

AFRICA'S PROTECTED NATURAL ASSETS

The importance of
conservation areas for
prosperous and resilient
societies in Africa

EXECUTIVE SUMMARY



GREEN VALUE

NATURAL CAPITAL IN AFRICA

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

UFZ HELMHOLTZ
Zentrum für Umweltforschung



GREEN VALUE

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The Green Value Initiative is the umbrella program of the German Federal Ministry for Economic Cooperation and Development (BMZ) on the value of nature in Africa. In providing multiple benefits such as clean air and water, productive soils, extreme weather and erosion protection, health benefits, and solutions to climate change, Africa's natural wealth is an important asset that contributes significantly to the continent's welfare and achievement of societal development goals. The Green Value Initiative supports its African partner countries and development institutions to integrate the value of these assets in decision-making. Its objective is to mainstream natural capital into policies and planning, financial markets and development finance, as well as measures of economic progress and national accounts (natural capital accounting). With that, the Green Value Initiative contributes to one of the key building blocks for transformative change towards nature-positive economies and development in Africa.

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Executive Summary

Africa's natural wealth underpins the continent's current and future welfare. In addition to natural resources this wealth encompasses a broad range of benefits from nature to society. These 'ecosystem services' include clean water for growing cities, insect pollination for agriculture, medicinal plant products for medication, tourism potential, and others. Yet many African countries are facing urgent development needs and follow pathways which translate into high pressures on their natural environments. Climate change further catalyses socio-ecological instability. This leads to biodiversity loss and ecosystem degradation and, in consequence, puts Africa's welfare and development potential at risk.

Diverse values in African societies have motivated conservation throughout the centuries, and still do today. This report takes on a different perspective: It uncovers the key role of conservation areas in protecting Africa's natural assets. In many regions, conservation areas constitute the 'ecological backbone' of multi-functional landscapes under pressure. A natural capital perspective sheds light on the multiple benefits they provide for African societies, in addition to protecting biodiversity.

This report (i) examines indicators of the state of natural capital in conservation areas; it (ii) analyses their current socio-economic importance for nine different sectors and policy areas, and (iii) explores their future role in satisfying societal needs. The report builds on a review of available evidence, new analyses of satellite imagery and international data sets, as well as six site-level case studies.

This evidence comes at a pivotal moment. The Covid-19 epidemic was caused by viral transmission from wild animals to humans. Its consequences around the world reveal the fragility of today's societies. Anthropogenic ecosystem change is one of the factors driving the risk of zoonotic diseases. In turn,

the social and economic impacts of the epidemic threaten development and conservation efforts, particularly in the Global South.

To halt the loss of nature, the world needs to embark on a decade of ambitious action, as envisaged in the new Global Biodiversity Framework of the Convention on Biological Diversity (CBD). The German Federal Ministry for Economic Cooperation and Development (BMZ) commissioned this study as a key component of its Green Value Initiative to accelerate ambition and action for protecting Africa's natural assets.

Key findings include:

I
Africa's prosperity and resilience depend on its vast natural wealth and properly functioning ecosystems. Conservation areas help to maintain these.

A significant proportion of African economies – including agriculture, the energy sector and tourism – relies heavily on resilient natural environments. The diverse benefits of more than 7000 conservation areas in Africa positively influence living conditions and development prospects far beyond their boundaries. About 30% of Africa's total population – more than 370 million people – live within 10 km of a conservation area today. They are affected by conservation areas in one way or another, benefiting from the ecosystem services they provide while also bearing their societal costs.

II
Africa's protected natural capital stocks are dwindling rapidly – and will likely continue to decrease if efforts are not intensified.

African conservation areas are only partially successful in conserving natural capital. Even though

they generally display a better environmental state than their surrounding landscapes, the situation has deteriorated significantly over the past two decades: In 40 African countries at least ¼ of total national protected land area shows signs of degradation. Inside conservation areas 6% of forest has been lost between 2000 and 2018 (deforestation rate outside conservation areas: 9%). And 8,5% of Africa's total cropland is located inside their boundaries (equivalent to 325,000 km²).

Degradation is projected to increase in all African regions. If the current trajectory continues, an additional 4% of total forested land inside conservation areas throughout Africa in 2018 will be lost by 2030 – more than 55,000 km². Total degrading conservation land area would increase by more than 40% between 2020 and 2030.

