



Nature: an economic asset

The facets of an African economy based on wildlife resources



Watching gorillas. Picking wild mangos. Trading carbon credits from a reforestation project... What do those activities have in common? Two things: they are all based on wildlife, and they can all contribute to the African economy

What is the Wildlife Economy?

Natural resources including wildlife can be real assets to support the economy . Governments and private stakeholders could benefit from investing more in nature conservation. But still too little is known about the economic contribution of wildlife to local, national and regional economies in Africa.

To fill this gap, a pool of researchers from the **School of Wildlife Conservation** (SOWC) at the African Leadership University (ALU), in collaboration with the **BIOPAMA team** from the European Commission's Joint Research Centre (JRC), published in March 2021 a report on the **State of the Wildlife Economy in Africa**.

The Wildlife Economy uses wildlife –undomesticated plants and animals, both marine and terrestrial– as an economic asset to create value that aligns with conservation objectives and delivers sustainable growth and economic development. (definition adopted in the ALU report)

This narrative presents the "Big Five" wildlife economy activities to better understand and communicate their value; it explores ways to unlock their potential, by tackling both private and public investments, and improving support to policies.

The "Big five" activities

The abrupt collapse of tourism due to the COVID-19 pandemic highlighted the risks of a high dependence on tourism revenues for African countries, the inadequacy of resources for conservation in Africa and the need to diversify wildlife economy activities. Five activities are the focus of the ALU report:

- Ecotourism
- Carbon market
- Hunting & fishing
- Wildlife ranching
- Non-timber forest products (NFTPs)

