current or potential revenue from sport hunting across the WCB countries, although experience from other Sub-Saharan African countries suggests the contribution could be significant. Also see Box 4 for a discussion of the conditions under which sport hunting would constitute a viable option in the WCB.

a. Lescuyer (2015); Lescuyer and Nasi (2016); Valimahamed, Lescuyer, and Nasi (2017).

Box 5**UNDER WHAT CONDITIONS CAN SPORT HUNTING SUSTAINABLY PROVIDE ECONOMIC VALUE FOR WILDLIFE?**

The assessment of the economic potential of wildlife tourism does not include sport hunting. The hunting of wild animals for sport can generate considerable economic returns to rural communities and can contribute to national GDP. In Cameroon, sport hunting has been estimated to generate \$14 million annually.^a Hunting provides an economic value to wildlife and to protected areas, the latter because they are reservoirs of wildlife for surrounding areas. Economic incentives to protect wildlife and protected areas are indispensable for their long-term survival.

Sport hunting is an element of nature-based tourism when it is a recreational activity practiced by visitors to a natural area. From an economic perspective, sport hunting can be a positive nature-based activity, generating substantial returns from payment of fees and related spending of hunters. If hunting targets problem animals causing human-wildlife conflict, it can have an additional positive impact by reducing the economic cost to local communities from animals that destroy crops or take human lives. But at the same time, hunting can have adverse economic impacts if it affects negatively the sustainability of a rare or endangered species. If the economic returns of sport hunting are not fairly shared or are captured by elites, this can negate the activity's positive contribution to a country's economy. There can be intense opposition to sport hunting, and in particular trophy hunting, on the basis of moral objections.

Under what circumstances, considering the economic potential, does it make sense to allow or promote sport hunting? Major criteria need to be met to allow sport hunting, including the following:

- Do national laws and regulations, including international conventions such as CITES, allow hunting of the species of interest?
- Is hunting permitted in the target area? This would exclude all hunting in national parks.
- Are the target species monitored and managed to prevent impacts on the sustainability of populations?
- Are adequate controls in place to ensure the hunting does not provision illegal markets for animal products?
- Are there sufficient measures in place to manage hunting (well-trained and regulated hunting guides, regulatory framework)?
- Is a reasonable proportion of the sport hunting fees earmarked for direct conservation purposes in the area of interest?
- Is a reasonable proportion of the sport hunting fees earmarked for local communities and is it sufficient to generate conservation incentives?

In many areas outside of national parks, the development of nonconsumptive tourism is unlikely. In these areas, sport hunting may be the best option to provide enough incentives to local populations to ensure the survival of wildlife populations. In some countries in Africa—for example, Zimbabwe and Namibia—the above criteria are met and sport hunting generates critical revenues both for conservation and for local communities.

The WCB countries face significant barriers to the development of high-value wildlife tourism (see below). This observation would suggest the importance of favoring other ways of generating revenue from wildlife populations, or else accept their loss if the value of wildlife is less than the

opportunity cost of poaching, or if converting them to agriculture or another land use is more attractive.

Do the WCB countries meet minimal criteria for promoting sport hunting?

Legally, sport hunting is possible in all the states of the WCB, but in most countries this does not extend to elephants (save Cameroon, where adult elephants can be hunted), the largest generator of sport hunting revenue in southern Africa. The IUCN considers the Central African elephant population endangered. Sharply declining numbers in virtually all parts of the elephants' range mean that hunting of this species would be problematic and face considerable international opposition. Other species, such as the bongo, are currently being hunted for sport in the WCB.

None of the WCB countries have sufficient regulations and capacity to ensure either the reasonable management and monitoring of target wildlife species or the sustainable management of hunting operations. If more detailed feasibility studies carried out on a scientific basis were to identify specific areas and species that offered potential, it could be possible in the medium term to sufficiently strengthen regulations and capacity. Any such arrangements would also need to ensure strong and enforceable regulations, monitoring, and revenue sharing.

a. Eba'a Atyi et al. (2013).

Addressing Barriers to Building a Wildlife Tourism Sector

As outlined above, the greatest potential for creating new, unrealized economic value for wildlife in the WCB resides in developing wildlife tourism. While the potential for development exists, the WCB countries perform poorly in international comparisons of their competitiveness (see Table 2). The analysis of the state of tourism in the WCB (see appendix A) identified structural barriers to tourism development. The path to building the sector at scale is long and requires strategically addressing barriers to its development. However, there are small

pockets of tourism activity in the WCB—for example, in Odzala-Kokoua, Nouabalé-Ndoki, Dzanga-Sangha, and Loango National Parks—from which lessons can be drawn, and on whose fledgling successes growth could be built. This section outlines priorities for this process.

While the tourism sector requires a favorable overall business environment to flourish, six primary structural barriers impede optimal wildlife tourism development. Recognizing that there are variances between the WCB countries and within each country, and that some of these barriers have been addressed in certain instances, these can be grouped into three thematic areas (Figure 6).

Table 2: Competitiveness Rankings of WCB Countries

Country	World Economic Forum Tourism Competitiveness (out of 138 countries)	World Bank Ease of Doing Business Ranking (out of 190)
Cameroon	119	163
Central African Republic	Not included	184
Gabon	108	167
Congo, Rep.	Not included	179

Sources: WEF (2016); World Bank (2018).

Strategic Planning and Market Development

1. National and protected area **conservation vision, strategies, and plans** that protect wildlife and landscapes and link to tourism
2. National and protected area **tourism strategies and plans** that provide guidelines for tourism concessions and promote wildlife tourism
3. **Tourism zoning guidelines** for product development within protected area management plans, and monitoring of prioritized indicators to inform decision making
4. **Tourism marketing and promotion** to attract target markets and drive demand

Business Climate

5. **Policy and regulatory environment** that supports wildlife tourism development

Infrastructure and Tourism Capacity

6. **Tourism infrastructure** and human resource **capacity** at a national level and within protected areas

Figure 6: Six Structural Barriers to Wildlife Tourism Development



The recommendations that follow detail how governments can overcome these structural barriers and put in place the enabling conditions critical for success of wildlife tourism. They are informed by an assessment of national tourism policies, strategies and plans, stake-

holder interviews, and individual protected area assessments (see appendix A). Emphasis has been placed on models that maximize returns for national economies and local communities. Creating an enabling environment for developing wildlife tourism and implementing regional and national strategies and priority policy actions is a significant undertaking. Accordingly, strategic sequencing is required to optimize execution, with established short-, medium-, and long-term priorities (Table 3). However, these will naturally depend on each country's individual context.

Strategic Planning and Market Development

Successful tourism development requires political will at the highest levels of government, a clear and aspirational tourism policy, coherent actionable strategies, and an enabling environment for private sector development. To drive economic development and create jobs through tourism, governments must protect the assets upon which the sector is dependent. This requires the will to do the following:

- Support wildlife tourism product development and marketing and promoting tourism at a destination level.
- Create a policy environment for enabling and regulating private sector development.
- Create a robust conservation vision, strategy, and governance, recognizing that wildlife tourism can be of significant economic and strategic value.

Understand Market Demand. (Short term) New tourism infrastructure and product development should from the onset be linked to existing market demand and an understanding of market dynamics. Public-private marketing partnerships can identify and prioritize target markets and stimulate their development by tourism entrepreneurs. By staying attuned to their target markets, trends in tourism, and the competitive landscape, countries can more easily adapt their tourism offerings to meet changing market needs. Existing and potential tourism markets, strategic visitor flows, and the protected area assessments can inform the identification of wildlife product development opportunities deemed to have the most

Box 6**BUILDING A TOURISM SECTOR FROM SCRATCH: THE CASE OF RWANDA**

Rwanda shows what is possible in terms of tourism development even with a limited resource base. The 1994 genocide destroyed the country's human capital, image, infrastructure, and the limited tourism market it had already developed. Yet visitor numbers nearly doubled to 1.22 million between 2010 and 2014,^a and in 2016 Rwanda earned \$470 million from international tourism.^b Selected key success factors illustrate how the country got there.

Clear vision and strategy: Rwanda approved a clear tourism strategy in 2002, followed by a tourism policy in 2006. Both were embedded in the overall Economic Development and Poverty Reduction Strategy. They identified gorilla tourism as the country's unique value proposition and established a strategic focus on high-end tourism. At a later stage, concerted efforts were made to boost conference tourism.

Commitment to reform: Rwanda has implemented a number of market-based reforms to strengthen the role of the private sector. These also benefit the tourism sector. The government revised laws and codes, including the investment code, company law, secure transactions law, labor law and insolvency law, and simplified customs procedures. Combined with others, these actions have made Rwanda a top performer in the Doing Business ranking, reflecting the general strong governance environment.

Strong public-private dialogue: The government involved the private sector from the start, with the objective that the private sector would take over as the driving force. A tourism working group brings together private and public stakeholders. The government consults the private sector in the development of new policies and strategies.

Attractive investment incentives: The investment code grants tax exemptions to investors who invest \$100,000 or more, and provides for tax exemptions for aircraft and vehicles that transport tourists, as well other tourism equipment.

International marketing: Using an aggressive public relations and marketing strategy involving international agencies, Rwanda worked consistently to market the country and its attractions, benefiting greatly from the popularity of the gorillas. To ensure private sector participation in major trade fairs, the government provided subsidies for tour operators who otherwise would not have had the means to attend. Promotional tours of Rwanda were provided for international investors and tour operators.

Domestic sensitization: The government launched a national campaign to sensitize the population on the importance of tourism and to convey that the country can benefit from tourists and should therefore be welcomed. The objective of the campaign was not to push domestic tourism, but rather to teach members of the army and police, for example, about the role of tourism and their role in the sector.

Protection of key resources: Rwanda has protected its gorilla population very well, growing its numbers from 265 in 2009 to 305 in 2014. It put in place strong benefit-sharing schemes for local communities.

Note: Much of this text box is based on Nielsen and Spenceley (2010).

a. National Institute of Statistics of Rwanda (2015).

b. International Tourism, Receipts (Current US\$) data set, World Bank Open Data (database), Washington, DC (accessed 2017), <https://data.worldbank.org/indicator/ST.INT.RCPT.CD>.

Table 3: Overview of Priorities to Address Barriers to Wildlife Tourism

Short-term priorities (1–2 years)	Medium-term priorities (3–4 years)	Long-term priorities (5+ years)
<i>Strategic Planning and Market Development</i>		
Understand market demand	Optimize destination management	
Understand natural capital	Develop branding strategies	
Prioritize destinations for investment	Manage property rights	
<i>Business climate</i>		
Facilitate multi-stakeholder collaboration		
Create a positive and progressive policy and regulatory environment		
Develop protected area business plans and tender concessions		
Ensure local economic benefits		
Manage risk in protected areas	Improve infrastructure, services, and access	
<i>Tourism Infrastructure and Capacity</i>		
Establish wildlife-based protected area and tourism partnerships	Build capacity	
<i>Regional strategies</i>		
	Offer a joint tourist visa	
	Strengthen transboundary protected areas	
	Exchange knowledge	

potential. This should also include an analysis of market segmentation to determine to what extent to target the luxury, mid, and lower-end markets, and national versus international markets. Determining how different types of tourists travel through the WCB can provide a market-driven, realistic, and forward-looking perspective on tourism infrastructure and product development. The understanding of strategic visitor flows and their connections to

tourism demand and supply networks enables decision makers to align products and services with travel motives and visitor behavior.

Understand Natural Capital. (Short term) Wildlife dynamics and landscapes are the core of any related tourism product offering. A strong understanding of these elements is required to evaluate the existing and future potential of wildlife tourism. There is no set rule as to where

tourists will or will not travel. However, developing tourism products in the most attractive locations in terms of scenery and wildlife increases the probability of commercial success. A weighted assessment of the following variables and related threats can help determine the potential for tourism development in prioritized areas:

- **Wildlife dynamics:** The diversity of fauna, with an emphasis on iconic, endemic, rare, and endangered species, and the diversity of their habitat; population sizes for resident wildlife and migrating species; and wildlife visibility
- **Landscape:** The aesthetics of the landscape in terms of the preponderance of high-quality scenery, especially relating to rivers, lakes, forests, mountains and other natural features; the diversity of topography and ecological zones (for example, rain forest, forest-savanna, swamps); and iconic natural and cultural heritage features (for example, canyons, rocky massifs, forest clearings, rivers, villages)

Prioritize Destinations for Investment. (Short term) Appendix 1 provides a rapid assessment of the theoretical potential of protected areas for tourism development. Its conclusion is that much investment is still required for tourism to be able to flourish in the WCB. Current tourism development strategies too often attempt to cover all bases, thus risking the dilution of valuable potential public investments. It is therefore necessary to identify those tourism assets whose development potential is greatest, using objective criteria (including financial analyses of the potential profitability of tourism development). This will enable a concentration of priority investments to develop beachheads on which the sector can build a broader base and develop outwards.

Optimize Destination Management. (Medium term) To attract more investment and thus tourism development, the structure of the tourism sector should be optimized. Politics need to be separated from implementation to inform decision making, accountability increased, and an enabling environment for tourism development created. The relevant ministries' role in leading tourism should include developing policies and strategies, prioritizing infrastructure devel-

opment plans, strengthening and improving the transparency of tourism-related rules and regulations, and disseminating each of these and securing input from the private sector and other key stakeholders, such as NGOs and communities, prior to their adoption. Tourism ministries should also help establish and resource a tourism authority at the national level to implement strategies and action plans and lead marketing, product development, and other activities that attract visitors and enhance their experience. Protected area authorities' involvement in tourism should be under the direction of the ministries responsible for protected area management, tourism, private sector business, and infrastructure development. To help balance the interests and benefits of tourism, the private sector should be actively involved in tourism development planning, marketing, and product development.

Develop Branding Strategies. (Medium/long term) The brand image of a country and its protected areas is also very important. National tourism brands and protected area brands closely associated with wildlife tourism need to be developed. Branding strategies that build brand awareness, teach brand meaning, and grow positive brand equity over time engage target markets, emotionally connect them with sites, and foster stewardship among visitors.⁷⁶

Business Climate

Supply-driven tourism development is rarely successful in emerging tourism destinations. Governments should concentrate on regulating and creating an enabling investment environment for tourism rather than developing tourism facilities and services themselves. The private sector will best react to market opportunities and therefore will stand a stronger chance of being commercially sustainable. With the right conditions for investment and operation, the private sector will bear most of the costs of tourism development.

Facilitate Multi-stakeholder Collaboration. (Short/medium term) Experience has shown that interministerial, cross-sectoral multi-stakeholder coordination on tourism destination management, marketing, and development strengthens private sector competitiveness, enhances the enabling environment for enterprise development, and boosts benefits for

host communities. Such coordination increases accountability, establishes a system of checks and balances, and ensures communication and coordination between the public and private sectors and civil society. Establishing a national tourism development committee to engage key stakeholders—securing their input on tourism policies, strategies, and action plans—and to oversee implementation would provide one such avenue.

Create a Positive and Progressive Policy and Regulatory Environment. (Short/medium term) Enabling policies and smart incentives can support and guide the private sector to maximize local production in the supply chain at a community level, build local capacities, and remove barriers to trade.⁷⁷ Therefore, incentives should be linked to protected area and private sector business plans and models that support both conservation and socioeconomic outcomes. Incentives such as tax reductions or exemptions from value added tax (VAT), income excise taxes, and customs duties for reputable international and local investors can help drive tourism infrastructure construction and provision of transport and equipment. Comparable incentives and subsidies should be established for micro, small, and medium enterprises (MSMEs) involved in tourism and benefits should trickle down to them. Any incentives should be transparently structured and uniformly applied. In some cases, existing taxation regimes should also be investigated for their efficiency. For example, in the ROC, import duties start at 57 percent; in addition, there is a 19.1 percent VAT, a 10 percent tourism levy, and high taxation at all levels.

International and domestic tourism operators and local MSMEs interested in establishing new businesses or growing their existing business require unencumbered access to businesses licenses, compelling tourism development opportunities, low-interest loans and commercial capital to finance them, and secure rights to investment to minimize their risk. Many banks perceive the risks of extending loans to the private sector to be prohibitively high in the countries concerned. Those risks can be reduced to acceptable levels in many ways. Rendering the business environment more competitive is key to that process.⁷⁸ Where barriers to market entry are particularly high, grant mechanisms may be necessary.

Manage Property Rights. (Medium term) Land tenure and property rights have a strong influence on protected area conservation strategies, landscapes, and commercial entities. They include local communities' and business' rights to hunting and fishing, forestry, minerals and mining, and concessions and tendering. For example, the property rights of local communities might be leveraged to strengthen wildlife protection in protected areas and buffer zones, which could be sustained by commercial tourism investment resulting in clearly structured local benefits. This might include the creation of community wildlife conservancies in certain key locations, drawing upon successful community conservation initiatives in other parts of Africa.

Develop Protected Area Business Plans and Tender Concessions. (Short/medium term) Protected area management plans, zoning guidelines, and a system for concession tendering within protected areas prioritized for tourism development should be developed alongside protected area business plans to optimize economic development potential. This approach enables governments to define how tourism should be developed and managed, and if there is private sector participation, it helps to ensure commercial viability, community benefit, and conservation outcomes.

Example

Increasing the Commercial Value of Natural Capital through the Private Sector in Kenya. Until the late 1990s, most land in Laikipia County was managed as livestock ranches. Since then, with progressive government legislation in place, most have migrated to new business models based around wildlife conservation. Without any donor funding, Loisaba Conservancy has become recognized as one of Kenya's premier high-end tourism destinations and integrated wildlife-livestock conservancies, generating \$1.5 million a year in commercial revenue. Overall wildlife populations are increasing, and in 2015 the Nature Conservancy purchased Loisaba for \$10 million.^a

a. Birnie and Davies (2017).

Example

Planning for Managing and Developing Tourism in Gabon. Gabon has protected area management plans for its 13 national parks. The plans address tourism infrastructure, product development, and guide training; revenue sharing mechanisms; monitoring of tourism activities; key performance indicators related to tourism; and budgeting and projections for tourism development. This planning is set within a broader process of national protected area tourism development and business planning that focuses on new commercial tourism models, including all aspects of tendering, concessioning, and contracting with commercial tourism partners.

Longer-term, exclusive-use concessions within and adjacent to protected areas create investment certainty for concessionaires. Initial concessions should be relatively inexpensive for base rental, with a percentage of gross annual turnover offered as an incentive for government and investors to benefit as occupancy rises.