The eroding natural asset base inside and outside conservation areas is in stark contrast to the growing demand for provisioning, regulating and cultural ecosystem services.

III

Key economic sectors and policy areas in Africa depend on the ecosystem services provided by conservation areas.

WATER SECURITY: 30% of Africa's population is impacted by water insecurity; by 2050 this figure could double. Conservation areas facilitate ground water recharge, stabilize water flows and ensure better water quality. 40 out of the 50 largest reservoirs in Africa receive their water partly from conservation areas.

AGRI-FOOD SYSTEMS: Conservation areas provide benefits which agricultural landscapes are increasingly lacking, such as pollination, soil erosion control, genetic diversity and regional climatic conditions. More than ¼ of Africa's total cropland area – i.e. 1 million km² – is located inside conservation areas (8.5%) or within 10 km distance to them (20%). In West Africa alone, 226 million agriculturalists live and work within 20 km of a conservation area.

FISHERIES: Fisheries contribute 1.3% to African GDP and are of critical importance for food security. Yet overfishing is becoming prevalent. Marine conservation areas provide important nurseries for the replenishment of fish stocks. Five out of the top 10 African fishing nations prefer to fish closer to marine conservation areas.

HYDROPOWER: 19 African countries rely on hydropower for more than 50% of their total electricity production. Conservation areas across Africa reduce operating costs and prolong the economic life span of dams by limiting sedimentation in reservoirs. Eight of the largest hydropower dams in East Africa benefit from the watershed protection of conservation areas. Just one of them ensures 73% of Mozambique's total electricity production.

CITIES: At least 1240 African cities with 50,000+ inhabitants count on conservation areas. As 'green infrastructure', these (peri-)urban conservation areas make cities more resilient and liveable: They are needed for cleaner air, cooling, drainage, and opportunities for recreation and education.

TOURISM: Nature tourism accounts for 88% of Africa's overall tourism revenue. In 2015 African conservation areas attracted 70 million visitors and spending in excess of US\$50 billion. They sustained 8–10 million jobs in various related sectors. Despite the devastating impact of the coronavirus pandemic on tourism, increased conservation investments could create more than 370,000 additional jobs by 2030.

RESILIENCE TO NATURAL HAZARDS AND DISASTERS: Droughts, floods, sea level rise, storms and coastal erosion are set to worsen under climate projections for Africa. As 'nature-based solutions', conservation areas can address these risks, acting as natural buffers and green belts. For example, 54 million people face significant coastal risks, yet at least 11 million people currently benefit from the coastal protection of mangroves.

GLOBAL WARMING: African conservation areas cover only a fraction of Africa's forests and peatlands – yet they still contain enormous carbon stocks, locking away 14.9 Gt C in woody biomass and 46.1 Gt C in soils. Deforestation and ecosystem degradation

pose a threat to the very existence of these stocks. This implies significant societal costs of climate damage, estimated to be US\$ 8.7–10.9 billion annually until 2030 if threats are not reduced.

HEALTHY SOCIETIES: Conservation areas make diverse contributions to human health, including water safety, natural pest control, and the reduction of airborne diseases in arid regions. They also reduce the pandemic risk of zoonotic diseases such as Ebola. They are a source of medicinal plants used in primary healthcare across Africa.

These different benefits of conservation areas for society are not equally accessible, as use rights and tenure over protected natural assets differ from country to country. In addition, benefits accrue at different scales: local, national and global as well as private and public. Differentiating beneficiary groups accordingly can inform policy and finance options and at the same time needs to take into account that benefits are provided in interconnected bundles. While many synergies exist, maximising one benefit can come at the cost of losing others.

IV

It pays off to step up efforts and increase investments in the consolidation and extension of conservation areas.

The return on investment for protecting natural assets in Africa is undisputed. Benefit-cost estimates have been ascertained across the continent: up to 8:1 for Ethiopia's and Zambia's national protected area system, 9:1 for Namibia's. These calculations include only parts of the whole suite of benefits provided.

V

If well adapted to knowledge needs, natural capital assessments at site level help to respond to specific conservation management challenges.