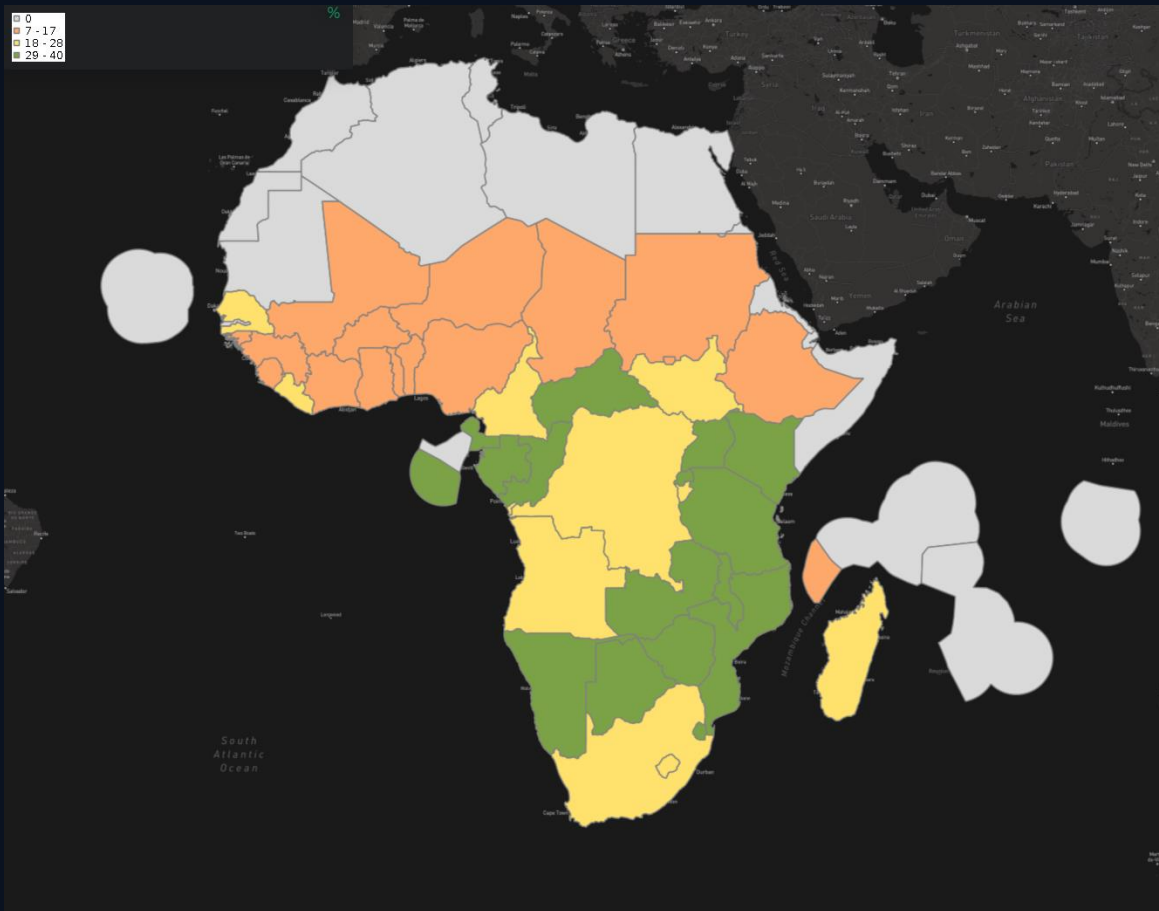
ECOTURISM

Ecotourism is a non-consumptive tourism, an activity where the good or service is not actually consumed or removed. Tourism in Africa is predominantly driven by wildlife-watching. Statistics on leisure tourism spending weighted by natural resources are often used as an approximation for nature-based tourism. The map shows its mean contribution to GDP in the period 2017-2019 (WTTC). Overall, in 2019, travel and tourism in Africa contributed to a total of 7.1% GDP and 24.6 million jobs (World Bank, 2020).



In Rwanda, more than 80% of the tourism revenue comes from ecotourism (close to US\$ 500 million in 2019) and the core product driving economic growth is the gorilla trekking experience in the Volcanoes National Park

In Kenya, (eco)tourism is also the major wildlife economy activity. Over 2 million tourists visited wildlife areas in 2019 earning the country US\$ 1.03 billion (approximately 1.1% GDP).