Ensure Local Economic Benefits. (Short/medium term) The two main threats to wildlife tourism are ecosystem degradation and poaching. A rising and impoverished human population in the communities surrounding protected areas is likely to exacerbate these threats. Rural communities often resent that considerable resources go into protecting wildlife for the benefit of wealthy tourists. In South Africa, for example, it is relatively easy for kingpins engaged in poaching to recruit from the villages around Kruger National Park.⁷⁹ Since communities coexisting with wildlife typically bear the costs of loss of livestock, crops, and life without gaining significant economic benefit, the wildlife itself may have little or no positive economic value to the community.⁸⁰ To combat the illegal wildlife trade in the long term, tourism must be designed to benefit communities to incentivize them to protect their natural capital assets.

Example

Creating Communal Wildlife Conservancies to Economically Empower Communities in Kenya. The Northern Rangelands Trust represents and supports 27 community conservancies totaling an area of 31,000 square kilometers, equivalent in size to over 60 percent of Kenya's formal protected area estate of national parks and reserves. These conservancies have created revenue and benefit flows to over 100,000 people and are now seen as a benchmark for community-based conservation.^a

a. Birnie and Davies (2017).

Concessions in protected areas offer various ways to maximize the economic benefits of tourism and ensure that these benefits primarily accrue to national and local communities' economies. Protected area concession and tendering systems should require concessionaires to hire a predetermined percentage of their staff from local communities and provide them with training and opportunities for upward mobility. In some cases, concessionaires can be required to establish and manage guide-training programs and invest a percentage of their fees in community development funds. Concessionaires should also be encouraged to buy a percentage of goods and services from local businesses and producers if they are of a sufficient quality, and/or to help develop local supply chain capacity.

National systems for the distribution of protected area entrance and other fees between the state, individual protected areas, and local communities should be based on detailed economic assessments (for example, fees in comparable parks, visitor willingness to pay). To maximize domestic tax revenues, tourism operators and concessionaires should be required to declare all revenues they generate in-country, recognize it within a local company or subsidiary, and ensure financial audits are undertaken by a recognized national audit firm. Improving tourism accommodation and circuits within and

between protected areas also helps to increase visitor spend and tax revenue.

Manage Risk in Protected Areas. (Short/medium term) The success of the tourism is inextricably linked to the ability to provide a safe and secure environment for visitors.⁸¹ To ensure a quality tourism experience, protected areas should have risk management plans to reduce risk and improve emergency preparedness and response, and law enforcement to protect the tourists. Access to adequate health care facilities and preparation for serious health emergencies is also important.

Make Visitors Feel Welcome. (Medium term) Visa and border-crossing processes should be streamlined. For example, tourists should be able to apply for and secure a visa online prior to arrival, or they should be able to easily secure a visa upon arrival. The visitor welcome at airports, border crossings, and police checkpoints can also be improved. Tourism enterprises and tourists should not be met with corruption, aggressive police, or obstructive immigration and/or customs officials.

Tourism Infrastructure and Capacity

Improve Infrastructure, Services, and Access. (Medium/long term) Investments in tourism infrastructure increase competitiveness, efficiency of production and distribution of tourism services, and the supply of tourism services in remote destinations.⁸² Successful tourism development requires the provision of many services, including different levels and types of lodging, transport, activities, and dining.

Access, which determines the time and expense required to travel to, from, and within a destination, is also an important consideration for attracting target markets. It includes the transport of goods and services and involves international, regional, and domestic air, road, and water transportation. Investments in public infrastructure and the facilitation of businesses to provide such services are therefore important.

Establish Wildlife-Based Protected Area and Tourism Partnerships. (Short term) Public-private partnerships (PPPs) and public-private-community partnerships can be established to jointly provide tourism facilities

and services. This requires commercial tourism operators, NGOs, and local communities based in and around protected areas to be very strongly aligned and for their inputs to the partnership to be carefully planned and structured. There are multiple examples of successful PPPs throughout Africa between governments, private sector actors, and NGOs such as Wildlife Conservation Society (WCS), Wide World Fund for Nature (WWF), and African Parks. Such PPPs have shown to hold significant potential for unlocking the economic value of wildlife-centered economic activities, in particular of tourism, which can then also fund conservation. In these arrangements, the government remains the legal custodian responsible for policy and management planning, while management partners are generally responsible for day-to-day management and securing of protected areas, habituating key species, and helping to secure donor funding. Once a protected area is secured, private investors are more willing to build infrastructure, create wildlife tourism programs, train guides, and manage external marketing and reservations. Donors have also increasingly shown a willingness to support protected areas under PPP arrangements.

Example

Stimulating Investment in Communities through Wildlife Tourism in Namibia.

Namibia's policy to award communities the right to benefit from wildlife in communal areas created an enabling environment for the establishment of private-community tourism partnerships on conservancy land. The private sector that sells wildlife tourism product to consumers invests in communal conservancies.^a Private sector partners have on average invested \$1.2 million in a typical joint-venture lodge with an average of 32 beds and 55 staff members,^b and paid communities \$2.13 million from 2011 to 2013.^c

a. World Bank (2014).

b. FENATA (2010).

c. Naidoo, Weaver, et al. (2016).

Build Capacity. (Medium/long term) Human resource capacity needs to be developed to unlock the economic potential of the WCB's natural assets. This includes capacity in protected area management, with support from NGO partners, for professional tour guides, and in hospitality, with support from the private sector concessionaires. High-quality education and vocational training will increase visitor satisfaction, decrease reliance on importing labor, and provide residents with jobs and opportunities for upward mobility.

Regional Strategies

Offer a Joint Tourist Visa. (Medium term) A joint tourist visa through ECCAS could enable visitors to more easily traverse the borders of the WCB countries without having to apply for individual visas, thus facilitating keeping tourists in the region. For example, the East Africa Tourist Visa enables multiple entries between Kenya, Rwanda, and Uganda for up to 90 days. A start was made in the WCB through the signature of a tourism protocol for open borders between Cameroon, the CAR, and the ROC in the Sangha Trinational.

Strengthen Transboundary Protected Areas. (Medium/long term) Promising transboundary protected areas already exist and/or are being developed in the TRIDOM and Sangha Trinational. Such approaches, which espouse a landscape approach to conservation, can ease the flow of visitors across borders, encourage tourists to spend more time in the region, and improve protected area management through joint and transboundary patrolling, the harmonization of management protocols, and broader regional collaboration and integration.

Exchange Knowledge. (Medium/long term) A mechanism for the WCB countries to come together could provide a forum to network, open a dialogue, share knowledge on best practice in wildlife tourism, and initiate efforts to create a community of practice.

ii. Community-Based Forest Management

The geographical remoteness of many of the poaching hot spots in the WCB imposes limitations on the economic sectors that can

be targeted for development to respond to the challenge that a lack of income-generating options plays at least a partial role in driving rural inhabitants into poaching (see section 3.b). However, responses that simultaneously can improve the management of natural resources and provide sustainable income streams for the population are obvious targets. Community-based natural resource management (CBNRM), and specifically community forest management, is one such approach. It has yielded promising results in Latin America, for example, where forests under community management have displayed lower rates of deforestation than forests otherwise managed while also providing economic advantages to the communities who own them.⁸³ That said, community forestry is not a cure-all,^x and it requires sound management and regulation, gradual experimentation, extensive capacity building, and time to work.

Community forestry should include, if possible, community-based wildlife management.

This report treats this issue separately owing to the technical challenges involved (section 5.a.iii); however, the two resources should be thought of in one comprehensive CBNRM framework that diversifies income streams.

Community forest management has two main goals: improved forest conditions and improved livelihoods for local communities.

It has been promoted to varying degrees in Cameroon, the Republic of Congo, Gabon, and the Central African Republic. In the current context, which is dominated by the discourse of diversification of national economies with the aim of reviving growth and fighting poverty and unemployment, community forest management is a potential option. Following a review of the policy orientations that have hitherto governed the development of this approach, a situational analysis will be drawn up to identify progress made and lessons learned. Recommendations will be made based on these experiences and new opportunities.

Current Policies in the WCB

Community forest management is one of the innovations introduced as part of forest sector reforms in the 1990s. In Cameroon, the

x See, for example, Rasolofoson et al. (2015).

government was committed to one of the four orientations of the new forest policy—namely, to improve the integration of forest resources into rural development to contribute to raising the standard of living of the population and to engage it in the conservation of resources. Through this orientation, the government wanted not only to reduce poverty in forest communities but also to make these responsible for forest management. All the other countries of the subregion share this orientation, as set out in the sector policy letter in Gabon and the forest codes in the ROC and the CAR.⁸⁴ The policy has been adapted to different participatory forestry regimes.^{xi}

The rollout of community forestry has varied between WCB countries. Full transfer of responsibility for management through the status of “community forests” was first introduced in Cameroon in 1994, then in Gabon in 2001.⁸⁵ The first attributions took place in 1997 and 2013, respectively. Fifteen years later, nearly 300 community forests have been attributed in Cameroon, covering almost 2 million hectares, or about 7 percent of the forest area.⁸⁶ In Gabon, 51 community forests have been attributed over four years, covering 242,192 hectares, or about 1 percent of the total forest area.⁸⁷ In the CAR, Law no. 08-022 of October 17, 2008, provides for the creation of community forests. However, the decree setting out the procedures for attributing and managing community forests was only signed at the end of 2015. In the ROC, no provision has been made yet to promote community forests, although work is under way to integrate the concept into the new forest code.

A second approach concerns the comanagement of the peripheries of protected areas with a view to integrating the concerns of local populations and ensuring their participation in benefit sharing.⁸⁸ Since buffer zones and peripheral areas are considered complementary to protected areas, the activities carried out in such areas can have a direct impact on conservation efforts, and vice versa. Legislation therefore provides for greater consultation and, in some cases, the signing of contracts between stakeholders to prevent conflict and ensure the equitable distribution of the bene-

xi Gilmour (2016) distinguishes between a range of five generic types of participatory forestry regimes classified according to the rights enjoyed by stakeholders.

fits arising from protected areas.^{xii} This regime corresponds to the land management contracts promoted in Gabon or to the eco-development zones set up in the peripheries of protected areas.

A third approach comprises the joint management of agroforestry areas included in forest concessions. It is implemented through community development blocks (SDCs) in the ROC, population use blocks in Gabon, agricultural and human occupation blocks and reserved usage blocks in the CAR, and community hunting zones (*zones d'intérêt cynégétiques à gestion communautaire*; ZICGCs) in southeastern Cameroon.^{xiii} This regime is part of the social component of forest concession management plans. Dialogue between local communities and forest concessionaires is facilitated by multi-stakeholder platforms and specific bodies such as farmer-forest committees (CPFs),^{xiv} which participate in the development, implementation, and monitoring of the management plan.⁸⁹ In most cases, it is intended to support community projects, including those related to community-based natural resource management, with the resources provided by the mechanisms for the retrocession of revenues derived from industrial logging.^{xv} In the ROC, a local development fund is set up for each forest concession. It is maintained by a fee of CFAF 200 per cubic meter levied on the volume of timber extracted and is used to finance microprojects of community-wide benefit. In Gabon, the site where the timber exploitation takes place serves as a basis for sharing out the fee, which is allocated to the financing of projects of collective interest identified by the village communities concerned.

xii See, for example, Gabon's Law no. 003/2007 of August 27, 2007, on national parks.

xiii Unlike in southeastern Cameroon, where ZICGCs overlap with logging concessions, in the CAR, village hunting areas have been created in the northern savanna. The principle was based on the hiring out by a group of villages of its hunting area to a hunting company and on the recovery of the meat from the hunted game.

xiv The missions assigned to CPFs are described in Decision no. 1354/D/MINEF/CAB of November 26, 1999 (Cameroon).

xv This is a significant financing opportunity for the community management of forest resources. In Cameroon, about CFAF 40.5 billion was allocated to the riparian populations of the forests subjected to exploitation under the retrocession of 10 percent of the annual forestry fee between 2000 and 2006 (Bigombe Logo 2010).

The Effectiveness of Community Forest Management: Mixed Results

The effectiveness of community forest management is a recurring concern, and has delivered mixed results to date. While some question the outcomes in terms of assets (natural, social, and economic), others are concerned about possible abuses of a transfer of responsibility for managing forest resources to local communities.

Despite the number of community forests attributed and the efforts made so far in Cameroon, the record is mixed. Although significant advances have been made, especially at the institutional level, there is still a long way to go despite some successful experiences.⁹⁰ Local communities are slow to become actors in their own development, and the economic rewards are limited.⁹¹ In addition to the classic governance issues, the productivity of the forests and the technical, organizational, and entrepreneurial capacities of local communities are called into question.⁹² In Gabon, the NGO Conservation Justice (2018) reports that “simple management plans are not respected; extraction continues at full speed, without a minimum of development. Some community forests today are simply a means of laundering illegal timber.” These irregularities led to the temporary suspension of the attribution of community forests.⁹³

In addition, the impact of the joint management of peripheral areas on the livelihoods of local communities is limited. This is partially due to the weak performance of institutions in the comanagement of protected areas owing to conflicts of interest.⁹⁴ The land management contracts promoted in Gabon are at the experimental stage. The rights and responsibilities transferred through the comanagement of eco-development zones in the peripheries of protected areas are not always clear. Community ecotourism is still struggling to play the role ascribed to it.⁹⁵ Despite the positive results seen during the experimental phase, from 1992 to 2001, tourism in the Lossi Gorilla Sanctuary in the ROC continues to stagnate.⁹⁶

The joint management of community development blocks in forest concessions is not yet fully operational. In the Republic of Congo, 14 SDCs covering a total of 661,289 hectares have been demarcated. Each one must put in place

a management plan tied to the management plan of the forest concession. If SDCs are not developed in an inclusive manner, the prescriptive logic that dominates the development of management plans runs the risk of reducing the participation and inclusion of customary rights to a simple formality.⁹⁷ This in turn will mean that the implementation of these management plans will fail to include the contractual bases that engage all parties.⁹⁸ This situation may open the way to abuse.⁹⁹ As part of a World Bank-funded project, the government has been supporting the development of participatory plans in several concessions.

The community management of forest resources is not yet reaching its full potential. Conditions are not yet in place to allow the various regimes described above to bring about the anticipated changes. These include a supportive regulatory framework, adequate management mechanisms, and strong local governance.

First, the regulatory framework is not sufficiently developed. In Gabon, for example, texts regulating the implementation of simple community forest management plans are not available. In addition, the methods for managing the SDCs in the forest concessions have not been defined. The same is true for the management contracts concerning lands on the peripheries of protected areas, which remain at the experimental stage.¹⁰⁰ In addition to these shortcomings, the rights and responsibilities transferred to local communities are often not clarified. Usage rights (Cameroon and the ROC) and customary usage rights (Gabon and the CAR) represent the legal basis for the engagement of local communities. In other words, the state only transfers usufruct rights to local communities. There is a strong correlation between securing forest tenure and the effectiveness of participatory forestry: In situations of rights insecurity, local users exploit resources in an unsustainable way.¹⁰¹

Second, management mechanisms are inadequate. In the ROC and the CAR, there is no forestry administration service specifically dedicated to community forestry. In Cameroon and Gabon, where participatory forestry falls under the remit of a subdirector or a directorate of community forests, the human and material resources are insufficient. In addition, the administrative environment still acts as a disincentive.

For example, in one instance, sellers needed to navigate 22 roadblocks and checkpoints to sell *Gnetum* leaves in urban or cross-border markets.¹⁰² In such circumstances, smallholders and communities bypass official channels, as was observed in Nepal, where smallholders have to fulfill at least 14 procedures before they are granted permission to cut down trees and transport timber from their lands.¹⁰³ In addition, the procedures for the secure attribution of a community forest are beyond the reach of local communities.¹⁰⁴

Third, the combined effect of these two shortcomings also affects the performance of institutions devoted to community forest management. To this must be added methodological aspects, in particular the fact that, due to time constraints, support mechanisms often favor a set of institutional innovations with a pre-conceived design. As a result, these institutions invest little effort in capacity building among stakeholders to enable them to develop new institutional arrangements through dialogue. In general, the performance of community management institutions is only positive when these institutions derive their legitimacy from preexisting institutions. In Nepal, for example, community forestry is not tied to local political and administrative boundaries but aligns with the boundaries delineated by indigenous institutions. This system has demonstrated its strength, resilience, and durability throughout a period of political and social upheaval, including revolutions and a decade-long civil war.¹⁰⁵

These findings are likely to cast doubt on the effectiveness of participatory approaches and reduce the discourse of participation to a mere formality. In the current context, which is dominated by the discourse of diversification of national economies, it is necessary to explore moving toward a second-generation approach to community management of forest resources.¹⁰⁶

Lessons Learned and Recommendations

Second-generation community management initiatives can only achieve their goals if the conditions described above are met.

A far-reaching reform is therefore needed to broaden the legal base for local community engagement. The aim is to go beyond usage rights by recognizing the rights of local communities over forest lands and resources, and building

their capacity to exercise these rights and fulfill their responsibilities with regard to sustainable management.

A four-dimensional approach serves to guide government support:

- 1) **Multipurpose management of community management units.** This approach is an alternative to the current model of community forests, which gives priority to timber harvesting.¹⁰⁷ In practice, inspiration can be drawn from the concept of “forest landscapes,”¹⁰⁸ adapting it to the scale of the community management unit. Thus, simple management plans will have to take into account different landscape options concerning both forestry and agriculture. However, it will be opportune to enrich this approach with entrepreneurial capacity-building approaches, such as community forestry entrepreneurship as well as market analysis and development.¹⁰⁹
- 2) **Coordination of uses in areas of overlapping rights.** In Gabon, the future of community forestry is uncertain because of the unavailability of space; almost all the land is occupied by forestry concessions, mining concessions, or national parks.¹¹⁰ In Cameroon, CED et al. (2017) cite the maximum size of community forests as barriers to their effectiveness. Recourse to other management schemes distinct from current forest management models based on the specialization of spaces is proving increasingly necessary. The Concessions 2.0 concept, an alternative to the traditional concession model that only allows for the exploitation of timber in forestry concessions,¹¹¹ is part of this perspective.
- 3) **This process involves a gradual devolution of rights through a multitiered approach.** It would not only gradually consolidate local governance institutions but also provide a solid technical foundation for the sustainable management of forest resources. The transition from one tier to another would be subject to the performance of community management institutions. Each tier would correspond to a level of devolution of rights and responsibilities to local communities and thus to a particular participatory forestry regime. This phased approach has already

been used successfully in the development of community forestry in Gambia.¹¹²

- 4) **Improved control by the state:** Devolution of rights must be accompanied by improved state control to enable communities to fully exercise their rights. Since communities do not have the right to impose sanctions on illegal users of their resources, they must have recourse to police support, a course of action that must be mandated and provided for by the state. In addition, when mandates are granted to third-party operators, community forestry can easily be abused by semi-industrial loggers, who in effect serve as a timber laundering mechanism. The state therefore must be able to prevent such abuses as well as control community activities. Given the limitations to the capacities of states in the subregion, partnerships with NGOs could be considered to address this challenge. Lessons could be drawn from cooperative models such as the Independent FLEGT Observers, the Monitoring and Anti-Poaching Units in some forest concessions in the Republic of Congo, or the cooperation maintained with governments by the EAGLE (Eco Activists for Governance and Law Enforcement) Network to support anti-poaching efforts. Funding for such support should be secured, and the possibility should be evaluated of dedicating tax resources to community forestry schemes to avoid excessive reliance on external funds. Alternatively, the responsibility for issuing permits could be devolved to local committees, although state supervision would remain essential.

iii. Community-Based Wildlife Management

Wildlife offers an important source of protein and income to rural communities through the bushmeat trade. It is unlikely that the appetite for bushmeat can be displaced. As a result, answers are needed for the sustainable management of that trade. Similar to community forest management, community-based wildlife management offers, in theory, an income stream to rural communities. In the same way, it also needs to be carefully managed if it is to succeed, and the financial viability of a management regime is a particular challenge.