As part of this report, additional natural capital assessments were carried out in collaboration with partners in selected conservation areas in

Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Madagascar, Mauritania and Morocco. When designed to respond to specific management challenges rather than as general inventories of 'nature's values', such assessments can provide useful insights for tasks such as area planning, conservation funding, or forging alliances for enhanced political support. For example, in Cote d'Ivoire, the Banco National Park was found to improve water quality for 64% of the city's groundwater – a key argument for strengthening the collaboration of park management with city and water authorities.

VI

Synthesis: An inclusive natural capital perspective calls for an expanded vision for conservation areas.

The natural capital of protected land- and seascapes will erode further, while already high demands for their natural assets will continue to grow. Current conservation approaches need to evolve in order to respond adequately to the speed and scale of environmental and societal change. Conservation will have to become more responsive to society's diverse demands for natural capital and progressively accommodate a broader set of goals, in addition to protecting biodiversity. Conservation actors will benefit from additionally embracing the role of 'stewards of public benefits from nature' in development planning. Their ecological knowledge and their expertise in addressing tensions between competing interests are highly relevant beyond conservation area boundaries. In this vision, they play a key role in renegotiating where and how the multiple societal dependencies on natural capital should be addressed and how practices leading to natural capital loss should be stopped. They will also have to address the environmental injustices related to these practices.

VII

Recommendations

An expanded conservation vision is a necessary response to Africa's sustainability challenges over the coming decade. The aim of the following recommendations is to prepare the ground for this transition:

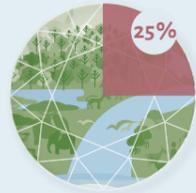
1. **Make nature's values a crucial factor in politics: Highlight the importance of natural assets for societal prosperity and human well-being.** Healthy landscapes and conservation areas are not an obstacle to development; on the contrary, they contain key assets that support it. More natural capital and ecosystem services assessments are needed to show where these assets are being lost and what the impacts of such losses are. This perspective is critical for elevating nature conservation and protected natural assets in political attention and decision-making.
2. **Connect conservation areas with societal and economic development priorities and establish their role as nature-based solutions.** At least nine economic sectors and societal areas benefit from protected natural assets. An inclusive natural capital perspective equips conservation actors to reach out to relevant sectors. Conservation areas should thereby not only be considered at the level of single sites but become integral to development and sector planning per se. This perspective in addition helps to identify gaps in currently unprotected land and sea areas that are critical for providing natural capital flows to those sectors. Ambitions for expanding conservation area land (as e.g. the 30x30 goal) should consider these gaps.
3. **Enhance the fair governance of conservation areas: Use evidence regarding natural capital in negotiations around the use and management of natural assets.** More plural conservation pathways are better equipped to accommodate and respond to society's multiple demands on a landscape than restrictive protection-based approaches. Recognizing the rights and livelihood

needs of all people is at the heart of society-oriented nature conservation, which embraces human rights and social justice as foundational principles. This calls for more flexible conservation area objectives, and more space for crafting solutions regarding how and by whom these objectives are to be pursued.

4. **Link conservation finance more closely with climate, agriculture, infrastructure and post-pandemic recovery finance.** Africa's conservation areas need to be understood as a strategic long-term investment in the future of the continent but underfunding and lack of sustainable finance seriously risk the protection of natural assets. To attract funding from other sources such as climate, agriculture, infrastructure and post-pandemic recovery finance, conservation actors should team up with those entitled to and familiar with the respective funding and better argue their cases.
5. **Shape debates on sustainable development solutions not just within but also beyond conservation areas.** Dramatically changing ecological conditions demand active involvement in policy and planning choices. A democratic re-shaping of society-nature relations is needed, both within and beyond conservation areas: Societies' demands for nature's benefits are rising sharply – yet degrading landscapes will fail to meet them. This trajectory will require transformative changes and bold steps away from past mistakes, for example in agricultural policies. Now is a key opportunity to extend the conservation mission to contribute toward wider societal transformations leading to sustainability. Agri-food systems and urban areas will be principal fields for this transformation. With their ecological knowledge and social expertise, conservation actors can be key players in forging the societal alliances required to meet this challenge.

AFRICA'S PROTECTED NATURAL ASSETS

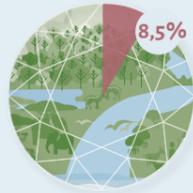
PROTECTED NATURAL CAPITAL STOCKS ARE AT RISK TODAY...