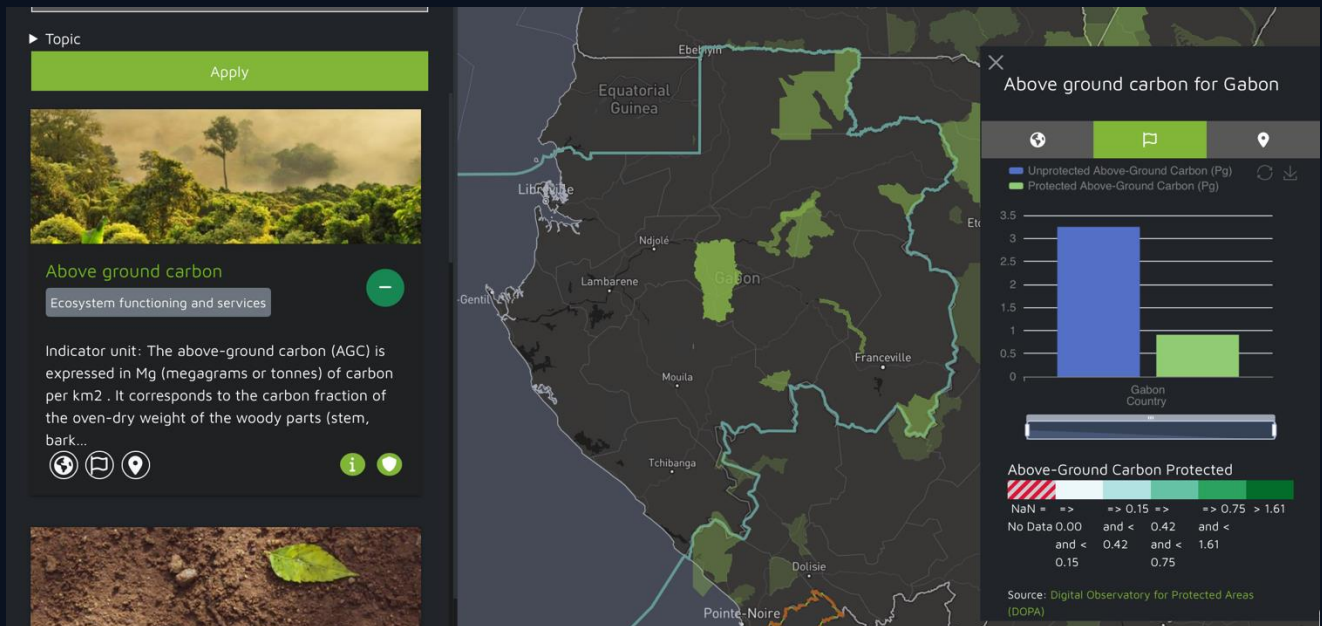


What is the potential for wildlife-watching tourism in African countries?. Number of occurring species/groups is weighted by specific scores of attractiveness and encounter easiness. The index is calculated as the spatial median of the gridded weighted species richness for each country, to account for species distribution variability and relative distribution extent within the country. This way, higher score are given to countries with a high number of wildlife watching species over a larger extent than in a few spots.:

CARBON MARKETS

The carbon market trades greenhouse gas emissions to help fight climate change by reducing emissions and sequester carbon. Carbon trading and carbon pricing represent important policy and financing tools for facilitating climate mitigation but also conservation actions, notably implementing nature-based solutions and preserving natural ecosystems acting as carbon sinks.

African countries are engaged in efforts to reduce emissions at national and global levels. They can earn carbon credits from the implementation of **REDD+** (reduced emissions from deforestation and forest degradation). They can decide how to allocate financial and non-financial benefits to various stakeholders and policies, and tackle for example nature protection and developing wildlife economy activities.



BIOPAMA RIS

Gabon has more than 88% forest cover and a unique wildlife. Such a large (forest) carbon stock offers a unique opportunity to receive carbon credits but a carbon market is not yet in place at national level. But the country could receive up to US\$ 150 million under the Central African Forest Initiative (CAFI) if it meets its commitments to control CO₂ emissions by not deforesting over the period 2016-2025. Gabon is the first African country rewarded for both reduction of forest related emissions and absorption of carbon by natural forests

HUNTING AND FISHING



Activities includes trophy hunting, game meat hunting, as well as some aspects of fishing, such as artisanal, recreational or small-scale fishing.

Hunting is one of the largest revenue contributors to the wildlife economy in South Africa. 85% of hunting revenues come from domestic hunters, mostly for subsistence use. In 2018, local hunters contributed approximately US\$ 700 million and foreign hunters approximately US\$ 123 million. Most of the value of the

hunting sub-sector comes from ancillary goods and services such as equipment, transport, accommodation and taxidermy.

WILDLIFE RANCHING

This includes the breeding of wild/indigenous animals for hunting, game meat, wildlife products, tourism, and other uses. This activity is largely underdeveloped in Africa while it has the potential to provide landowners with a mean to diversify economic activities on their land, generate revenues, create employment and if managed correctly, contribute to conservation. The size of the illegal game meat trade indicates a significant demand for game meat and the potential size of a legal market.



In **South Africa**, wildlife ranching properties have increased in number and size over the last 100 years. This has probably played an important role in preventing

the extinction of species such as rhino, bontebok, black wildebeest and Cape mountain zebra. There are an estimated 8,979 wildlife ranches in South Africa. In 2014, the direct contribution of wildlife ranching was approximately US\$ 438 million.

NON-TIMBER FOREST PRODUCTS (NTFPs)

NTFPs designate “goods derived from forests that are tangible and physical objects of biological origin other than wood” (FAO, 2010). Some two-thirds of Africans use a wide range of NTFPs for direct subsistence household consumption (food, medicine, energy supply, cash income, construction, cultural and spiritual purposes). Most trade is informal and difficult to track and value, although it is estimated to be worth billions of dollars.