Current Experiences and Policies in the WCB

The concept of a “community hunting territory” emerged in Cameroon in the 1990s to promote community-based wildlife management. It is similar to the concept of community forests. Moreover, both concepts are governed by the same legislation and have many similarities since they both refer to nonpermanent areas demarcated in forestlands with a maximum size of 5,000 hectares. However, the concept was quickly shown to be difficult to implement.¹¹³ At the same time, the concept of ZICGCs has been developed in southeastern Cameroon and the CAR for trophy hunting (sport hunting and community-based tourism in areas under community management are discussed in Box 5 and section 5.a.i, respectively). Despite the failure of community hunting territories, community-based wildlife management remains a preferred option for Central African countries. In the Republic of Congo, Law 37/2008 on fauna and protected areas recognizes the right of local communities to contribute to the management of wildlife and offers the possibility of transferring to local communities organized into associations the rights to manage a community hunting area or a hunting territory under a management contract. In the CAR, the new law on wildlife management and protected areas provides for the establishment of community wildlife areas, village hunting areas, and community hunting areas. Meanwhile, Gabon is also moving toward the establishment of community hunting areas through its draft new forest code.

Following other initiatives,^{xvi} it is opportune to continue thinking about better-adapted models of community wildlife management.

The recent Conferences of the Parties to the Convention on Biological Diversity and the subregional strategy for the sustainable use of wildlife by local and indigenous communities in Central African countries implicitly set out the outline of these models, which are focused on a rights-based approach.^{xvii} In other words,

xvi For example, the Global Environment Facility project “Sustainable Wildlife Management and the Bushmeat Sector in Central Africa,” and the Sustainable Wildlife Management program funded by the European Commission.

xvii See the CBD’s Decision X/32, Decision XI/25, Decision XII/18, and COP Decision XIII/8; the subregional strategy

community-based wildlife management now refers to the establishment of rights-based management systems and to the transfer of these rights and the associated management responsibilities to indigenous peoples and local communities (Decision XIII/8).

The requirements for community forestry management (section 5.a.ii) also apply to wildlife management. Given the specific characteristics of fauna,^{xviii} the following observations should also be considered: The harvesting of bushmeat is mainly focused on small and medium-size wildlife with a very high natural rate of reproduction and therefore able to tolerate a certain pressure from hunting.^{xix} However, it is important to recognize that this natural rate of reproduction may be insufficient when demand is too high, which is increasingly the case given the rate of population growth and urbanization in the subregion. In practice, hunting for bushmeat remains an economically unprofitable activity, considering the time spent and the risks involved.¹⁴ Hunting for bushmeat alone cannot provide enough incentive to support community-based wildlife management. Finally, the technical demands of drawing up sustainable hunting management plans are beyond the capacities of local communities (Nguingui, Boutinot, et al., 2017).¹⁵

Lessons Learned and Recommendations

Second-generation community management initiatives are driven by a rights-based approach. They can only be successfully implemented if governments take the following measures:

- **Assess the financial feasibility of community wildlife management.** Its decentralized nature is likely to require substantial start-up funding.
- **Set out a clear vision and establish goals to achieve it.** There is an urgent need to

was adopted in 2015 by the Council of Ministers of the Central African Forest Commission (COMIFAC).

xviii These are mobility as well as a lack of knowledge of the demographic and spatial dynamics of most species hunted.

xix Depending on the area, the most resilient species are the blue duiker (*Cephalophus monticola*), the Peters' duiker (*C. callipygus*), the bay duiker (*C. dorsalis*), and the bush pig (*Potamochoerus porcus*) (Fargeot 2013).

make policy choices explicit and to develop national strategic action plans, as the Rainforest Foundation UK (2017) has already recommended in the CAR.

- **Create a favorable legal and administrative environment:** (a) Clarify how forest tenure rights are recognized and how they will be translated into commercial use rights and taken into account in the strategic action plans described above; and (b) introduce tax measures favorable to entrepreneurship and likely to stimulate the development of inclusive growth value chains.
- **As with community forestry (section 5.a.ii), secure the proper supervision of local communities by state technical services and civil society, with a clear division of roles.** This must go beyond the project approach by putting in place appropriate long-term support mechanisms, including innovative financing mechanisms.
- Given the specific characteristics of fauna, give preference to: (a) an adaptive management of hunting with a view to periodically adjusting the harvest,¹⁶ (b) an approach allowing for a gradual devolution of rights through a multi-phased approach; and (c) a multi-resource, multiuser approach that also offers the possibility of combining hunting for meat with other forms of deriving value from wildlife, including sport hunting (see Box 4) and community tourism at sites where animal observation is possible.^{xx}
- **Adopt an adaptive approach** that makes it possible to identify trends based on biological and socioeconomic indicators and periodically adjust the hunting harvest according to predefined management objectives.
- **Integrate community wildlife management into a territorialized approach to the management of meat products.** This approach makes it possible to secure the contribution of meat products and to adjust according to the local context the relative share of domesticated and wild meat to

xx Community management of wildlife for sport hunting earns substantial revenue for local communities (Bigombe Logo, Abessolo, and Koulbout 2006; Roulet 2007) despite the low incomes earned by hunting guides in recent years (Lescuyer et al. 2016).

reconcile the issues of food security and biodiversity conservation.¹¹⁷

The challenge of rights-based community management will require joint efforts. Each country should therefore adapt its road map while taking into account the local context. However, this list of recommendations suggests that there is a long way to go to make community-based wildlife management economically, financially, and biologically sustainable. A rigorous evaluation of these aspects is necessary before pursuing this course of action.

b. Sharing Value

i. Protected Area Benefit Sharing

Benefit sharing, in the context of PAs, is “the process of making informed and fair trade-offs between social, economic, and ecological costs and benefits within and between stakeholder groups, and between stakeholders and the natural environment.”¹¹⁸ While most PAs deliver more net benefits than costs, policies are often insufficiently adaptive or comprehensive to adequately address negative unintended consequences that accrue to particular groups, especially poor and marginalized nearby communities. Thus, equitable benefit-sharing approaches (1) incentivize communities to contribute to the protected area’s continued existence while benefiting from sustainable extractive uses, access, and job opportunities; (2) offset unavoidable costs to particular groups; and (3) consider the overall well-being of different groups and redistribute benefits to the least fortunate, particularly if they have suffered past injustices.¹¹⁹

A combination of factors means that PAs’ costs to communities—most commonly reduced forest use and access, displacement, and human-wildlife conflict (HWC)—are often perceived to outweigh the benefits. In many locales of the WCB, population growth and in-migration are putting pressure on land. Simultaneously, rights related to indigenous or customary land ownership, land use, or stakeholder consultation and participation in PA planning are not systematically enshrined

in law or upheld.¹²⁰ Most restrict surrounding communities’ ability to access and utilize park resources.¹²¹ Since tourism is only minimally developed in the WCB, PAs do not generate significant sustainable financial flows. This increases the relative attraction of participating in—or aiding and abetting—poaching.

Even in the face of limited financial flows from with WCB PAs, the creation of employment opportunities and investments in community development and well-being are key strategies for neutralizing incentives to support or tolerate poachers while enhancing the PAs’ protection. As the examples below demonstrate, these strategies are most effective at achieving conservation outcomes when the benefits are perceived as contingent on the protection of wildlife while creating a new social norm against poaching.

Increasing Local Revenue Streams in PAs through Comanagement Structures

In the WCB and throughout much of Africa, development and philanthropic organizations provide much of the funding for PAs because of a lack of government resources. A study in Zambia found that PAs supported by NGOs and/or the private sector have more successfully protected wildlife.¹²² PPPs—which institutionalize the role of service providers, most frequently NGOs, through long-term partnerships with state wildlife authorities—are becoming increasingly popular for managing PAs in weak governance settings.¹²³ Where such arrangements professionalize management, they tend to attract increased donor and private sector investments, ultimately increasing employment opportunities and other revenue streams. PPPs in the WCB include the CAR’s Chinko National Park and Odzala-Kokoua National Park in the ROC, both managed by African Parks, and Noubalé-Ndoki National Park in the ROC, which the WCS manages.

Through their ability to mobilize increased funding, PPPs can increase local employment and training in surveillance, enforcement, and other anti-poaching activities.¹²⁴ These employment opportunities can help incentivize protection of wildlife in the short term while safeguarding PAs’ future tourism potential, which can provide greater benefit flows in the long term.

Example

Providing Wildlife-Based Employment in Tanzania. Local employment is already a policy of conservation managers in the WCB. Results for conservation can be impressive: Tanzania's Ruvuma Elephant Project trains community guards who conduct patrols and gather intelligence in coordination with wildlife officials. The project rewards guards for positive job performance and other community members for providing information to assist anti-poaching operations as part of an informer network.^a Throughout the corridor between Tanzania's Selous Game Reserve and Mozambique's Niassa National Reserve, both of which struggle with poaching, Ruvuma has achieved among the most impressive reductions in poaching in Africa: The number of elephant carcasses detected declined sevenfold in the first three years of the project, and elephant populations remained stable.

The Friedkin Conservation Fund, which operates within several wildlife and game reserves in the north and west of Tanzania, has achieved similarly impressive results using comparable techniques. It employs 120 anti-poaching staff using aerial patrols, rapid response teams, and community engagement. Their efforts have led to nearly 2,000 arrests and prosecutions annually.^b

a. Lotter and Clark (2014).

b. Roe (2015).

Example

Even within the context of a major civil conflict, the work of the Mali Elephant Project reduced poaching in Mali even while it increased elsewhere in the country. The project employed community members as guards and informants and paid them in food.^a

a. Roe et al. (2017).

Example

Public-Private Partnerships to Facilitate Revenue Sharing in Rwanda. An advantage of PPPs is their ability to innovate revenue sharing models that can incorporate the community, conservation managers, the state, and private sector operators. In Rwanda, the community provided land for the construction of Sabyinyo Silverback Lodge near Volcanoes National Park. The lodge is owned by a community trust but managed by a private service provider. The community trust receives rental and community fees from the company, and it invests the money in basic infrastructure such as roads, rural electrification and rainwater harvesting, as well as in the further development of local tourism-based enterprises. This type of venture of course requires an enabling business environment (see sections 5.a.i and 5.c).

Community Conservancies to Facilitate Revenue Sharing in Kenya. In Kenya, the Northern Rangelands Trust (NRT) operates 33 community land conservancies on legally or traditionally recognized community land. They are strategically located near PAs and wildlife corridors to create landscape-level conservation impacts while engaging in other sustainable land uses. NRT conservancies focus primarily on protecting wildlife and their savanna habitat by aligning development and conservation incentives of the seminomadic pastoralists that make up most of the conservancies.^a Even as poaching and land conflicts have dramatically increased, 60 percent of conservancies reported stable or increased sightings of elephants in 2016 as compared to 2015. Moreover, 92 percent of conservancy members feel safe in their communities, 83 percent think wildlife is important to their future, and 77 percent believe that the conservancies increase their well-being.^b

a. Pellis, Lamers, and van der Duim (2015).

b. NRT (2016).

Where the creation of significant revenue streams, such as from tourism development, is challenging or impossible, another model is to create a trust fund for the community instead of investing in costly tourism infrastructure with limited returns. The trust fund, with a onetime capital injection, could generate stable returns for the community in perpetuity, and could be less vulnerable to shocks than tourism, the demand for which can be fickle, especially in the WCB. Such a trust fund could serve to pay wages related to conservation, and/or pay for the opportunity cost of forgoing extractive activities in a protected area, linking rewards to collective community adoption of conservation actions.¹²⁵

Providing Individual or Community Benefits Linked to PAs

Integrated conservation and development projects (ICDPs) reflect a recognition that PAs are more likely to achieve their conservation goals if they explicitly address the needs and livelihoods of local communities.¹²⁶ Researchers have termed such projects “distractions” because they are premised on community members being sufficiently compelled by an incentive unrelated to poaching rather than being directly disincentivized from poaching through, for example, payments to refrain from poaching, or the visible presence of PA patrols.¹²⁷

Although ICDPs have been criticized for not addressing the root causes of environmental and development challenges, in one study 63 percent of managers and other leaders surveyed from 87 ICDPs in 33 Sub-Saharan African countries (including 7 ICDPs from WCB countries) reported positive overall outcomes.¹²⁸

Whether such development projects can contribute to anti-poaching objectives, however, is dependent upon community members adjacent to PAs believing that funding for these projects is contingent upon successful anti-poaching efforts, and that these projects generate enough value to key individuals to outweigh the benefits from poaching.

Example

Livelihood Support in Exchange for Abandoning Poaching in Zambia. In the Luangwa Valley, where three national parks contain rich wildlife and are popular tourist attractions, Community Markets for Conservation (COMACO) operates as an agricultural extension organization that trains farmers in certified sustainable agricultural practices. It also targets identified poachers with training in alternative income sources such as carpentry, beekeeping, and anti-poaching surveillance. Poachers are required to turn in their weapons to participate in the program, with over 80,000 snares and 2,400 guns surrendered.^a COMACO generates most of its revenue by accessing high-value domestic and international natural food markets for rice, honey, peanuts, and soybeans under its It’s Wild retail brand. The effect of this program on poaching appears encouraging: One study reports that only 5 percent of program participants returned to poaching, and recent aerial surveys in Zambia have found that elephant populations in the Luangwa Valley (and one other region) are either stable or increasing, while they are declining in two control regions.^b

However, scant evidence of the program’s conservation impact is presented in peer-reviewed articles.^c Moreover, the fact that the program created a sufficient incentive for 95 percent of former poachers is consistent with poachers’ reports that they generally only receive a very small proportion of the final sale price for poached ivory.^d If poachers were paid higher prices—even 10 percent of the final sale price reported elsewhere—such programs would be less likely to succeed.^e The high margins on illegal wildlife products would make it easy for payments to poachers to increase.

a. SupplyShift (2017).

b. Joseph (2015); Great Elephant Census (2016).

c. S. Pagiola, personal communication to the author, January 25, 2018.

d. Joseph (2015).

e. UNODC (2016).

Example

Providing Fixed versus Performance-Based Community Benefits. In Uganda, an ICDP implemented adjacent to Kibale National Park targets communities instead of individual poachers: A health center was constructed on the border of the park to serve local people, which might be jeopardized if poaching and illegal logging continued unabated.^a However, this model does not provide a credible threat that the benefit would be removed in case of continued poaching, weakening the incentive to support anti-poaching efforts.^b

This issue arose as part of Tanzania's Ruaha Carnivore Project (RCP), where health care, education, and livestock-related incentives were found to be insufficiently tied to poaching outcomes to disincentivize hunters. In response, the RCP began training and employing villagers to set camera traps as part of the organization's wildlife monitoring efforts. The RCP rewards villages based on the wildlife captured by their camera trap with the same set of incentives used previously, but with clearer linkages to wildlife presence. This program has been highly effective: Whereas communities used to reward lion hunters with cattle, some communities now ban hunting for lions and elephants and fine hunters if caught.^c

a. Chapman et al. (2014).

b. S. Pagiola, personal communication to the author, January 25, 2018.

c. "Community Camera-Trapping," Ruaha Carnivore Project, accessed January 2018, <http://www.ruahacarnivoreproject.com>.

Lessons Learned and Recommendations

For governments:

1. **Create protected area management frameworks free of political interference:** The success of benefit-sharing approaches depends on PA managers having operational control (for example, in the context of PPPs for park management), transparent systems, freedom from political interference, and communities' ability to efficiently manage funds for productive purposes.
2. **Explore multiple funding streams:** While tourism is being developed in the medium and long term, funding from state, philanthropic, or development agencies will be needed to create revenue flows, to incentivize conservation behavior in communities whose support is critical to conservation. Another possible source of funding source are offset schemes for economic sectors with strong residual impacts on biodiversity, such as mining or hydrocarbon development.

For protected area managers:

3. **Emphasize cost reduction and benefit creation:** Given the currently minimal protected area revenues in the WCB, benefit-sharing schemes should emphasize reducing costs to surrounding communities at least as much as increasing benefits.
4. **Make benefit flows contingent upon performance:** Ideally, both individual and community-based benefit flows should be contingent on performance, such as participants refraining from poaching, in spite of the difficulty of implementing, monitoring, and enforcing such an approach. Even without this conditionality, "distraction" strategies may foster greater openness to more targeted anti-poaching efforts, so they should not be ruled out.¹²⁹ They need to ensure, however, that communities understand their availability is tied to PAs maintaining their assets. Conditionality also needs to be factored into the overall benefit-sharing approach for a PA, where it seeks to compensate communities for lost revenues or persistent damage from HWC.