DEGRADATION:
40 COUNTRIES: ¼ OF CONSERVATION AREA LAND IS DEGRADING.



DEFORESTATION:
6% OF CONSERVED FORESTS WERE LOST SINCE 2000.

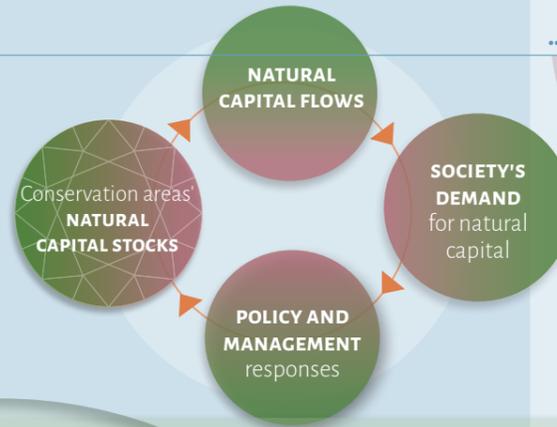


LAND USE CHANGE:
8,5% OF AFRICA'S CROPLAND IS INSIDE CONSERVATION AREAS

THE CONSERVATION CHALLENGE

Today, 30% of Africans live close to conservation areas. While urgent development needs translate into high pressures and threaten their ecological integrity, the multiple benefits they provide are poorly understood, their value as natural asset is hence largely unrecognized.

A **INCLUSIVE NATURAL CAPITAL PERSPECTIVE** helps to better understand society's dependence on nature:



...AND WILL LIKELY CONTINUE TO DEGRADE IF EFFORTS ARE NOT INTENSIFIED

FOREST LOSS IN CONSERVATION AREAS
WILL INCREASE TO UP TO **10%.**

DEGRADED CONSERVATION LAND AREA
WILL INCREASE BY MORE THAN **40%.**

INVESTING IN NATIONAL PROTECTED AREA SYSTEMS PAYS OFF, **BENEFIT-COST RATIOS** ARE IN THE ORDER OF E.G.:

- 8:1** IN ETHIOPIA
- 8:1** IN ZAMBIA
- 9:1** IN NAMIBIA

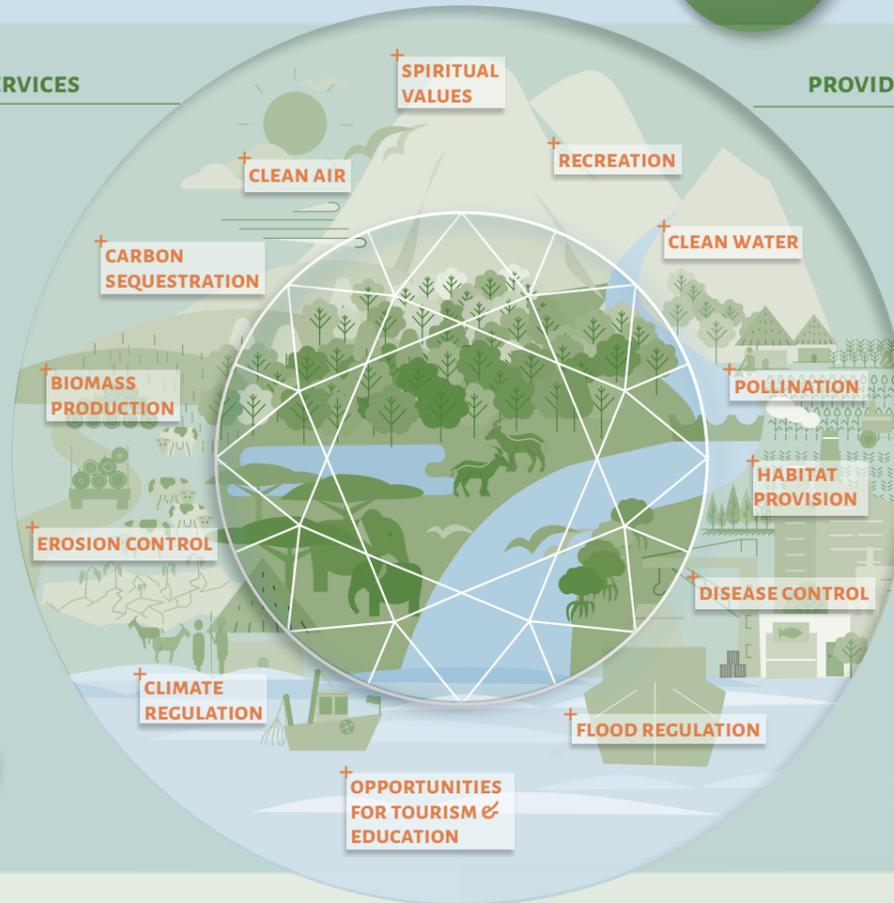
KEY ECONOMIC SECTORS AND POLICY AREAS IN AFRICA DEPEND ON ECOSYSTEM SERVICES PROVIDED BY CONSERVATION AREAS