The shea tree (*Vitellaria paradoxa*) is indigenous to many countries in sub-saharan Africa. Economically, shea nuts are the second-most important non-timber forest product in Africa's Sahel region. Shea butter, the main product, is used extensively in food, pharmaceutical and cosmetic industries. The exact size of the domestic market in Africa is not known due to data limitations. But Ghana is one of the largest exporters, selling about 30,000 MT of shea butter annually.

ECONOMIC VALUE AND POTENTIAL

What is the value of the wildlife economy across Africa? Difficult to say!

The wildlife economy includes a variety of activities from different sectors. Very few countries have a good understanding of its value at national level. Some activities are only reported at local level. Information is piecemeal, when available solely from projects or depending on funds.

Data for the continent is largely inconsistent, incomparable, and often quite old. The collaborative process synthesised management effectiveness and, in less than a week, gave participants an immediate summary of management strengths and weaknesses. At the European Commission's Joint Research Centre (JRC), economists have developed **Social Accounting Matrices** (SAM) to analyse economic sectors. SAM represent flows of all economic transactions that take place within an economy for a specific period of time. The SAM is available for many African countries but economic activities are not yet disaggregated enough to show each of the wildlife economy activities separately. Data at a higher degree of granularity would be needed to do so. Furthermore, some subsistence economy activities depending on wildlife are simply not represented at all in national accounting

		Ghana (2015) Output in Millions of Ghanaian Cedis	Kenya (2017) Output in Millions of Kenya Shilling	Côte d'Ivoire (2015) Output in Millions of CFA francs	Senegal (2014) Output in Millions of CFA francs	Ethiopia (2015/2016) Output in Millions of Ethiopian Birr
	Livestock	3,422	331,339	140,734	208,617	56,169
	Fishing & aquaculture	1,722	48,701	60,072	237,984	1,080
	Forestry	3,747	83,104	313,892	105,477	87,754
	Fats and oils (incl. shea butter)	1,520	-	-	-	-
	Hevea	-	-	301,473	-	-

Outputs from selected sectors that include some wildlife economy activities for five African countries, in local currencies. "

Livestock is mainly about terrestrial animal production (raising and breeding) but can include hunting, trapping and related service activities (though it excludes recreational hunting and promotion activities). *Fishing and aquaculture* is mainly about capture fishery and aquaculture, and covers the use of fishery resources from marine, brackish or freshwater environments also for traditional or small-scale fishing (but again excludes recreational fishing). *Forestry* is mainly about timber production but also includes the extraction and gathering of wild growing non-wood forest products, in natural or planted forests. *Fats and oils* includes the manufacture of crude and refined fats and oils from vegetable (like shea butter) or animal materials. The *Hevea* sector is relevant for the natural rubber derived products.

Sources Ghana SAM 201 Kenya SAM 2017 , Côte d'Ivoire SAM 2015, Senegal SAM 2014, Ethiopia SAM 2015/16