5. **Target efforts:** To be cost-effective, “distraction” efforts should not only be implemented in the highest priority communities (near poaching hot spots with local community involvement in poaching), but also target key individuals who may be poachers, as in the COMACO case, or key influencers who can create new social norms against poaching. This approach requires a needs assessment and in-depth survey of the bottom of the IWT supply chain to determine if a sufficient incentive (compared to poaching) can be created, particularly where enforcement capacity is low. The assessment would also need to match individuals with the right “distracting” activities and, where income-generating activities are promoted, sound value chain analyses to enable their success.

ii. Payments for Environmental Services

Payments for ecosystem services (PES) refers to the creation of markets for environmental services such as clean water, clean air, carbon sequestration, and biodiversity, which are often undervalued in traditional markets due their role as positive externalities. PES internalize that externality by compensating individuals or communities for their ability to produce an environmental benefit or to refrain from causing environmental damage. When well designed and applied to specific contexts—such as water quality payments from downstream to upstream users, forest carbon, and the protection of endangered species—PES have the potential to deliver cost-effective outcomes that may not be achievable otherwise.¹³⁰

PES may reduce poaching within a target population by creating a financial incentive to either refrain from poaching or contribute to anti-poaching efforts. To be successful, these schemes must select metrics that can realistically be monitored, accurately reflect the objective, and account for drivers of outcomes unrelated to program participants’ behavior (for example, an influx of poachers from other communities); manage expectations among the target community that it will be paid indefinitely to conserve wildlife, and among neighboring communities on whether they will receive a PES scheme as well; address critical design

features such as the minimum payment level needed to deter poaching, whether to target entire communities or a subset of individuals, whether payments should go to individuals or a community fund, and how to avoid elite capture; minimize transaction costs; and identify a sustainable source of financing.¹³¹

However, the focus of this analysis is on targets other than poachers because of the challenges inherent in creating a PES scheme with this group. Such challenges include (a) the difficulty of identifying probable poachers given the illegal nature of poaching; (b) the unrealistically high payment amount required to cover all potential poachers; and (c) the near impossibility of guaranteeing that poachers refrain from poaching in the future, as poachers have been documented returning to poaching after being caught, fined, and/or imprisoned.¹³²

Most PES schemes incentivize individuals to make environmentally beneficial decisions. However, as these featured strategies of using PES to reduce poaching demonstrate, where there are community-level institutions with effective participatory decision-making processes, PES schemes can be implemented at the community level as well. This approach can unlock social norms that pressure individuals to conform and/or invest greater effort than under an individually focused scheme. A subset of these schemes is structured as competitions between communities, such as that used by the Durrell Wildlife Conservation Trust since 2003 to incentivize communities in Menabe, Madagascar, to manage their forests for biodiversity and sustainable benefits rather than agriculture.¹³³ The payments of community-based schemes can still be distributed to individuals, which may address issues of elite capture and encourage greater buy-in, although the funds are less likely to contribute to community-wide needs.

Example

Conservation Easements in Tanzania. The mainly Maasai pastoralist communities in the Simanjiro Plains surrounding Tarangire National Park have earned income from tour operators since the 1990s through concessions that allow jeep safaris. However, road conditions in a few key nearby communities do not permit safaris to take place during the rainy season, when wildlife is abundant. Lacking incentives to conserve wildlife and its habitat, these communities were permitting poaching to take place while considering converting the plains used for grazing livestock to agriculture. In 2005, local tour operators, a community development organization, and the WCS funded and implemented a PES scheme to incentivize one of the communities, Terat, to conserve wildlife and its habitat. The scheme has paid the community \$4,500 per year, used to construct two schools, and employs several anti-poaching scouts to ensure the land is not used for agriculture or unsustainable purposes (for example, charcoal production) and that poaching is prevented.^a

a. Sachedina and Nelson (2010).

Example

Payments for Community Conservation Outcomes in the Lao People's Democratic Republic. In the Nam Et-Phou Louey National Protected Area, a pilot project has directly linked the number and type of wildlife sightings by tourists with the amount of financial benefits disbursed to communities involved in an ecotourism operation. The project targets multiple villages, providing incentives to all families that have access to the ecotourism area where hunting is prohibited. It covers a range of species using a tiered pricing system. Preliminary results suggest that as ecotourism benefits rose, hunting infractions decreased; hunting did not rise in the area but did so in national PA sectors that didn't benefit from tourism; and wildlife sightings overall increased.^a

a. Eshoo et al. (2018).

Example

Payments for Conservation Outcomes in Sweden. A long-running PES scheme in Sweden, implemented in 2002, compensates groups of indigenous reindeer herders based on the number of wolverines born within their district. Herders suffer significant losses from wolverine predation (the nomadic herds are wolverines' primary food source), so in 1996 a compensation scheme was set up, in part to discourage hunters from illegally killing wolverines. However, the PES scheme replaced the compensation scheme because the latter created perverse incentives against minimizing predation (if herders know their losses will be compensated anyway) and did not offer a strong enough incentive for wolverine protection. Long-term monitoring results demonstrate that because monitoring officers had to be stationed near denning sites, adult females had a significantly lower risk of being killed than males. But because breeding females are more important to protect than males, the PES scheme significantly increased the population growth rate.^a

a. Persson, Rauset, and Chapron (2015); Zabel, Bostedt, and Engel (2013).

Lessons Learned and Recommendations

The PES strategies presented here could be effective as part of a broader community engagement program, particularly where social cohesion is strong and organizations exist that can receive and distribute payments.

For governments:

- 1. Ensure presence of sustainable funding sources:** The fact that the Maasai communities lacked tourism potential and were sufficiently incentivized by an affordable annual payment could be illustrative given the limited protected area revenue streams in the WCB. The challenge for PES systems remains, however, to identify dependable funding sources. Working through conservation trust funds is one possibility in the absence of major economic actors that could pay directly for services, although biodiversity offset and REDD+ schemes (Box 7) constitute other options.
- 2. Review the regulatory framework:** To implement community conservation PES schemes in the WCB, new arrangements will need to be made to grant communities permission to carry out surveillance and enforcement activities. More broadly, interventions will need to target communities that participate in poaching outside of protected areas, or that are degrading habitat for especially rich wildlife populations. An approach that combines habitat protection and anti-poaching activities could also support a PES scheme that blends anti-poaching efforts with forest carbon markets (Box 7).¹³⁴

For protected area managers:

- 3. Evaluate feasibility of monitoring:** A PES scheme for elephants in forest habitats would require more costly and complex monitoring protocols than the Tanzania case, and spatial targets for monitoring and enforcement of key individuals at critical life history stages are less clear than in the Swedish case. However, through projects like Elephant Expedition, which uses citizen scientists to analyze thousands of camera trap photographs of elephants in Gabon, or through machine learning approaches, the scientific knowledge and technical capacity needed for a PES scheme in the WCB could

grow.¹³⁵ The Lao PDR example also suggests that performance payments to communities can work, although this depends on the permeability of an area to outside poachers and the value of payments relative to income from poaching.

Box 7:

REDD+ AS A MECHANISM TO SUPPORT ENHANCING THE VALUE OF WILDLIFE

Reducing Emissions from Deforestation and Forest Degradation (REDD+), while primarily intended as a market mechanism to pay for the preservation or creation of forest carbon, can be designed to support the agenda of enhancing the value of wildlife. This occurs primarily through its potential to help finance the preservation of wildlife habitat, which in turn is a prerequisite for any activity that enhances the value of wildlife. To efficiently contribute to the wildlife agenda, REDD+ should ideally be integrated into land use planning (see section 5.c.iv) or the prioritization of REDD+ intervention areas that account for carbon and wildlife and its threats as layers of analysis.^a REDD+ approaches that prioritize primary forest and habitat preservation over plantations are more susceptible to creating the conditions for enhancing the value of wildlife. Where forests are under pressure, REDD+ can provide financing for improved management of the area, including in protected areas, thereby helping preserve the basis for wildlife to thrive in. Such arrangements require strong benefit-sharing and community involvement arrangements. Where REDD+ provides financing for improved forest governance, synergies with the governance of wildlife management can be pursued. REDD+ can also help secure property or land use rights, which, if used for improved forest management, can have positive externalities for wildlife management as well.

a. Areas of maximum carbon and wildlife content may not always overlap, requiring weighing of priorities in the design of REDD+ programs. See Potts, Kelley, and Doll (2013).

iii. Managing Human-Wildlife Conflict

While much of this study has explored ways to increase the value of wild fauna, this section explores approaches to decrease the negative value animals have for communities when human-wildlife conflict arises—which in absolute terms increases the value of wildlife.

A reduction of wildlife habitat and incursion of human populations into wildlife habitat has driven increases in HWC. Particularly around well-enforced PAs, rebounding wildlife populations can exacerbate HWC.¹³⁶ In rural communities, HWC most often arises when large mammals enter villages or fields looking for food, also posing a risk to humans. Within and surrounding the forests of the WCB, human-elephant conflict represents the most important HWC.¹³⁷

In most cases, HWC results in a loss of food and income that represents an economic cost that, when combined with the corresponding psychological and physical toll, generates negative attitudes toward wildlife. These attitudes can lead local communities to isolated killings or support for or tolerance of poaching.¹³⁸ A single raid by an elephant can destroy an entire year's crop overnight, potentially calamitous for smallholder farmers. A study on a village in India, for instance, found that it lost 11 percent of its crops to elephants.¹³⁹ In Kenya, elephants killed more than 200 people over a recent seven-year period, to which wildlife authorities responded by killing 50–120 “problem elephants” simply to appease affected communities, even though this is not believed to have reduced crop raiding.¹⁴⁰

It is unreasonable to expect a complete elimination of HWC, especially as human populations grow and expand into wildlife habitat. Targeted policy approaches to HWC in Central Africa have more recently emphasized coordination, collaboration, and information sharing through, for instance, the Food and Agriculture

Organization (FAO)–led HWC Toolkit, or the KoboCollect smartphone app that collects and shares geolocational information on HWC incidents.¹⁴¹ These efforts to strengthen the linkages between stakeholder groups aim to address not only the historical disconnects between land use planning decisions and community needs but also the stovepipes that typically operate between levels of government and institutions. Poor governance within WCB countries also contributes to historical grievances (both pre- and postcolonial) and distrust against wildlife and the conservation agenda.¹⁴²

Technical HWC solutions can be divided into those that prevent or deter elephants from destroying crops and those that reduce the negative impact of HWC.¹⁴³ Deterrence-based solutions are largely of a technical nature and need to be adapted to the local context. No general solution exists, demanding a trial-and-error strategy. For example, fences have demonstrated some degree of success. Some partially enclose large PAs, while others surround a single farmer's crops. Low-tech and cost-effective solutions, particularly chili pepper fences, beehives, and chili oil pellets fired at elephants have been shown to be effective at reducing elephant damage to crops and overall encounters.¹⁴⁴ Some fences are electric, although they are costly to build and maintain. Gabon, for instance, recently built three solar-powered electric fences at a cost of \$66,000 each, but it is hoping to bring that cost down significantly to erect more. Gabon's Agence Nationale des Parcs Nationaux justifies such expenses by reporting that chili pepper fences and beehives have been ineffective.¹⁴⁵

Solutions that reduce the negative impacts of HWC include compensation and insurance schemes for damage to crops, livestock, and infrastructure, or fatalities.¹⁴⁶ Illustrative examples that provide lessons for the WCB context follow.

Example

Deterrence Solutions Embedded in an Adaptive Community Management Framework in Tanzania.

The Ruaha Carnivore Project was started in 2009 to help conserve large carnivores in Tanzania's Ruaha landscape. The area is inhabited by Maasai and Barabaig communities who traditionally hunt lions, as well as other pastoralists who raise livestock frequently preyed by lions. Retaliatory and preventative killings of lions in the area are therefore common, given the negative impact that predation can have on livelihoods. The project combines in-depth landscape-scale research on carnivore science and management with an extensive community engagement program focused on reducing HWC. The RCP's multipronged HWC strategy includes (a) providing wire fencing for livestock pens that is combined with traditional wooden fencing, which has proven over 95 percent effective at a cost of \$500 per enclosure; (b) employing Maasai warriors to chase away carnivores, deter other warriors from killing them, and respond to livestock attacks; (c) training community members to place camera traps and rewarding them when the traps capture important target species; (d) employing response teams to collect information on attacks from affected households; and (e) funding schools and education programs for children and adults.¹⁴⁷ The program has generated strong buy-in from the community by generating both tangible benefits from coexistence with predators and benefits from learning new skills and working with community members to achieve collective outcomes.^a

a. Dickman (2015); "RCP Overview," Ruaha Carnivore Project, accessed January 2018, www.ruahacarnivoreproject.com.

Several countries, including Kenya, Zimbabwe, Malawi, and Botswana, have implemented state-run compensation schemes to pay farmers for loss of livestock due to predation from carnivores. There are also examples of smaller, community-based schemes that compensate farmers for livestock losses with the primary purpose of disincentivizing retaliatory or preventative killings of wildlife.¹⁴⁸

Lessons Learned and Recommendations

The above case studies are relevant to the WCB despite the clear technical differences in managing elephants compared to carnivores.

For governments:

1. **Provide the right policy environment:** Policies should incentivize adaptive, community-based, cost-effective solutions by providing funding for deterrence and compensation in a strategic and evidence-based manner. Such schemes should involve requirements for community beneficiaries to share responsibility for implementing, managing, and maintaining projects and infrastructure investments as conditions to continued funding.
2. **Support compensation schemes:** Compensation schemes have been shown to be effective in numerous contexts,¹⁴⁹ and need to be designed to avoid disincentivizing deterrence measures, ensure that payments are sufficient to satisfy recipients and disbursed according to a transparent and equitable methodology, and guard against counterfeit claims.¹⁵⁰ Such programs do risk budget overruns when higher-than-projected levels of HWC occur, and have high transaction costs, so sustainable financing sources are required and expectations need to be managed. Some insurance schemes already exist in the WCB, though indications are their functioning can still be improved: A recent survey of residents living in the TRIDOM landscape found that 28 percent of respondents who experienced crop loss due to elephants and applied for government compensation had received it.¹⁵¹
3. **Conduct land use planning:** Effective, long-term HWC can be substantially facilitat-

ed by planning land use for both human use and conservation (see section 5.c.iv). Strengthening land tenure and establishing community forests, which facilitate the creation of alternative income sources and incentives for communities to tolerate and protect wildlife, are also key complementary policy instruments (see section 5.a.ii).

For protected area managers:

4. **Combine multiple wildlife deterrence approaches in adaptive, community-based processes:** This, combined with an iterative process, allows for the understanding of the problem (and the problem itself) to evolve. It also creates frameworks to monitor each element's effectiveness and adapt as needed. In the RCP, for instance, the camera-trapping program emerged from the realization that for hunters, existing community benefits (for example, free veterinary medicine

for livestock) were too indirectly related to protecting wildlife to deter further hunting. Such insights only emerge through deep community engagement and are critical to long-term success.

5. **Facilitate the creation of insurance schemes:** Insurance schemes provide another mechanism for community members to become invested in the outcome, even if most of the cost of insurance payouts is subsidized. The success of the Project Snow Leopard scheme, for example, depends on participating herders having enough money to pay into the insurance scheme, which may not be the case in WCB communities. In such cases, external support is required. To ensure financial sustainability, such schemes require a strong monitoring framework to investigate loss claims and incentivize effective deterrence methods.

Example

Compensation for Wildlife Damages in Kenya. One of the better-documented, effective compensation schemes is the Mbirikani Predator Compensation Fund, funded by Big Life Foundation, which compensates Maasai warriors for livestock killed. The scheme combines a baseline payment based on livestock lost, penalties if insufficient deterrence methods (mainly fencing) were not used, and fines and a temporary disqualification from compensation payments to any community found to kill wildlife included in the scheme. The scheme reduced the rate of lion killings by 95 percent from 2003 to 2014 compared to the 18 months preceding the scheme, contributing to growing carnivore populations. This was accomplished at a cost of \$10 per person per year.^a

a. Okello, Bonham, and Hill (2014).

Example

Community Insurance against Wildlife Damages in Pakistan. In the Balistan region of the Pakistan Himalaya, snow leopards get an estimated 50 percent of their food from domestic livestock. This creates significant animosity toward the snow leopard, fueling retaliatory killings. Project Snow Leopard piloted a community-based insurance scheme in 1999 that farmers pay into. It has since spread to 26 villages and has been replicated in Nepal, India, China, Mongolia, and Bhutan.^a Village Insurance Committees assess damage claims and incentivize villages to monitor each other, effectively preventing cheating. Like most successful efforts that reduce HWC impacts, the insurance scheme is part of a multifaceted strategy that includes funding the construction of snow leopard-proof livestock corrals, village education and awareness campaigns, and financial assistance to local schools.

Note: Much of this text box is based on Hussain (2017).

a. IUCN (2012).

c. Creating the Enabling Conditions for Creating and Sharing Economic Value from Wildlife

The previous two sections have outlined ways in which the WCB countries can create and share greater sustainable value from their wildlife resources. However, these approaches are unlikely to succeed at scale unless several underlying conditions are addressed. Implementing such recommendations will take time. In the meantime, wildlife remains under significant threat. Therefore, in the short and medium terms, several broader governance reforms are necessary to ensure that the countries retain the possibility to build viable economic activities based on their wildlife. Failing to do so presents the risk that the asset will quite simply disappear.

i. Demonstrating Political Will

Perhaps most crucially, governments need to display the political will to root out corruption and fraud that participate in and aid and abet the IWT. There are strong indications that government officials, including from the military and security services, are directly and indirectly involved in the IWT in most of the WCB countries. Without concrete signals from the highest political levels that such practices will no longer be tolerated, it will not be possible to stem the tide of the IWT.

Recent arrests in Cameroon, Gabon, and the Republic of Congo are encouraging signs that organized elements involved in the IWT are not beyond the reach of the law. These kinds of instances will need to be multiplied to make a significant dent in the IWT, and swift action is required to decelerate the large scale of poaching.

Moreover, for the most part, government budgets for conservation have been almost entirely outsourced to international partners. This has inevitably reduced the effectiveness of the state as a conservation actor. If states wish to protect their wildlife resources for future economic development, they will need to better fund its protection.

ii. Improving Law Enforcement

Law enforcement—from protection to intelligence gathering, to investigations, to the judiciary and interagency collaboration—will need to become more effective. While the solutions this study puts forward can create the incentives for more sustainable management of wildlife resources, they will not be sufficient to address the poaching crisis. Moreover, their implementation will take time. Thus, law enforcement needs to be beefed up to better protect the resource in the short term.

The analytical basis for doing so is already partially available: The United Nations Office on Drugs and Crime (UNODC) has carried out assessments of the strengths and weaknesses of law enforcement with respect to the IWT in Gabon and the Republic of Congo using the International Consortium on Combating Wildlife Crime (ICWC) Toolkit.¹⁵² Similar assessments would be useful in Cameroon and the Central African Republic as well. On this basis, and taking into account the experience of the numerous government partners working on wildlife law enforcement, systematic interventions to reinforce the effectiveness of law enforcement can be designed. Resulting law enforcement strategies should especially target the kingpins of the IWT, and the objective should not be to target low-level poachers who are trying to ensure the survival of their families.

In the short and medium term, both at the national and regional levels, scaled-up innovative partnerships could increase the effectiveness of law enforcement and strengthen capacity. Successful examples already exist in the WCB, such as the ones with the EAGLE NGO network of wildlife law enforcement organizations, and with organizations such as WWF and the WCS in and around national parks and forest concessions. Such partnerships could draw on existing experience, and would benefit from some reforms. For example, fully devolving wildlife management in forest concessions to NGOs under the supervision of national authorities could increase effectiveness. Partnerships with EAGLE could be leveraged to pursue high-level targets if their institutional arrangements went beyond the ministries in charge of wildlife management.

iii. Reform and Capacity Building

Building alliances and enforcing rules to implement the collaborative approaches suggested in this study within complex political economies requires strong institutions. Local communities and indigenous peoples, NGOs, the private sector, local and national administrations, and in some cases regional cooperation bodies have a role to play. The administrations that house wildlife managers in the WCB are generally weak, understaffed, dominated by older staff lacking up-to-date skills, lacking in career track wildlife managers, and/or concentrated in headquarters. Equipment is generally poor and requires updating. Organizational reform is therefore critical to create the capacity required to adequately manage wildlife assets. Beyond tackling these issues, it will also be necessary to improve policy coordination between government agencies in charge of forests, environment, tourism, justice, policing, security, and customs, among others.