GLOBAL WARMING
African conservation areas lock away carbon stocks in excess of 60Gt. Reducing deforestation and degradation would avoid social costs of climate damage of US\$ 8.7–10.9 billion annually until 2030.

TOURISM
Nature tourism generates 50 billion \$/year and 10 million jobs. Wildlife tourism accounts for 88% of total annual revenues for trips to Africa.

FISHERIES
5 out of the top 10 African fishing nations prefer to fish closer to marine conservation areas.

DISASTER RISK REDUCTION
More than 11 million people benefit from the coastal protection provided by mangroves – however, only 34% of Africa's mangroves are protected.



HYDROPOWER
Conservation areas provide clean and stable water for 8 large hydropower facilities in East Africa, safeguarding up to 73% of national electricity production.



WATER SECURITY
40 of Africa's 50 largest reservoirs receive their water partly from conservation areas.



PUBLIC HEALTH
Conservation areas slow down deforestation, lowering the incidence and spread of Malaria and zoonotic diseases such as Ebola.



RESILIENT CITIES
Conservation areas make more than 1.200 African cities more resilient and liveable by providing clean air and regulating local climate, among other benefits.



AGRI-FOOD SYSTEMS
28,5 % of Africa's total cropland area – i.e. 1 million km² – is located inside conservation areas (8,5%) or within 10 km distance to them (20%) benefiting from their services.

APPLYING AN INCLUSIVE NATURAL CAPITAL PERSPECTIVE IN SIX AFRICAN COUNTRIES

MOROCCO: ARGANERAIE BIOSPHERE RESERVE
Land use and water scarcity connect people and ecosystems from the mountains to the coastline

MAURETANIA: DIAWLING NATIONAL PARK
Using evidence from fisheries and other park benefits to position a RAMSAR site within a regional development context

COTE D'IVOIRE: BANCO NATIONAL PARK
Urban national park prevents water pollution and shut down of adjacent wells

ETHIOPIA: BORENA SAYINT, CHEBERA CHURCHURA, BALE MOUNTAINS AND SIMIEN MOUNTAINS NATIONAL PARKS
Investing in Ethiopia's protected natural assets pays off economically and socially

DEMOCRATIC REPUBLIC OF THE CONGO: LOMAMI NATIONAL PARK
Developing the profile of the relatively new park as a source of local livelihoods and other benefits

MADAGASCAR: ANKARAFANTSIKA NATIONAL PARK
Modelling erosion and hydrological systems shows how the park contributes to regional water and food security

AN EXPANDED CONSERVATION VISION

CONSERVATION IS POORLY EQUIPPED FOR SPEED AND SCALE OF ENVIRONMENTAL AND SOCIETAL CHANGES. IT WILL HAVE TO EVOLVE FROM AN ENVIRONMENTAL TO A SUSTAINABLE DEVELOPMENT ISSUE:

1. It pursues a broad set of goals – beyond biodiversity – to also ensure the supply of natural capital benefits.
2. Conservation areas are an integral part of multifunctional landscapes with natural assets maintained also beyond their boundaries.
3. This requires diverse combinations of conservation area goals, governance, and management, together with non-area-based approaches.
4. Governments, donors and practitioners promote, fund and pursue these multiple conservation pathways.
5. Conservationists also act as 'stewards of public benefits from nature'.

POLICY RECOMMENDATIONS