What we do know is that Africa has a huge potential

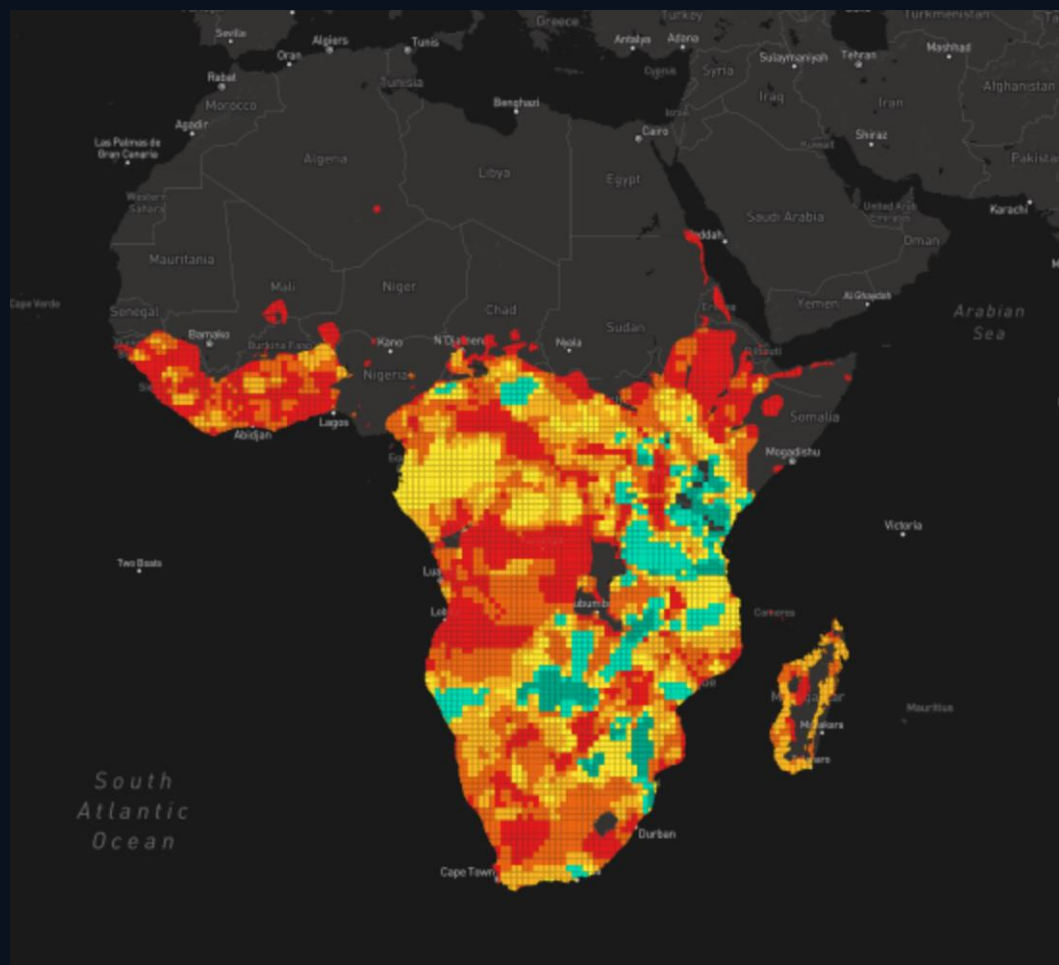
With the largest mammal species assemblages on Earth, the second-largest tropical rainforest and three of the most productive marine ecosystems in the world, Africa is extraordinarily rich and diverse in wildlife resources. And these natural assets have an immense (potential) economic value!



This map shows the extent of **African biomes**

Savannah (light yellow) is dominant. It covers about 13 million km², that is 43% of the continent. 60% of its **population** depend on wildlife resources for their livelihoods.

But wildlife resources are vulnerable. Their loss and decline – already happening due to mostly human induced pressures – constitutes a serious loss of economic value. Their protection and conservation are the major strategy to maintain biodiversity and the provision of ecosystem services (e.g. carbon, food, medicine, recreation) with economic benefits.



Wildlife watching species richness index in Africa. Where are the best places to spot the most iconic wildlife-watching species? The grid layer represent a richness index of top wildlife watching species/groups, including Rhinos, Elephant, Lion, Leopard, Buffalo, Giraffe, Lowland and Mountain Gorilla, Chimpanzees, Bonobo, Sifaka, Ringtails, Aye-Aye, Mouse lemurs and Colobus. Number of occurring species/groups is weighted by specific scores of attractiveness and encounter easiness and calculated over a 0.5degrees-mesh grid