The present lack of long-term funding capable of supporting activities is a serious impediment in light of the long-term nature of the conservation undertaking. Where the public sector is unable to do so by itself, innovative models—such as PPPs for protected area management and other forms of intensive comanagement, or the creation of conservation trust funds—are needed to generate value from protected areas, crowd in private and public investment, and thereby increase their financial sustainability. The ongoing Global Environment Facility (GEF)-funded project “Partnerships for Biodiversity Conservation: Sustainable Financing of Protected Area Systems in the Congo Basin” intends to lay some of the groundwork to address this challenge.

iv. Land Use Planning

For the above solutions to succeed, it is critical that they are integrated into a broader vision for land use rather than remaining small-scale or project-led interventions. Cameroon, Gabon, and the Republic of Congo are all implementing land use planning processes that can provide a framework for supporting viable models of community development that incorporate wildlife management and conservation as part of a broader effort to balance trade-offs

across social, economic, and environmental objectives.

Land use planning is a tool to mitigate natural resource management challenges while also developing a more coherent vision for the future. Local communities currently lack incentives to value wildlife as well as access to reliable income streams. Inclusive planning can create the policy dialogue necessary to improve community livelihoods by identifying current barriers and developing policy solutions to address them. For example, community-based natural resource management approaches and ecotourism initiatives have often suffered from a lack of accessible markets and reliable infrastructure. A multisectoral planning approach can identify priority areas for these activities while also planning for infrastructure needs such as roads and power lines. It can also define options for communities to secure land tenure and therefore stimulate longer-term investment in resource management. Examples include identifying zones for development of ecotourism, CBNRM areas, or hunting reserves. Finally, land use planning can reduce HWC by shifting development priorities away from critical habitat.

Land use planning—at scales ranging from the local to the national—is a potentially powerful framework for connecting communities to incentives for wildlife management. To be effective, these processes require political will, a robust multi-stakeholder process, and investment in strengthening enabling conditions. Land use planning should therefore be informed by high-quality information on rural land use patterns, economic potential for proposed land uses, and analysis of trade-offs and opportunities of proposed interventions. It is equally critical that these processes be inclusive and nested across geographic scales to ensure that there is sufficient buy-in from rightsholders and economic actors across scales. Finally, decision makers should ensure that land use planning initiatives not only set out a vision for land use but also create incentives and infrastructure necessary to enable communities to derive greater benefits from natural resources, including wildlife.



6. Conclusion: A Course for Deriving Economic Value from Wildlife in the WCB

In the face of critical levels of poaching and unsustainable hunting, the WCB countries are at risk of losing wildlife that could play an important role in economic growth and diversification, and that do play an important role in local economies. Safeguarding this resource for the benefit of both local communities and indigenous peoples, and national economies as a whole, is possible. However, in addition to traditional conservation approaches, governments need to embrace an integrated strategy that involves creation of new economic opportunities, benefit sharing, and improved governance. It also needs to recognize the idiosyncrasies of the different types of actors involved in the IWT to build tailored responses, and to take into account the respective contexts of the four WCB countries. Such a strategy should be built along three axes: creating new economic value, sharing economic value, and creating the enabling conditions for creating and sharing economic value.

Creating New Economic Value

- 1) **Develop the wildlife tourism sector:** For the WCB's wildlife assets to be more highly valued, and for communities and the state

to have a vested interest in their sustainable management, they must generate an economic return. The primary potential for creating as-yet-unrealized economic value from the WCB's wildlife assets is the strategic development of wildlife tourism. Achieving this goal requires a series of reforms in the enabling environment for the private sector to be able to bring its tools to bear, as well as strategic and targeted investments. Developing tourism is a long-term undertaking that demands a commensurate long-term vision and investment horizon.

- 2) **Pursue collaborative management approaches for forests, protected areas, and wildlife:** Collaborative management approaches hold the potential to improve the enabling conditions for economic development, whether of wildlife or forest resources. They can involve multiple levels of government, local communities and indigenous peoples, and the private sector or nonprofit organizations, but they need to be structured to deliver value to local communities and indigenous peoples. When such arrangements produce sound management

outcomes and improved governance, they can leverage additional resources, including private investments. On that basis, such partnerships can also deliver increased benefit and incentive flows to local communities and indigenous peoples. Success requires careful thinking about ownership, tenure regimes, and participation in collaborative management arrangements for multi-resource use, as well as the creation of collective interests and organization to participate in resource management. It also requires strong capacity and oversight on the part of both communities and the state. As both are currently limited in the WCB, a gradual, milestone-based devolution of rights appears appropriate, and partnerships for collaborative management with the nonprofit sector can strengthen these functions. However, innovative financing is needed to make these sustainable.

Sharing Economic Value

- 3) **Protected area benefit sharing:** Benefit sharing and PES schemes can share proceeds realized from protected areas and help create local conservation constituencies. In the most effective cases, they are linked to performance in certain circumstances in and around PAs to incentivize conservation-friendly behavior. As approaches for providing incentives to local communities and indigenous peoples to steward their wildlife resources are highly context-dependent, the development of new approaches requires long-term, site-level experimentation and iterative design thinking.
- 4) **Decrease economic damages from wildlife by managing HWC:** In farming communities subject to crop damage from wildlife, preventative measures together with compensation or insurance schemes can help reduce the negative value wildlife is perceived to have.

Creating the Enabling Conditions for Creating and Sharing Economic Value

- 5) **Demonstrate clear political commitment to fight the IWT:** The WCB's wildlife resources cannot form a basis for economic development unless they are better protected. Any efforts to safeguard them will

be severely hampered in the absence of demonstrated political will to address the IWT. Given the precipitous decline in wildlife populations in the WCB, governments will need to act quickly to contain commercial poaching, including by signaling that the implication of state actors in the IWT will not be tolerated.

- 6) **Improve law enforcement:** Political commitment then needs to be translated into improved law enforcement, with a focus on the kingpins of the IWT. The recommendations of existing analyses of law wildlife enforcement in Gabon and the Republic of Congo could be implemented, and the analysis replicated in Cameroon and the Central African Republic to generate the basis for a systematic overhaul of wildlife law enforcement.
- 7) **Organizational reform and capacity building:** By and large, the current administrations are not well positioned to effectively exercise their control missions. To remedy this, rejuvenation, decentralization, capacity building for wildlife management, and equipment are starting points for organizational reform and capacity building.
- 8) **Land use planning:** Land use planning at various scales can serve as a tool for constructive policy dialogue between communities, various levels of government, and the private sector; identify priorities; and contribute to the coherence of a conservation vision. Ultimately, it can mitigate natural resource use conflicts and reduce HWC.

In all realms, policy approaches would do well to integrate human and conservation needs, build on community buy-in, create enabling environments for sustainable wildlife-based economic activities, and to base themselves on hybrid governance systems.

Of course, the nature of the actions pursued will need to be tailored to each of the countries concerned. However, benefits are also to be had from addressing several issues at a regional level through ECCAS and specialized bodies such as COMIFAC, in particular given the transboundary nature of wildlife and poaching. Transboundary protected area complexes such as TRIDOM and Sangha Trinational already embody this spirit, as does COMIFAC itself.

Further progress could be achieved by focusing on policy harmonization (for example, with respect to wildlife law enforcement), wildlife tourism development (for example, by facilitating cross-border tourism and coordinating investments to achieve synergies, particularly in capacity building), the definition of collaborative management arrangements, and sharing of experiences. Land use planning also would benefit from the consideration of transboundary habitats and communities.

For now, the WCB countries still enjoy rich wildlife assets. They have an opportunity to safeguard these assets and use them for their economic development and diversification. But the time left to do so, in the face of widespread poaching, is limited.

Appendix A: Assessing the Current State of Tourism in the WCB

As one of the fastest-growing economic sectors in the world, tourism is increasingly recognized for its potential contribution to protecting the natural and cultural heritage assets upon which it depends.¹ This appendix analyzes the current state of tourism in the WCB countries. The analysis is based on a rapid assessment of 34 key protected areas in the four countries concerned, and a more in-depth assessment of the economic potential of wildlife tourism in two protected areas. The analysis and recommendations for increasing the economic potential of wildlife tourism were informed by a detailed literature review, formal and informal meetings, interviews, and questionnaires completed by 38 stakeholders, including hoteliers and tour operators in the private sector (15) and representatives from the public sector (8) and civil society (15).

a. Tourism Market Dynamics

Between 1995 and 2014, tourist visitation to Africa nearly doubled.² The direct contribution of travel and tourism to the GDP in Sub-Saharan Africa was \$40.1 billion, and the total contribution was \$108 billion in 2016 (7.1 percent of GDP) (Table A.1). The direct and total contributions are forecast to increase to \$67 billion and \$179 billion by 2027, respectively, representing 4.8 percent annual growth.³

Table A.1: Value of the Overall Tourism Sector in the WCB

Country	Direct contribution of travel and tourism to GDP (US\$, millions)*		Share of GDP		Total contribution of travel and tourism to GDP (US\$, millions)*		Share of GDP	
	2017	2028†	2017	2028†	2017	2028†	2017	2028†
Cameroon	1,190	1,980	3.2%	4.8%	2,660	4,350	7.2%	7.1%
Central African Republic	65	120	2.9%	2.8%	150	260	6.6%	6.3%
Gabon	170	250	1.0%	1.0%	490	710	2.9%	2.8%
Congo, Rep.	120	170	1.4%	1.5%	370	500	4.0%	4.4%
Total	1,545	2,520			3,670	5,820		
World	2,570,100	3,890,000	3.2%	3.6%	8,272,300	12,450,100	10.4%	11.7%
Sub-Saharan Africa	70,300	70,300	2.7%	2.7%	116,900	186,800	7.1%	7.2%

Source: WTTO (2017b).

* All values in constant 2017 prices and 2018 exchange rates. †Projections.

For the last 20 years, nature-based tourism has been one of the fastest-growing segments within the travel and tourism industry. Since 2004, nature-based tourism has been estimated to be growing three times faster than the tourism industry as a whole.⁴ Nature-based tourism accounts for 20–25 percent of total international travel globally, and market demand continues to grow.⁵ The annual growth rate of nature-based tourism is estimated to be 5–15 percent, with its overall share of the world tourism and travel market estimated at 20–25 percent, a figure that is conservatively forecasted to grow to 35–45 percent by 2035.⁶ However, for Africa, the UN World Tourism Organization found that wildlife tourism represents 80 percent of total annual trip sales, with an upward trend.⁷ Based on an assessment of its inherent attributes (see table A.2) and its substantial untapped potential, wildlife tourism development in the WCB could tap into these trends.

Definitions

Inherent attributes (for example, natural capital, seasonality, and so on) provide the basis for wildlife tourism development, but they are largely beyond the control of those seeking to undertake tourism development.

Developed attributes are, however, under the control of those seeking to undertake tourism development and significantly affect the success or failure of tourism (for example, policy, infrastructure, and so on).

b. Structural Barriers to Wildlife Tourism Development

Despite tourism's opportunities and its expected growth trajectory, a set of challenges inhibits wildlife tourism's development in the WCB. For example, travel to many protected areas is expensive and difficult, tourism infrastructure needs to be improved, and protected area and hospitality management expertise and capacity are limited.

Based on a detailed literature review and input from key stakeholders throughout the subregion, table A.2 summarizes the current state of factors influencing tourism development in the WCB and the level of importance of each of the factors to tourism development. Section 5.a.i presents recommendations for improving the current state of each of the factors outlined in table A.2.

Table A.2: Assessment of the Current State of Tourism in the WCB

Factors influencing tourism development	Importance to tourism development 1 (unimportant) to 5 (very important)	Central African Republic, Gabon, Congo, Rep.			
		Cameroon	Central African Republic	Gabon	Congo, Rep.
Product context					
Human resource capacity in tourism	5	Orange	Orange	Orange	Orange
Wildlife (diversity and visibility)*	5	Yellow	Yellow	Yellow	Yellow
Landscape (aesthetics and diversity)	4	Blue	Blue	Blue	Blue
Safety and security	4	Yellow	Orange	Yellow	Yellow
International airport connectivity	4	Blue	Yellow	Blue	Yellow
Accommodation (quality and diversity)	4	Yellow	Orange	Yellow	Yellow
Visa requirements	3	Yellow	Orange	Orange	Orange
Food and beverage	3	Yellow	Yellow	Yellow	Yellow
Communication facilities (e.g., Internet)	2	Orange	Orange	Orange	Orange
Conservation linkages					
Protected area management capacity	5	Yellow	Orange	Yellow	Orange
Conservation-tourism linkages	5	Orange	Orange	Yellow	Orange
Business environment					
Concession and tendering systems	5	Yellow	Orange	Yellow	Yellow
Existing marketing and promotions (national level)	4	Orange	Orange	Yellow	Orange
Existing tourism product	4	Yellow	Orange	Yellow	Orange
Policy environment					
National, regional, and local policies	4	Yellow	Orange	Yellow	Orange
Fiscal environment					
Tax incentives and fiscal support	4	Orange	Orange	Yellow	Orange
Logistics					
Logistical context (e.g., itinerary development)	4	Orange	Orange	Orange	Orange
Access (e.g., road quality, transportation availability)	4	Yellow	Yellow	Yellow	Yellow
Regulatory environment					
Regulatory effectiveness and impact	3	Orange	Orange	Yellow	Orange
Climate					
Seasonality	3	Yellow	Yellow	Blue	Yellow
Health services					
Availability and quality of health services	3	Orange	Orange	Orange	Orange

Legend: Orange: negative or low, Yellow = moderate, Blue = positive or high.

*The diversity of wildlife across the four countries is exceptional, but visibility is generally difficult due to the impact of poaching and the vegetation found in the region.

The net result of these various challenges is that tourism infrastructure and development is currently limited, and many of the WCB countries have a poor reputation in their target markets.

c. Poaching as a Challenge to Tourism Development, and Tourism as an Incentive for Conservation

Across Africa, 70 percent of tour operators stated that poaching is negatively affecting wildlife tourism.⁸ The tourism sector in Africa loses \$25 million annually to elephant poaching alone.⁹ The overall costs for reducing poaching to a level that stabilizes elephant populations (that is, no decline and no growth) is estimated at \$16.9 million total per year across 45 large, mostly forested protected areas in Cameroon, the CAR, Gabon, the ROC, and the Democratic Republic of Congo.¹⁰ Investing in elephant conservation in the WCB can therefore be smart economic policy (analyses in other parts of Africa show rates of return comparable to those in sectors such as education, agriculture, or electricity¹¹), but this is conditional on generating sufficient returns from wildlife tourism.

d. The Benefits of Wildlife Tourism Development

The primary benefits that wildlife tourism can bring to the WCB countries are as follows:

- Generating tax revenues for government
- Generating operating finance that can directly sustain the effective protection and management of protected areas through the payment of entry fees, lease fees, and other tourism-related levies
- Generating direct, indirect, and induced economic benefits, including employment, for surrounding communities, thereby creating conservation constituencies

- Transferring jobs and capital away from activities that threaten conservation values and toward conservation-friendly alternatives
- Promoting access to and enjoyment of natural areas, helping to foster national and international “ambassadors” for wildlife and nature
- Increasing visitor presence, which acts as a deterrent for poachers and other illegal activities
- Diversifying the tourism sector: wildlife tourists tend to stay longer and spend more during their vacations, put up with greater hardship to reach a destination, and generally take on more risk when traveling to “less safe” destinations.¹²
- Stimulating positive international awareness of the countries’ rich natural heritage and thereby contributing to their “brand identity”

e. Rapid Assessment of Wildlife Tourism Potential

Many of the more than 50 protected areas in the WCB countries feature extraordinary biodiversity, but only a small subset is ready for tourism. Table A.3 identifies 26 protected areas as having high or medium-high potential for tourism development, based on their inherent attributes and the potential viability of tourism as informed by a detailed literature review and input from key stakeholders throughout the WCB. Each protected area has the inherent attributes required to become a globally recognized wildlife tourism destination. Among these, those requiring less investment in developed attributes have been assessed as having high potential, whereas those requiring more investment are considered to have medium-high potential.

Table A.3: Potential of WCB Protected Areas for Tourism Development**Cameroon**

Bénoué National Park	High
Campo Ma'an National Park	High
Korup National Park	High
Lobéké National Park	High
Dja Faunal Reserve	High
Bouba Njida National Park	Medium-high
Nki National Park	Medium-high
Waza National Park	Medium-high

Central African Republic

Dzanga-Sangha Protected Areas Complex	High
Mbaéré Bodingué National Park	High
Chinko Nature Reserve	Medium-high

Gabon

Ivindo National Park	High
Loango National Park	High
Lopé National Park	High
Mayumba Marine National Park	High
Akanda National Park	Medium-high
Batéké Plateau National Park	Medium-high
Birougou National Park	Medium-high
Monts de Cristal National Park	Medium-high
Minkébé National Park	Medium-high
Moukalaba-Doudou National Park	Medium-high
Pongara National Park	Medium-high

Republic of Congo

Conkouati-Douli National Park	High
Nouabalé-Ndoki National Park	High
Odzala-Kokoua National Park	High

The overall outlook for wildlife tourism in these protected areas in terms of inherent attributes is in principle positive in the long-term. By encouraging and regulating future tourism development and strengthening park management and administration, governments can unlock their potential (see section 5.a.i).

Appendix B: Methodology

Research for this study was carried out in three phases: The team first held consultations with more than 80 government and civil society representatives in Bangui, Brazzaville, Libreville, and Yaoundé. The team then carried out an in-depth literature review as well as a series of expert interviews with numerous members of the conservation community and the tourism industry (including 15 hoteliers and tour operators, 8 government staff, and 15 civil society representatives). In addition, the team conducted focus group interviews with members of communities and poachers in key poaching hot spots in the WCB: Ngoyla and Mintom in Cam-

eroon, and Ouessou in the Republic of Congo (see chapter 4 for details). The preliminary results of the study were then validated in a second series of workshops in Brazzaville and Yaoundé, and the draft report was shared with COMIFAC for inputs. A presentation and discussion of the main conclusions of the study was held in Douala with REPALEAC, the regional network for indigenous peoples and local communities, gathering 25 participants from eight COMIFAC states, including the WCB countries (2–3 indigenous peoples delegates per country, REPALEAC’s secretariat, and its technical partners).

Notes

Chapter 1

1. Muller-Landau and Hardesty (2005).
2. Yanggen, Angu, and Tchamou (2010). Landscape-Scale Conservation in the Congo Basin: Lessons Learned from the Central African Regional Program for the Environment (CARPE). Gland: IUCN. <https://portals.iucn.org/library/efiles/documents/2010-037.pdf>.
3. Strindberg et al. (2018).

Chapter 2

1. Wilkie and Carpenter (1999a); Nasi, Taber, and van Vliet (2011); Abernethy et al. (2013).
2. Abernethy et al. (2013).
3. Fa et al. (2015).
4. Fa et al. (2015); Brashares et al. (2011).
5. Bennett et al. (2007).
6. Stiles (2011).
7. Nasi, Taber, and van Vliet (2011); Lindsey et al. (2015).
8. Abernethy et al. (2013); Fa and Brown (2009).
9. Nasi, Taber, and van Vliet (2011); van Vliet and Mbazza (2011).
10. van Vliet and Mbaza (2011).
11. Randolph and Stiles (2011).
12. Nasi, Taber, and van Vliet. (2011).
13. Randolph and Stiles (2011).
14. Fa and Brown (2009).
15. Abernethy et al. (2013); Effiom et al. (2013); Beckman and Rogers (2013); Caughlin et al. (2015);

- Culot et al. (2017); McConkey et al. (2012); Vanthomme, Bellé, and Forget (2010).
16. Thouless et al. (2016).
17. Thouless et al. (2016).
18. Haenlein, Maguire, and Somerville. (2016).
19. Maisels et al. (2013).
20. Thouless et al. (2016).
21. CITES (2016).
22. Bale (2017).
23. Vigne and Martin. (2017).
24. Do et al. (2018).
25. Underwood, Burn, and Milliken (2013).
26. Thouless et al. (2016).
27. Olingo (2017)
28. Nkoke et al. (2017).
29. Nkoke et al. (2017).
30. Wasser et al. (2015).
31. Nkoke et al. (2017); Poulsen et al. (2017).
32. Maisels et al. (2013).
33. Maisels et al. (2013).
34. Campos-Arceiz and Blake (2011). Also see end-note 15, chapter 2.
35. Poufoun et al. (2016).
36. Poufoun et al. (2016).
37. Underwood, Burn, and Milliken (2013).
38. Nkoke et al. (2017).
39. LAGA (2015).
40. Nkoke et al. (2017).
41. Heinrich et al. (2016); Pangolin Specialist Group (2018).

42. Ingram et al. (2017).
43. Heinrich et al. (2016).
44. Heinrich et al. (2016).
45. Ingram et al. (2017).
46. Li and Jiang (2014).
47. Vidal (2016); Marsden et al. (2015).
48. Laing (2016).
49. WWF (2016).
50. Vidal (2016).

Chapter 3

1. Batchy et al. (2017).
2. P. De Wachter, personal communication to the author based on WWF-ETIC data. December 6, 2017.
3. P. De Wachter, personal communication to the author based on WWF-ETIC data. December 6, 2017.
4. Freeland and Save the Elephants (2018); Cameroon, Ministry of Forests and Wildlife (2017).
5. Harrison et al. (2015).
6. For ROC: World Bank (2017); For CAR, Cameroon, Gabon: Poverty Indicators, World Bank Open Data (database), World Bank, Washington, DC, <https://data.worldbank.org/indicator/SI.POV>. RUHC.

Chapter 4

1. African Union (2015).
2. COMIFAC (2015).
3. CBFP (2013).
4. Law no. 94/01 of January 20, 1994.
5. Koulagna Koutou (2001).
6. Law no. 201/008 of May 6, 2014, Land Use Orientation Law, establishing the guidelines for the planning and sustainable development of the territory to Cameroon.
7. FAO (2017).
8. Ordinance no. 84.045 of July 27, 1984, relative to the protection of wildlife, and Law no. 90.003 of June 9, 1990, of the Forestry Code, Central African Republic.
9. Forest Code, Article 32 (2), Republic of Congo.
10. Law no. 43 2014 of October 10, 2014, *d'orientation pour l'aménagement et le développement du territoire*, Republic of Congo.
11. COMIFAC (2005).

12. Tilly (1998).

Chapter 5

1. World Bank (2007).
2. International Tourism, Receipts (Current US\$) data set, World Bank Open Data (database), Washington, DC (accessed 2017), <https://data.worldbank.org/indicator/ST.INT.RCPT.CD>.
3. Wilkie and Carpenter (1999b).
4. Fletcher (2018).
5. King et al. (2012).
6. UNWTO and UNEP (2017).
7. World Bank (2014).
8. Glennly (2018).
9. GEF (2016).
10. UNWTO (1996).
11. Jovanovic and Ilic (2016).
12. WRI (2016).
13. Gabon, Ministry of Forestry and the Environment (2004); Law no. 16-2000 of November 20, 2000, on the Forest Code, Republic of Congo; Law no. 08-022 of October 17, 2008, on the Forest Code, Central African Republic.
14. Law no. 94/01 of January 1994 on Forest, Wildlife and Fisheries Regime, Cameroon; Law no. 16-01 of December 31, 2001, on the Forest Code, Republic of Gabon.
15. Ekounou Abanda (2015).
16. Nguimbi (2018).
17. Gabon, Ministry of Forestry and the Environment (2018).
18. Kouedji Monthé et al. (2015).
19. Julve and Vermeulen (2008).
20. Julve et al. (2007); Bigombé Logo (2008); Rossi (2008); Karsenty (2010); Ndume-Engone (2010); Cuny (2011); Ekounou Abanda (2015); CED et al. (2017).
21. Ngoumou Mbarga (2013); Mbairamadji (2009); Bakouma and Sève (2012); CED et al. (2017).
22. Gabon, Circular 000069/MEFPEPGE/SG/DGF/DFCom, September 25, 2017.
23. Nguinguiri (2008).
24. Roger, Calaque, and Doumenge (2006); Rousset Loridan (2012); Ouallet and Ouoko (2012); Payen (2014).
25. Gami (2003); Mbété et al. (2007).
26. Lescuyer et al. (2012).

27. Ampolo et al. (2017).
28. Moussiessi Mbama et al. (2014).
29. Gabon, Ministry of Forestry and the Environment (2018).
30. Seymour, La Vina, and Hite (2014).
31. Awono et al. (2013).
32. Amatya et al. (2015).
33. CED et al. (2017).
34. Gilmour and Fisher (1991).
35. Nasi and Rugabira (2016); Karsenty and Vermeulen (2016).
36. Lescuyer et al. (2015).
37. Sabogal, Besacier, and McGuire (2015).
38. Bakouma and Sève (2012); Lecup (2011).
39. Morin et al. (2014).
40. Karsenty and Vermeulen (2016).
41. Reeb (1999).
42. van der Wal and Djoh (2001).
43. Valimahamed, Lescuyer, and Nasi (2017).
44. Nguinguiri, Boutinot, et al. (2017).
45. van Vliet, Cornelis, et al. (2017).
46. Cornelis et al. (2017); Wilkie et al. (2016).
47. Swemmer et al. (2014).
48. Swemmer et al. (2014).
49. Pyhälä, Orozco, and Counsell (2016).
50. Andrade and Rhodes (2012).
51. Lindsey et al. (2014).
52. Baghai et al. (2018).
53. African Parks (2016); Wildlife Conservation Society Congo (2017).
54. Wilkie and Carpenter (1999b).
55. Rights and Resources Initiative (2015).
56. "Community Camera-Trapping," Ruaha Carnivore Project, accessed January 2018, <http://www.ruahacarnivoreproject.com/benefits/community-camera-trapping/>; Duffy and St. John (2013).
57. Milder et al. (2014).
58. Lindsey et al. (2015).
59. Ezzine-De-Blas et al. (2016).
60. Lindsey et al. (2015).
61. Gettleman (2012); Lotter and Clark (2014).
62. Sommerville et al. (2010).
63. Dinerstein et al. (2012).
64. "Elephant Expedition" (web page), Zooniverse, <https://www.zooniverse.org/projects/anabelle-cardoso/elephant-expedition>.
65. Potts, Kelley, and Doll (2013).
66. "Human-Elephant Conflict," WWF, accessed January 2018, http://www.panda.org/what_we_do/endangered_species/elephants/human_elephant_conflict.cfm
67. Pooley et al. (2017).
68. Granados and Weladji (2012).
69. "Human-Elephant Conflict," WWF, accessed January 2018, <http://www.panda.org>.
70. Nguinguiri, Czudek, et al. (2017); Hoare (2015).
71. Redpath, Bhatia, and Young (2015).
72. Hoare (2015).
73. Hoare (2015); Weintraub (2018).
74. King et al. (2018); AFP (2017).
75. Hoare (2015).
76. "Predator-Proofing Enclosures," Ruaha Carnivore Project, accessed January 2018, <http://www.ruahacarnivoreproject.com>.
77. Okello, Bonham, and Hill (2014).
78. Wilkie et al. (2016).
79. Ravenelle and Nyhus (2017).
80. Poufoun et al. (2016).
81. UNODC (2012).

Appendix A

1. Twinning-Ward (2017).
2. UNCTAD (2017).
3. WTTC (2017a).
4. TIES (2016).
5. CI, Rainforest Alliance, and UNEP (2015).
6. WWF-Pacific (2015); Balmford et al. (2009); Higginbottom (2004); Christ et al. (2003).
7. UNWTO (2015).
8. UNWTO (2015).
9. Naidoo, Fisher, et al. (2016).
10. Naidoo, Fisher, et al. (2016).
11. Naidoo, Fisher, et al. (2016).
12. WWF-Pacific (2015).

References

- Abernethy, K. A., L. Coad, G. Taylor, M. E. Lee, F. and Maisels. 2013. "Extent and Ecological Consequences of Hunting in Central African Rainforests in the Twenty-First Century." *Philosophical Transactions of the Royal Society B* 368: 20120303. <http://dx.doi.org/10.1098/rstb.2012.0303>.
- AFP. 2017. "Call for More Electric Fences to Stop Elephants Destroying Gabon Crops." *Daily Mail*, June 16. <http://www.dailymail.co.uk/wires/afp/article-4611866/Call-electric-fences-stop-elephants-destroying-Gabon-crops.html>.
- African Parks. 2016. *African Parks Annual Report 2016: Impact Defined*. Johannesburg: African Parks. https://www.african-parks.org/sites/default/files/uploads/resources/2017-05/2016_African_Parks_Annual_Report_Impact_Defined.pdf.
- African Union. 2015. "African Strategy on Combating Illegal Exploitation and Illegal Trade in Wild Fauna and Flora in Africa." African Union, Addis Ababa.
- Amatya, S. M., I. Nuberg, E. Cedamon, and B. H. Pandit. 2015. "Removing Barriers to the Commercialisation of Agroforestry Trees in Nepal." Presentation at IUFRO 3.08 Small-Scale Forestry Conference, Sunshine Coast, Australia, October 11–15. www.smallscaleforestry.org/presentations.html.
- Ampolo, A. N., D. Cornelis, J.-C. Nguingiri, S. Ratiarison, and F. Paco Bockandza. 2017. "Les aires communautaires de chasse dans les concessions forestières: Une piste d'actions pour rendre plus inclusive le volet faune de l'aménagement forestier." In van Vliet, Nguingiri, Cornelis, and Le Bel, *Communautés locales*, 103–17.
- Andrade, G. S., and J. R. Rhodes. 2012. "Protected Areas and Local Communities: An Inevitable Partnership toward Successful Conservation Strategies?" *Ecology and Society* 17 (4). doi:10.5751/es-05216-170414.
- ANPN (Agence Nationale des Parcs Nationaux). 2014. "Plan de gestion du Parc National de Loango and Programme de développement touristique du parc national de Loango." ANPN, Libreville.
- Awono, A., V. Ingram, J. Schure, and P. Levang. 2013. "Guide for Small and Medium Enterprises in the Sustainable Non-timber Forest Product Trade in Central Africa." Bogor: CIFOR.
- Baghai, M., J. Miller, L. Blanken, H. Dublin, and P. Lindsay. 2018. "Models for the Collaborative Management of Africa's Protected Areas." *Biological Conservation* 218 (February): 73–82.
- Bakouma J., and J. Sève J. 2012. "L'entreprise forestière communautaire." *Secteur privé & Développement* 14: 13–17.
- Bale, R. 2017. "China Shuts Down Its Legal Ivory Trade." nationalgeographic.com, December 30. <https://news.nationalgeographic.com/2017/12/>

- wildlife-watch-china-ivory-ban-goes-into-effect/.
- Balmford, A., J. Beresford, J. Green, R. Naidoo, M. Walpole, and A. Manica. 2009. "A Global Perspective on Trends in Nature-Based Tourism." *PLOS Biology* 7 (6): e1000144.
- Batchy, J., G. A. J. Blanchard, E. Stokes, E. Moulin, and E. G. M. Makele. 2017. "Analyse des poursuites judiciaires relatives aux infractions sur la faune dans les tribunaux de la République du Congo (2008-2017)." Ministry of Justice, Human Rights, and Promotion of Indigenous Peoples and Ministry of Forest Economy, Wildlife Conservation Society Congo.
- Beckman, N. G., and H. S. Rogers. 2013. "Consequences of Seed Dispersal for Plant Recruitment in Tropical Forests: Interactions Within the Seedscape." *Biotropica* 45 (6): 666–81. doi:10.1111/btp.12071.
- Bennett, E. L., E. Blencowe, K. Brandon, et al. 2007. "Hunting for Consensus: Reconciling Bushmeat Harvest, Conservation, and Development Policy in West and Central Africa." *Conservation Biology*, no. 21: 884–87.
- Bigombe Logo, P. 2008. "Foresterie communautaire et réduction de la pauvreté rurale au Cameroun: Bilan et tendances de la première décennie." *World Rainforest Movement Bulletin*, no. 126 (January). <http://wrm.org.uy/old-site/countries/Cameroon/Bigombe.html>.
- Bigombe Logo, P. 2010. "La gouvernance des revenus forestiers décentralisés en Afrique centrale. Pour le meilleur ou pour le pire?" In *Gouverner les forêts africaines à l'ère de la mondialisation*, edited by A. L. German, A. Karsenty, and A.-M. Tiani, 191–208. Bogor: CIFOR.
- Bigombe Logo P., J. A. Abessolo, and D. Koulbout. 2006. "Vers une conservation bénéficiaire aux pauvres au Cameroun? Genèse et bilan de l'expérience des ZICGC dans la gestion participative et le développement intégré des aires protégées de Lobeke, Boumba-bek et Nki au Sud-Est du Cameroun." In *Poverty, Equity and Rights in Conservation: Technical Papers and Case Studies*, edited by G. Oviedo, P. Van Griethuysen, and P. B. Larsen, 151–71. Gland and Geneva: IUCN and IUED.
- Birnie, N., and G. Davies. 2017. *Conservation Capital Case Studies: Conservation Area Business Planning, Enterprise Development, and Investment Structuring and Management*. Conservation Capital.
- Blom, A. 2001. "Ecological and Economic Impacts of Gorilla-Based Tourism in Dzanga-Sangha, Central African Republic." PhD diss., Wageningen University.
- Brashares, J. S., C. D. Golden, K. Z. Weinbaum, C. B. Barrett, and G. V. Okello. 2011. "Economic and Geographic Drivers of Wildlife Consumption in Rural Africa." *Proceedings of the National Academy of Sciences* 108 (34): 13931–36.
- Cameroon, Ministry of Forests and Wildlife. 2017. "Rapport de patrouille de lutte anti-brconnage." Report.
- Campos-Arceiz, A., and S. Blake. 2011. "Megagardeners of the Forest: The Role of Elephants in Seed Dispersal." *Acta Oecologica* 37 (6): 542–53. doi:10.1016/j.actao.2011.01.014.
- Caughlin, T. T., J. M. Ferguson, J. W. Lichstein, P. A. Zuidema, S. Bunyavejchewin, and D. J. Levey. 2015. "Loss of Animal Seed Dispersal Increases Extinction Risk in a Tropical Tree Species Due to Pervasive Negative Density Dependence Across Life Stages." *Proceedings of the Royal Society B* 282: 20142095. <http://dx.doi.org/10.1098/rspb.2014.2095>.
- CBFP (Congo Basin Forest Partnership). 2013. "An Extreme Emergency Anti-poaching Plan (PEX-ULAB) to Protect Elephants in ECCAS Countries Adopted in Yaoundé." CBFP, April. http://pfb-cbfp.org/news_en/items/ECCAS-LAB-EN.html.
- CED, Fern, FPP, IIED, and Okani. 2017. *Community Forestry in Cameroon: A Diagnostic Analysis of Laws, Institutions, Actors and Opportunities*. London: IIED.
- Chapman, C. A., B. V. Bavel, C. Boodman, et al. 2014. "Providing Health Care to Improve Community Perceptions of Protected Areas." *Oryx* 49 (4): 636–42. doi:10.1017/s0030605313001592.
- Christ, C., O. Hillel, S. Matus, and J. Sweeting. 2003. *Tourism and Biodiversity: Mapping Tourism's Global Footprint*. Washington, DC: Conservation International.
- CI (Conservation International), Rainforest Alliance, and UNEP (United Nations Environment Program). 2015. *A Practical Guide to Good Practice for Tropical Forest-Based Tours*. Arlington, VA: CI. <https://www.rainforest-alliance.org/>