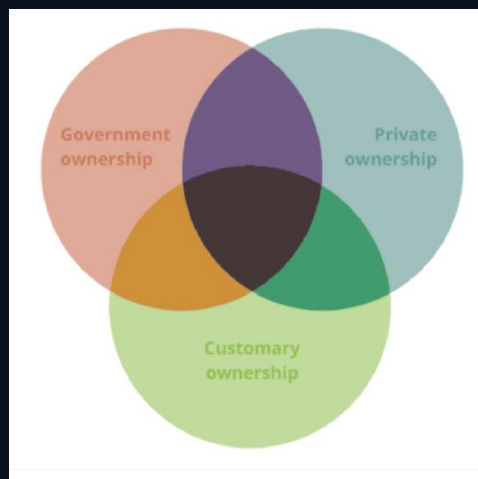
Ecotourism, and tourism in protected areas in particular, can have a key role in supporting conservation of wildlife resources and socio-economic development. Leisure tourism in Africa is largely driven by wildlife-watching. The map shows the richness in wildlife-watching species, with higher scores (warmer shades) given to regions with a high number of species over large areas. Species include buffalos, elephants, lions, leopards, rhinos, giraffes, lemurs, apes and monkeys.

Unlocking value through investment

Although Africa has considerable natural wealth, this does not automatically translate into economic growth. As with other economic sectors, the wildlife economy must be unlocked by strategic and sufficient investment and guided by effective and clear policies and strong institutions.

Other economic sectors understand the need for upfront investment. For example, rich mineral deposits will not create economic wealth on their own. Ore must enter formal markets, where buyers and sellers are protected by tailored laws and regulations. Like mines need infrastructure to extract and process ore, building an economy based on natural assets relies on land access, ownership rights, and infrastructure to grow. Encouraging investment in the wildlife economy requires a few steps:

Step1: Before anyone can benefit from the wildlife economy, they first need to establish who owns the wildlife assets. No one will invest capital without the certainty that they have ownership over the proceeds from their investments



Many African countries only have laws in place to grant ownership rights only to governments and traditional communities. This inhibits private investment in the wildlife economy.

Other countries, like Tanzania, Malawi and Botswana grant rights only to governments and private entities. While this can attract public and private

investment, it risks excluding traditional communities from accessing natural resources.

Finally, some countries mostly concentrated in southern Africa are able to grant ownership to governments, private entities and traditional communities. This creates a legal environment that supports both public and private investment in the wildlife economy, while also protecting the rights of local communities.



Step 2: Natural capital accounting. Once ownership of natural assets is clear, it becomes important to quantify the assets. As we saw earlier, economists understand the importance of accounting principles to track income, expenses and profits. Now scientists are using these same principles to track natural wealth.

The United Nations has established the **System for Environmental Economic Accounting** to formally track stocks of natural capital, like ecosystems and species. These stocks can then be integrated into conventional economic accounting systems.

The European Union funds the **Natural Capital Accounting and Valuation of Ecosystem Services Project**. This pilot project focusses on five countries, including one in Africa, and aims to:

- Test existing methods for natural capital accounting;
- Mainstream natural accounts in broader policy planning;
- Contribute to developing an international standard for natural capital accounting in other countries

Step 3: Encouraging private investment. After ownership has been defined and natural capital stocks have been quantified, the next step is to support broad participation and stimulate investment in the wildlife economy. Dedicated fiscal policies could help. For the private sector, tax exemptions or rebates could encourage investment. Similarly, removing harmful subsidies for other land-uses makes investment in the wildlife economy more attractive.