- business/tourism/documents/good_practice.pdf.
- CITES (Convention on International Trade of Endangered Species of Wild Fauna and Flora). 2010. "African Elephant Action Plan." 15th Meeting of the Conference of the Parties, Doha, March 13–25. https://www.iucn.org/sites/dev/files/import/downloads/e15i_68.pdf.
- . 2016. "Report on the Elephant Trade Information System (ETIS)." 17th Meeting of the Conference of the Parties, Johannesburg, September 24–October 5. <https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-06-R1.pdf>.
- COMIFAC (Commission des Forêts d'Afrique Centrale). 2005. "The Brazzaville Summit: A Commitment to People and Forests in Central Africa." COMIFAC, Yaoundé.
- . 2015. "Stratégie sous-régionale pour l'utilisation durable de la faune sauvage par les communautés autochtones et locales des pays d'Afrique Centrale." COMIFAC, Yaoundé.
- Conservation Justice. 2018. "Forêts communautaires et obligations sociales des sociétés forestières: Un état des lieux." Missions sociales ALEFI, Rapport intermédiaire 2014–2017, Libreville.
- Cornelis D., S. Le Bel, O. Mikolasek, et al. 2017. "Vers une gestion territorialisée de la chasse villageoise et des systèmes alimentaires carnés en Afrique centrale." In van Vliet, Nguingui, Cornelis, and Le Bel, *Communautés locales*, 143–73.
- Culot, L., C. Bello, J. L. Ferreira Batista, H. Thadeu Zarate do Couto, and M. Galetti. 2017. "Synergistic Effects of Seed Disperser and Predator Loss on Recruitment Success and Long-Term Consequences for Carbon Stocks in Tropical Rainforests." *Scientific Reports* 7: 7662. doi:10.1038/s41598-017-08222-4.
- Cuny, P. 2011. État des lieux de la foresterie communautaire et communale au Cameroun. Wageningen: Tropenbos International Programme du bassin du Congo.
- Damania, R., E. J. Milner-Gulland, and D. J. Crookes. 2005. "A Bioeconomic Analysis of Bushmeat Hunting." *Proceedings of the Royal Society B* 272 (1560): 259–66. doi:10.1098/rspb.2004.2945.
- DFID (U.K. Department for International Development). 1999. Sustainable Livelihoods Guidance Sheets. London: DFID. <http://www.livelihoodscentre.org/documents/20720/100145/Sustainable+livelihoods+guidance+sheets/8f35b59f-8207-43fc-8b99-df75d3000e86>.
- Dickman, A. 2015. "Large Carnivores and Conflict in Tanzania's Ruaha Landscape." In chapter 2 of *Conflicts in Conservation: Navigating towards Solutions*, edited by S. M. Redpath, R. J. Gutiérrez, K. A. Wood, and J. C. Young. Cambridge: Cambridge University Press.
- Dinerstein, E., K. Varma, E. Wikramanayake, et al. 2012. "Enhancing Conservation, Ecosystem Services, and Local Livelihoods through a Wildlife Premium Mechanism." *Conservation Biology* 27 (1): 14–23. doi:10.1111/j.1523-1739.2012.01959.x.
- Do, Q.-T., A. A. Levchenko, L. Ma, J. Blanc, T. Milliken, and H. Dublin. 2018. "The Price Elasticity of African Elephant Poaching." Policy Research Working Paper 8335, World Bank, Washington, DC.
- Duffy, R., and F. A. V. St. John. 2013. "Poverty, Poaching and Trafficking: What Are the links?" Evidence on Demand, UK. doi:10.12774/eod_hdo59.jun2013.duffy.
- Eba'a Atyi R., G. Lescuyer, J. N. Poufoun, and T. Moulendè Fouda. 2013. *L'importance économique et sociale du secteur forestier et faunique au Cameroun*. Bogor: CIFOR.
- Effiom, E. O., G. Nuñez-Iturri, H. G. Smith, U. Ottosson, and O. Olsson. 2013. "Bushmeat Hunting Changes Regeneration of African Rainforests." *Proceedings of the Royal Society B* 280 (1759): 20130246. <http://dx.doi.org/10.1098/rspb.2013.0246>.
- Ekounou Abanda, A. C. 2015. "Cadre d'évaluation de l'étendue et de l'efficacité de la foresterie participative (FP): Etude de cas du Cameroun." Consultant report, FAO, Rome.
- Eshoo, P. F., A. Johnson, S. Duangdala, and T. Hansel. 2018. "Design, Monitoring and Evaluation of a Direct Payments Approach for an Ecotourism Strategy to Reduce Illegal Hunting and Trade of Wildlife in Lao PDR." *PLOS One* 13 (2): e0186133. <https://doi.org/10.1371/journal.pone.0186133>.
- Ezzine-De-Blas, D., S. Wunder, M. Ruiz-Perez, and R. D. Moreno-Sanchez. 2016. "Global Patterns in the Implementation of Payments for Environ-

- mental Services." *PLOS One* 11 (3). doi:10.1371/journal.pone.0149847.
- Fa, J., and D. Brown. 2009. "Impacts of Hunting on Mammals in African Tropical Moist Forests: A Review and Synthesis." *Mammal Review* 39 (4): 231–64.
- Fa, J. E., J. Olivero, R. Real, et al. 2015. "Disentangling the Relative Effects of Bushmeat Availability on Human Nutrition in Central Africa." *Scientific Reports*, no. 5: 8168. doi:10.1038/srep08168.
- FAO (Food and Agriculture Organization). 2017. "How Existing Legal Frameworks Shape Forest Conversion to Agriculture: A Study of the Congo Basin." FAO Legal Papers 102, FAO, Rome.
- Fargeot, C. 2013. "La chasse commerciale en Afrique centrale: Une menace pour la biodiversité ou une activité économique durable? Le cas de la République centrafricaine." PhD diss., Université Paul Valéry – Montpellier III.
- FENATA (Federation of Namibian Tourism Associations). 2010. "A Private Sector Point of View: Conservancy Based Tourism Enterprises in Namibia and the Business of Tourism." FENATA, Windhoek.
- Fletcher, M. 2018. "Virunga National Park Closed to Tourists." *Financial Times*, May 18.
- Freeland and Save the Elephants. 2018. "Congo Ivory Cartel Buckles Further." News release.
- Gabon, Ministry of Forestry and the Environment. 2004. "Sector Policy Letter on Forestry, Fisheries, and Aquaculture, Protected Areas, Environment, and Training." Libreville, Gabon.
- . 2018. "Final Declaration of the Validation Workshop on the Study Report on the Extent and Effectiveness of Participatory Forestry." Libreville, Gabon. Available (in French) at <http://pfb-cbfp.org/actualites/items/Foresterie-participative-Gabon.html>.
- Gami N., 2003. *Le sanctuaire de gorilles de Lossi (Congo): Les leçons d'une démarche participative*. Montpellier: CIRAD-Forêts. CD-ROM (Série FORAFRI).
- GEF (Global Environment Facility). 2016. "Kenya Conference Report." Presented at the Global Wildlife Program Conference 2016, "Engaging Local Communities in Wildlife Conservation," Nairobi, May 18–20.
- Gettleman, J. 2012. "Elephants Dying in Epic Frenzy as Ivory Fuels Wars and Profits." *New York Times*, September 3. http://www.nytimes.com/2012/09/04/world/africa/africas-elephants-are-being-slaughtered-in-poaching-frenzy.html?pagewanted=1&_r=1&ref=world&src=me&pagewanted=all.
- Gilmour, D. 2016. *Forty Years of Community-Based Forestry. A Review of Its Extent and Effectiveness*. Rome: FAO.
- Gilmour, D. A., and R. J. Fisher. 1991. *Villagers, Forests and Foresters: The Philosophy, Process and Practice of Community Forestry in Nepal*. Katmandou: Sahayogi Press.
- Glenny, M. 2018. "The Strange Figures Behind a Secret Trade." *BBC News*, January 4. www.bbc.co.uk/news/resources/idt-sh/rhino_poaching.
- Granados, A., and R. B. Weladji. 2012. "Human Elephant Conflict Around Benoue National Park, Cameroon: Influence on Local Attitudes and Implications for Conservation." *Human Dimensions of Wildlife* 17 (2): 77–90. doi:10.1080/10871209.2012.639133.
- Great Elephant Census. 2016. "Zambia Census Results Announced: Luangwa and Kafue Stable, Lower Zambezi Declines and Sioma Ngwezi Declines Catastrophically." *From the Field* (blog). Great Elephant Census, March 3. <http://www.greatelephantcensus.com/blog/2016/3/2/zambia-census-announced-luangwa-and-kafue-stable-lower-zambezi-and-sioma-ngwezi-see-decline>.
- Haenlein, C., T. Maguire, and K. Somerville. 2016. "Poaching, Wildlife Trafficking and Terrorism." *Whitehall Papers* 86 (1): 58–76. doi:10.1080/02681307.2016.1252126.
- Harrison, M., D. Roe, J. Baker, et al. 2015. *Wildlife Crime: A Review of the Evidence on Drivers and Impacts in Uganda*. London: IIED.
- Higginbottom, K., ed. 2004. *Wildlife Tourism: Impacts, Management and Planning*. Altona, Victoria: CRC for Sustainable Tourism Pty Ltd.
- Hoare, R. 2015. "Lessons from 20 Years of Human-Elephant Conflict Mitigation in Africa." *Human Dimensions of Wildlife* 20 (4): 289–95. doi:10.1080/10871209.2015.1005855.
- Hussain, S. 2017. "The Secret Behind the Remarkable Success of Snow Leopard Conservation in Pakistan." *Dawn* (Pakistan), November 1. <https://www.dawn.com/news/1366847>.

- Ingram, D. J., L. Coad, K. A. Abernethy, et al. 2017. "Assessing Africa-Wide Pangolin Exploitation by Scaling Local Data." *Conservation Letters* 11 (2): 1–9. doi:10.1111/conl.12389.
- IUCN (International Union for Conservation of Nature). 2012. "Innovative Insurance Scheme Saves Snow Leopards." News release, July 17. <http://www.iucnredlist.org/news/innovative-insurance-scheme-saves-snow-leopards>.
- Joseph, J. 2015. "Confessions of a Notorious Elephant Poacher (Zambia)." *New Zealand Herald*, September 18. <http://www.savetheelephants.org/about-ste/>.
- Jovanovic, S., and I. Ilic. 2016. "Infrastructure as Important Determinant of Tourism Development in the Countries of Southeast Europe." *Ecoforum Journal* 5 (1).
- Julve, C., M. Vandenhoute, C. Vermeulen, B. Castadot, H. Ekodeck, and W. Delvingt. 2007. "Séduisante théorie, douloureuse pratique: La foresterie communautaire camerounaise en butte à sa propre législation." *Parcs et Réserves* 62 (2): 18–24.
- Julve, C., and C. Vermeulen. 2008. "Bilan de dix années de foresterie communautaire en périphérie de la Réserve de Faune du Dja au Cameroun." Presentation at the workshop "Concilier les priorités de conservation des aires protégées et de développement local: Leçons apprises, expériences et perspectives en Afrique Centrale," Sao Tomé, September 29–October 2.
- Karsenty, A. 2010. "Le nouveau 'grand jeu' économique en Afrique et l'avenir des réformes de la gouvernance du secteur forestier." In *Gouverner les forêts africaines à l'ère de la mondialisation*, edited by A. L. German, A. Karsenty, and A.-M. Tiani, A-M, 85–102. Bogor: CIFOR.
- Karsenty, A., and C. Vermeulen. 2016. "Vers des concessions 2.0: Articuler gestion inclusive et exclusive dans les forêts de production en Afrique centrale." In *La gestion inclusive des forêts d'Afrique centrale. Passer de la participation au partage des pouvoirs*, edited by G. Buttoud and J.-C. Nguinguiri, 205–23. Libreville and Bogor: FAO and CIFOR.
- King, L. M., S. F. McCool, P. Fredman, and E. A. Halpenny. 2012. "Protected Area Branding Strategies to Increase Stewardship among Park Constituencies." *Parks* 18 (2): 55–64.
- King, L., M. Pardo, S. Weerathunga, et al. 2018. "Wild Sri Lankan Elephants Retreat from the Sound of Disturbed Asian Honey Bees." *Current Biology* 28 (2). doi:10.1016/j.cub.2017.12.018.
- Kouedji Monthé, J. F., A.-C. Pial, G. M. Nguenang, and G. A. Fomou Nyamsi. 2015. "Gestion participative des forêts: Évaluation de l'efficacité des comités paysans-forêts dans l'Est-Cameroun." *Bois et Forêts des Tropiques* 324 (2): 19–28.
- Koulagna Koutou, D. 2001. "The Issue of Bushmeat in Cameroon." In *BCTF Collaborative Action Planning Meeting Proceedings*, edited by N. D. Bailey, H. E. Eves, A. Stefan, and J. T. Stein. Silver Spring, MD: Bushmeat Crisis Task Force.
- LAGA (The Last Great Ape Organization). 2015. "Annual Report January–December 2015." LAGA, Cameroon. http://www.laga-enforcement.org/Portals/o/Activity%20reports%202015/LAGA_Annual_Report%202015.pdf.
- Laing, A. 2016. "Global Trade of Wild African Grey Parrots Banned." *Telegraph*, October 2. <http://www.telegraph.co.uk/news/2016/10/02/global-trade-of-wild-african-grey-parrots-banned/>.
- Lecup, I. 2011. *Les petites entreprises communautaires de produits forestiers: Analyse et développement des marchés*. Rome: FAO.
- Lescuyer, G. 2015. "Economic Importance of Bushmeat Consumption and Trade in the Congo Basin: Assessments and Challenges." Presented at the side event "Biting the Hand That Feeds," at the World Forestry Congress, Durban, September 9.
- Lescuyer, G., S. Assembe Mvondo, J. N. Essoungou, V. Toison, J.-F. Trébuchon, and N. Fauvet. 2012. "Logging Concessions and Local Livelihoods in Cameroon: From Indifference to Alliance?" *Ecology and Society* 17 (1): 7.
- Lescuyer G., M. N. Mvongo-Nkene, G. Monville, M. B. Elanga-Voundi, and T. Kakundika. 2015. "Promoting Multiple-Use Forest Management: Which Trade-offs in the Timber Concessions of Central Africa?" *Forest Ecology and Management* 349 (1): 20–28.
- Lescuyer, G., and R. Nasi. 2016. "Financial and Economic Values of Bushmeat in Rural and Urban Livelihoods in Cameroon: Inputs to the Development of Public Policy." *International Forestry Review* 18 (S1).

- Lescuyer, G., J. N. Poufoun, L. Defo, D. Bastin, and P. Scholte. 2016. "Does Trophy Hunting Remain a Profitable Business Model for Conserving Biodiversity in Cameroon?" *International Forestry Review* 18 (2): 108–18.
- Li, L., and Z. Jiang. 2014. "International Trade of CITES Listed Bird Species in China." *PLOS One* 9 (2): e85012. <https://doi.org/10.1371/journal.pone.0085012>.
- Lindsey, P. A., G. Balme, M. Becker, et al. 2015. *Illegal Hunting and the Bush-Meat Trade in Savanna Africa: Drivers, Impacts and Solutions to Address the Problem*. New York: FAO.
- Lindsey, P. A., V. R. Nyirenda, J. I. Barnes, et al. 2014. "Underperformance of African Protected Area Networks and the Case for New Conservation Models: Insights from Zambia." *PLOS One* 9 (5): e94109. <https://doi.org/10.1371/journal.pone.0094109>.
- Lotter, W., and K. Clark. 2014. "Community Involvement and Joint Operations Aid Effective Anti-poaching in Tanzania." *Parks* 20 (1): 19–27. doi:10.2305/iucn.ch.2014.parks-20-1.wl.en.
- Maisels, F., S. Strindberg, S. Blake, et al. 2013. "Devastating Decline of Forest Elephants in Central Africa." *PLOS One* 8 (3): e59469.
- Marsden, S. J., E. Loqueh, J. M. Takuo, et al. 2015. "Using Encounter Rates as Surrogates for Density Estimates Makes Monitoring of Heavily-Traded Grey Parrots Achievable across Africa." *Oryx* 50 (4): 617–25. doi:10.1017/S0030605315000484.
- Mbairamadji, J. 2009. "De la décentralisation de la gestion forestière à une gouvernance locale des forêts communautaires et des redevances forestières au Sud-est Cameroun." *VertigO* 9 (1) (May).
- Mbété, R. A., H. Banga-Mboko, I. Njikam Nsangou, V. D. Joiris, and P. Leroy. 2007. "Gestion participative du sanctuaire de gorilles de plaine de l'Ouest (*Gorilla gorilla gorilla*) de Lossi en République du Congo–Brazzaville: Première analyse des résultats et des contraintes." *Tropicultura* 25 (1): 44–50.
- McConkey, K. R., S. Prasad, R. T. Corlett, et al. 2012. "Seed Dispersal in Changing Landscapes." *Biological Conservation* 146 (1). <https://doi.org/10.1016/j.biocon.2011.09.018>.
- Milder, J. C., A. K. Hart, P. Dobie, J. Minai, and C. Zaleski. 2014. "Integrated Landscape Initiatives for African Agriculture, Development, and Conservation: A Region-Wide Assessment." *World Development* 54: 68–80. doi:10.1016/j.worlddev.2013.07.006.
- Morin, A., Q. Meunier, C. Moubogou, S. Boldrini, and C. Vermeulen. 2014. "Entre permis forestier et permis minier: La difficile émergence des forêts communautaires au Gabon." *Parcs et Réserves* 68 (4): 16–22.
- Moussiessi Mbama, R., T. Ntounta, M. Mboulafini, A. B. Tsiba-Ngolo, and D. Ndinga. 2014. "Rapport 01/CAGDF: Observation Indépendante – APV FLEGT." Brazzaville.
- Muller-Landau, H. C., and B. C. Hardesty. 2005. "Seed Dispersal of Woody Plants in Tropical Forests: Concepts, Examples and Future Directions." In *Biotic Interactions in the Tropics: Their Role in the Maintenance of Species Diversity*, edited by D. Burslem, M. A. Pinard, and S. E. Hartley. Cambridge: Cambridge University Press.
- Naidoo, R., B. Fisher, A. Manica, and A. Balmford. 2016. "Estimating Economic Losses to Tourism in Africa from the Illegal Killing of Elephants." *Nature Communications* 7: 13379. doi:10.1038/ncomms13379.
- Naidoo, R., L. C. Weaver, R. W. Diggle, G. Matongo, G. Stuart-Hill, and C. Thouless. 2016. "Complementary Benefits of Tourism and Hunting to Communal Conservancies in Namibia." *Conservation Biology* 30 (3): 628–38.
- Nasi, R., and D. Rugabira. 2016. Préface to *La gestion inclusive des forêts d'Afrique centrale. Passer de la participation au partage des pouvoirs*, edited by G. Buttoud and J.-C. Nguinguiri. Libreville and Bogor: FAO and CIFOR.
- Nasi, R., A. Taber, and N. van Vliet. 2011. "Empty Forests, Empty Stomachs? Bushmeat and

- Livelihoods in the Congo and Amazon Basins.” *International Forestry Review* 13 (3): 355–68. doi:10.1505/146554811798293872.
- National Institute of Statistics of Rwanda. 2015. “Travel and Tourism.” Chapter 9 in *Statistical Yearbook 2015*. <http://www.statistics.gov.rw/file/4280/download?token=ZfgS8Bha>.
- Ndume-Engone, H.-C. 2010. “Analyse financière des impacts de l’exploitation du bois d’œuvre dans les économies villageoises du Sud-Cameroun.” Master’s thesis, ENGREF, Montpellier.
- Ngoumou Mbarga, H. 2013. “La gestion des forêts communautaires face au défi de la pauvreté et du développement rural.” *Vertigo* 13 (3) (December). doi:10.4000/vertigo.14448.
- Nguimbi, L. 2018. “Evaluation de l’étendue et de l’efficacité de la foresterie participative au Gabon.” Consultant report, FAO, Rome.
- Nguinguiri, J.-C. 2008. “Les performances des institutions de cogestion des aires protégées: Les leçons apprises du COGEREN au Congo.” In *La gestion concertée des ressources naturelles: L’épreuve du temps*, edited by P. Méral, C. Castellanel, and R. Lapeyre. Paris: GRET – Karthala.
- Nguinguiri J.-C., L. Boutinot, N. van Vliet, and G. Lescuyer. 2017. “Les communautés locales seront-elles un jour en ligne de front pour l’utilisation durable de la faune? Pour une approche graduelle de dévolution des droits.” In van Vliet, Nguinguiri, Cornelis, and Le Bel, *Communautés locales*, 231–44.
- Nguinguiri, J., R. Czumak, C. J. Larrubia, et al. 2017. “Managing Human-Wildlife Conflicts in Central and Southern Africa.” *Unasylva* 68 (249): 39–44.
- Nielsen, H., and A. Spenceley. 2010. “The Success of Tourism in Rwanda: Gorillas and More.” Background paper for the African Success Stories Study, World Bank, Washington, DC, and SNV. http://siteresources.worldbank.org/AFRICAEXT/Resources/258643-1271798012256/Tourism_Rwanda.pdf.
- Nkoke, S. C., J.-F. Lagrot, S. Ringuet, and T. Milliken. 2017. *Ivory Markets in Central Africa: Market Surveys in Cameroon, Central African Republic, Congo, Democratic Republic of the Congo and Gabon: 2007, 2009, 2014/2015*. Yaoundé, Cameroon, and Cambridge, UK: TRAFFIC.
- NRT (Northern Rangelands Trust). 2016. *NRT State of Conservancies Report 2016*. Isiolo, Kenya: NRT. <https://static1.squarespace.com/static/5653e896e4boa689b3fafd97/t/59defbe7e45a7cc3f16c0281/1507785833565/SoC+Report+2016+-+LowRes+-+Spreads.pdf>.
- Okello, M. M., R. Bonham, and T. Hill 2014. “The Pattern and Cost of Carnivore Predation on Livestock in Maasai Homesteads of Amboseli Ecosystem, Kenya: Insights from a Carnivore Compensation Programme.” *International Journal of Biodiversity and Conservation* 6 (7): 502–21. doi:10.5897/ijbc2014.0678.
- Olingo, A. 2017. “Alarm Bells as Africa’s Illegal Ivory Processing Centres Double.” *The East African*, November 9. <http://www.theeastafrican.co.ke/business/Africa-illegal-ivory-processing-centres-double/2560-4180032-j8a25r/index.html>.
- Ouallet, A., and P. Ouoko. 2012. “Le modèle du patrimoine mondial mis en tourisme à l’épreuve du développement durable: L’exemple de Dzanga-Sangha en République centrafricaine.” Paper prepared for the UNESCO Chair and UNITWIN Network “Culture, Tourisme, Développement” conference “Le tourisme: Moteur du développement durable des sites du patrimoine mondial?” Libreville, June 1–7.
- Payen, A. 2014. “Les habitants: Acteurs du développement dans les projets de mise en tourisme? Cas du Parc National de Loango au Gabon.” *Via*, no. 4–5 (May). <http://journals.openedition.org/viatourism/892>.
- Pellis, A., M. Lamers, and R. van der Duim. 2015. “Conservation Tourism and Landscape Governance in Kenya: The Interdependency of Three Conservation NGOs.” *Journal of Ecotourism* 14 (2-3): 130–44. doi:10.1080/14724049.2015.1083028.

- Persson, J., G. R. Rauset, and G. Chapron. 2015. "Paying for an Endangered Predator Leads to Population Recovery." *Conservation Letters* 8 (5): 345–50. <https://doi.org/10.1111/conl.12171>.
- Pooley, S., M. Barua, W. Beinart, et al. 2017. "An Interdisciplinary Review of Current and Future Approaches to Improving Human-Predator Relations." *Conservation Biology* 31 (3): 513–23. doi:10.1111/cobi.12859.
- Potts, M., L. C. Kelley, and H. M. Doll. 2013. "Maximizing Biodiversity Co-benefits Under REDD+: A Decoupled Approach." *Environmental Research Letters* 8 (2013): 024019.
- Poufoun, J. N., J. Abildtrup, D. J. Sonwa, and P. Delacote. 2016. "The Value of Endangered Forest Elephants to Local Communities in a Transboundary Conservation Landscape." *Ecological Economics* 126: 70–86. doi:10.1016/j.ecolecon.2016.04.004.
- Poulsen, J. R., S. E. Koerner, S. Moore, et al. 2017. "Poaching Empties Critical Central African Wilderness of Forest Elephants." *Current Biology* 27 (4). doi:10.1016/j.cub.2017.01.023.
- Pangolin Specialist Group. 2018. "A Voice for Central Africa's Pangolins." IUCN SSC Pangolin Specialist Group, January 17. <http://www.pangolin.org/2018/01/17/a-voice-for-central-africas-pangolins/>.
- Pyhälä, A., A. O. Orozco, and S. Counsell. 2016. *Protected Areas in the Congo Basin: Failing Both People and Biodiversity?* London: Rainforest Foundation UK.
- Rainforest Foundation UK. 2017. "Le nouvel élan de la foresterie communautaire en République centrafricaine: Opportunités, défis et enjeux de la gestion des forêts par les communautés locales et autochtones." London: Rainforest Foundation UK.
- Randolph, S., and D. Stiles. 2011. *Elephant Meat Trade in Central Africa: Cameroon Case Study*. Gland: IUCN.
- Rasolofoson, R., P. J. Ferraro, C. N. Jenkins, and J. P. G. Jones. 2015. "Effectiveness of Community Forest Management at Reducing Deforestation in Madagascar." *Biological Conservation* 184 (April): 271–77.
- Ravenelle, J., and P. J. Nyhus. 2017. "Global patterns and trends in human-wildlife conflict compensation." *Conservation Biology* 31 (6): 1247–56. doi:10.1111/cobi.12948.
- Redpath, S., S. Bhatia, and J. Young. 2015. "Tilting at Wildlife: Reconsidering Human-Wildlife Conflict." *Oryx* 49 (2): 222–25. doi:10.1017/S0030605314000799.
- Reeb, D. 1999. "Sustainable Forestry in Gambia: How Policy and Legislation Can Make Community Forest Ownership a Reality." *Entwicklung & Ländlicher Raum* 33 (5).
- Roe, D., ed. 2015. *Conservation, crime and communities: case studies of efforts to engage local communities in tackling illegal wildlife trade*. London: IIED.
- Roe, D., R. Cooney, H. Dublin, et al. 2017. "First Line of Defence: Engaging Communities in Tackling Wildlife Crime." *Unasylva* 68 (249): 33–38.
- Roger A., R. Calaque, and C. Doumenge. 2006. "Une évolution du potentiel écotouristique du Parc national des plateaux Batéké." *Bois et Forêts des Tropiques* 290 (4): 13–30.
- Rossi, M. 2008. "Évolution d'un projet de foresterie communautaire au Cameroun: La certification est-elle possible?" Thesis, AgroParisTech – ENGREF, Montpellier.
- Roulet, P. A. 2007. "La gestion communautaire de la faune sauvage comme facteur de reconsidération de la privatisation et de la marchandisation des ressources naturelles? Le cas du tourisme cynégétique en Afrique sub-saharienne." *Afrique contemporaine*, no. 222: 129–47.
- Rousselot Loridan, P. 2012. "Parc national de la Lopé Okanda relique: Entre tourisme, conservation et culture locale." Paper prepared for the UNESCO Chair and UNITWIN Network "Culture, Tourisme, Développement" conference "Le tourisme: Moteur du développement

- durable des sites du patrimoine mondial?" Libreville, June 1–7.
- Rights and Resources Initiative. 2015. *Protected Areas and the Land Rights of Indigenous Peoples and Local Communities: Current Issues and Future Agenda*. Washington, DC: RRI. http://rightsandresources.org/wp-content/uploads/RRIReport_Protected-Areas-and-Land-Rights_web.pdf.
- Sabogal, C., C. Besacier, and D. McGuire. 2015. "Forest and Landscape Restoration: Concepts, Approaches and Challenges for Implementation." *Unasylva* 245 (66): 3–10.
- Sachedina, H., and F. Nelson. 2010. "Protected Areas and Community Incentives in Savannah Ecosystems: A Case Study of Tanzania's Maasai Steppe." *Oryx* 44 (3): 390–98. doi:10.1017/S0030605310000499.
- Sartoretto E., A. Tomassi, and P. Karpe. 2017. "Analyse comparative des cadres juridiques régissant la gestion de la faune par les collectivités locales en Afrique centrale: Diversités et limites." In van Vliet, Nguinguiri, Cornelis, and Le Bel, *Communautés locales*, 55–82.
- Seymour, F., T. La Vina, and K. Hite. 2014. "Evidence Linking Community-Level Tenure and Forest Condition: An Annotated Bibliography." San Francisco: Climate and Land Use Alliance. http://www.climateandlandusealliance.org/wp-content/uploads/2015/08/Community_level_tenure_and_forest_condition_bibliography.pdf.
- Sommerville, M., J. P. Jones, M. Rahajaharison, and E. Milner-Gulland. 2010. "The Role of Fairness and Benefit Distribution in Community-Based Payment for Environmental Services Interventions: A Case Study from Menabe, Madagascar." *Ecological Economics* 69 (6): 1262–71. doi:10.1016/j.ecolecon.2009.11.005.
- Stiles, D. 2011. "Elephant Meat and Ivory Trade in Central Africa." *Pachyderm*, no. 50: 26–36.
- Strindberg, S., F. Maisels, E. A. Williamson, et al. 2018. "Guns, Germs, and Trees Determine Density and Distribution of Gorillas and Chimpanzees in Western Equatorial Africa." *Science Advances* 4 (4): eear2964. doi: 10.1126/sciadv.aar2964.
- SupplyShift. 2017. "A Better Future for Farmers and Elephants." SupplyShift, March 3. <https://www.supplyshift.net/news-and-blog/a-better-future-for-farmers-and-elephants/>.
- Swemmer, L., R. Grant, W. Annecke, and S. Freitag-Ronaldson. 2014. "Toward More Effective Benefit Sharing in South African National Parks." *Society & Natural Resources* 28 (1): 4–20. doi:10.1080/08941920.2014.945055.
- Thouless, C. R., H. T. Dublin, J. J. Blanc, et al. 2016. *African Elephant Status Report 2016: An Update from the African Elephant Database*. Occasional Paper Series of the IUCN Species Survival Commission, No. 60, IUCN/SSC Africa Elephant Specialist Group, Switzerland.
- TIES (The International Ecotourism Society). 2006. "TIES Global Ecotourism Fact Sheet." TIES, Washington, DC. <https://ibgeography-lancaster.wikispaces.com/file/view/TIES+GLOBAL+ECOTOURISM+FACT+SHEET.PDF>.
- Tilly, C. 1998. *Durable Inequality*. Berkeley: University of California Press.
- Twining-Ward, Louise. 2017. *Tourism for Development: 20 Reasons Sustainable Tourism Counts for Development*. Washington, DC: World Bank. <https://openknowledge.worldbank.org/bitstream/handle/10986/28388/119954-WP-PUBLIC-SustainableTourismDevelopment.pdf?sequence=1&isAllowed=y>.
- UNCTAD (United Nations Conference on Trade and Development). 2017. *Economic Development in Africa Report 2017: Tourism for Transformative and Inclusive Growth*. New York: UNCTAD. unctad.org/en/PublicationsLibrary/aldcafrica2017_en.pdf.
- Underwood, F. M., R. W. Burn, and T. Milliken. 2013. "Dissecting the Illegal Ivory Trade: An Analysis of Ivory Seizures Data." *PLOS One* 8 (10). doi:10.1371/journal.pone.0076539.

- UNODC (United Nations Office on Drugs and Crime). 2012. *Wildlife and Forest Crime Analytical Toolkit. Revised edition*. New York: UNODC. https://cites.org/sites/default/files/common/resources/pub/ICCWC_Toolkit_v2_english.pdf.
- . 2016. *World Wildlife Crime Report: Trafficking in Protected Species*. Vienna: UNODC.
- UNWTO (United Nations World Tourism Organization). 1996. *Tourist Safety and Security: Practical Measures for Destinations*. Madrid: UNWTO.
- . 2015. "Towards Measuring the Economic Value of Wildlife Watching Tourism in Africa." Briefing paper, UNWTO, Madrid. <http://cf.cdn.unwto.org/sites/all/files/docpdf/unwtowildlifepaper.pdf>.
- UNWTO and UNDP (United Nations Development Programme). 2017. *Tourism and the Sustainable Development Goals: Journey to 2030*. Madrid: UNWTO. <https://www.e-unwto.org/doi/pdf/10.18111/9789284419401>.
- Valimahamed A., G. Lescuyer, and R. Nasi. 2017. "Contributions de la chasse villageoise aux économies locales et nationales au Congo et en République démocratique du Congo." In van Vliet, Nguinguiri, Cornelis, and Le Bel, *Communautés locales*, 15–36.
- van der Wal, M., and E. Djoh. 2001. "Territoires de chasse communautaires: Vers une décentralisation de la gestion cynégétique." Document Réseau de foresterie pour le développement rural 25e, 42–47, Overseas Development Institute, London.
- Vanthomme, H., B. Bellé, and P.-M. Forget. 2010. "Bushmeat Hunting Alters Recruitment of Large Seeded Plant Species in Central Africa." *Biotropica* 42 (6): 672–79. doi:10.1111/j.1744-7429.2010.00630.x.
- van Vliet N., D. Cornelis, S. Ratiarison, et al. 2017. "Approche méthodologique pour la mise en œuvre de la gestion durable de la chasse villageoise." In van Vliet, Nguinguiri, Cornelis, and Le Bel, *Communautés locales*, 85–102.
- van Vliet, N., and P. Mbazza. 2011. "Recognizing the Multiple Reasons for Bushmeat Consumption in Urban Areas: A Necessary Step Toward the Sustainable Use of Wildlife for Food in Central Africa." *Human Dimensions of Wildlife* 16 (1): 45–54.
- van Vliet, N., J.-C. Nguinguiri, D. Cornelis, and S. Le Bel, eds. 2017. *Communautés locales et utilisation durable de la faune en Afrique Centrale*. Libreville, Bogor, Montpellier: FAO, CIFOR, CIRAD.
- Vidal, J. 2016. "The Grey Parrot and the Race Against Africa's Wildlife Extinction." *Guardian*, September 24.
- Vigne, L., and E. B. Martin. 2017. *Decline in the Ivory Trade in China in Anticipation of a Ban*. London: Save the Elephants.
- Wasser, S. K., L. Brown, C. Mailand, et al. 2015. "Genetic assignment of Large Seizures of Elephant Ivory Reveals Africa's Major Poaching Hotspots." *Science* 349 (6243): 84–87. doi:10.1126/science.aaa2457.
- WEF (World Economic Forum). 2016. *The Global Competitiveness Report 2016–2017*. Geneva: WEF. http://www3.weforum.org/docs/GCR2016-2017/05FullReport/TheGlobalCompetitivenessReport2016-2017_FINAL.pdf.
- Weintraub, K. 2018. "Elephants Are Very Scared of Bees. That Could Save Their Lives." *New York Times*, January 26.
- Wildlife Conservation Society Congo. 2017. "The Nouabale-Ndoki Foundation: A New Model for Park Management."
- Wilkie, D. S., and J. F. Carpenter. 1999a. "Bushmeat Hunting in the Congo Basin: An Assessment of Impacts and Options for Mitigation." *Biodiversity and Conservation*, no. 8: 927. <https://doi.org/10.1023/A:1008877309871>.
- . 1999b. "Can Nature Tourism Help Finance Protected Areas in the Congo Basin?" *Oryx* 33 (4): 332–38.
- . 1999c. "The Potential Role of Safari Hunting as a Source of Revenue for Protected Areas in the Congo Basin." *Oryx* 33 (4) 329–45.
- Wilkie D. S., M. Wieland, H. Boulet, et al. 2016. "Eating and Conserving Bushmeat in Africa." *African Journal of Ecology* 54: 402–14.
- World Bank. 2007. *Zambia: Economic and Poverty Impact of Nature-Based Tourism*. Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/210771468339895184/Zambia-Economic-and-poverty-impact-of-nature-based-tourism>.
- . 2014. *Getting Financed: 9 Tips for Community Joint Ventures in Tourism*.

- Washington, DC: World Bank. <https://openknowledge.worldbank.org/bitstream/handle/10986/21698/959240WP00PUBL050NamibiaonlineFINAL.pdf?sequence=1>.
- . 2017. “Republic of Congo – Poverty Assessment Report: Education, Jobs and Social Protection for a Sustainable Reduction of Poverty.” Washington, DC: World Bank.
- . 2018. *Doing Business 2018 Reforming to Create Jobs: Comparing Business Regulation for Domestic Firms in 190 Economies*. Washington, DC: World Bank. <http://www.doingbusiness.org/~media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB2018-Full-Report.pdf>.
- WRI (World Resources Institute). 2016. *Climate Benefits, Tenure Costs: The Economic Case For Securing Indigenous Land Rights in the Amazon*. Washington, DC: WRI.
- WTTC (World Travel and Tourism Council). 2017a. “Travel & Tourism Economic Impact 2017: Sub Saharan Africa.” WTTC, London. www.wttc.org/-/media/files/reports/economic-impact-research/regions-2017/subsahanafrica2017.pdf.
- . 2017b. “Travel & Tourism: Global Economic Impact & Issues 2017.” WTTC, London. <https://www.wttc.org/-/media/files/reports/economic-impact-research/2017-documents/global-economic-impact-and-issues-2017.pdf>.
- WWF (World Wide Fund for Nature). 2016. “Total Ban in Trade in Wild African Grey Parrots.” WWF, October 2. <http://wwf.panda.org/?279870%2FAfrican-Grey-Parrots>.
- WWF-Pacific. 2015. *Nature-Based Marine Tourism in the Coral Triangle Exploring the Potential for Low-Impact, High-Value Nature-Based Marine and Coastal Tourism*. Consultant report prepared by 2iis Consulting.
- Yanggen, D., K. Angu, and N. Tchamou. 2010. *Landscape-Scale Conservation in the Congo Basin: Lessons Learned from the Central African Regional Program for the Environment (CARPE)*. Gland: IUCN. <https://portals.iucn.org/library/efiles/documents/2010-037.pdf>.
- Zabel, A., G. Bostedt, and S. Engel. 2013. “Performance Payments for Groups: The Case of Carnivore Conservation in Northern Sweden.” *Environmental and Resource Economics* 59 (4): 613–31. doi:10.1007/s10640-013-9752-x.

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