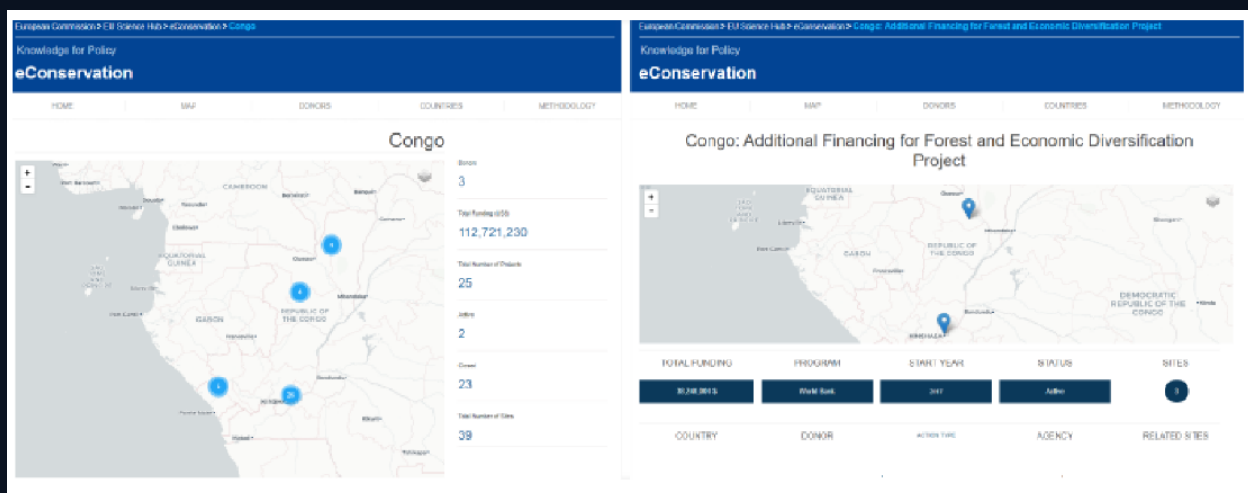
For example, research on the wildlife ranching industry in Zambia suggests that government could jumpstart the wildlife economy by providing loan securities or subsidising start-up costs. Small adjustments in subsidies and exemptions could be an economic tipping point for the shift from livestock farming to wildlife ranching.

In addition to property rights and fiscal incentives, governments can encourage private investment in the wildlife economy by offering direct support to investors. Examples include anti-poaching initiatives to prevent game theft, or upgrading public conservation areas to create economic multipliers for adjacent landowners.

Public investments

For wildlife resources to deliver a sustainable flow of benefits to African countries, they must be effectively managed. Governments must also scale up efforts to safeguard wildlife resources. Many important natural assets with immense economic value are still unprotected/not conserved. Investing in protected and conserved area management and species conservation is good business for African governments because it delivers competitive returns on investment. The **eConservation** application developed by JRC can come handy for supporting decision-making on biodiversity conservation.

<https://econservation.jrc.ec.europa.eu>



Country dashboards (left) summarize statistics related to projects location, objectives, timeframe, budget, and the organizations involved. Project pages (right) give detail on project funding, donor, action types. eConservation also provides summary statistics at donor, country, ecoregion or protected area level.

Policy Context

The wildlife economy is still nascent in Africa. But the shifting policy landscape points towards tremendous growth in the upcoming decade.

The Global Biodiversity Framework

The post-2020 Global Biodiversity Framework in preparation under the Convention on Biological Diversity speaks directly to different aspects of the wildlife economy in the following action targets:

Target 5

Ensure that the harvesting, trade and use of wild species is sustainable, legal, and safe for human health

Target 9

Ensure benefits, including nutrition, food security, medicines, and livelihoods for people especially for the most vulnerable through sustainable management of wild terrestrial, freshwater and marine species and protecting customary sustainable use by indigenous peoples and local communities.

Target 14

Fully integrate biodiversity values into policies, regulations, planning, development processes, poverty reduction strategies, accounts, and assessments of environmental impacts at all levels of government and across all sectors of the economy, ensuring that all activities and financial flows are aligned with biodiversity values.

Target 18

Redirect, repurpose, reform or eliminate incentives harmful for biodiversity, in a just and equitable way, reducing them by at least US\$ 500 billion per year, including all of the most harmful subsidies, and ensure that incentives, including public and private economic and regulatory incentives, are either positive or neutral for biodiversity.

The EU Biodiversity Strategy

The European Union's Biodiversity Strategy for 2030 recognises the significance of the wildlife economy:

"The business case for biodiversity is compelling. Industry and companies rely on genes, species, and ecosystem services as critical inputs for production, notably for medicines. Over half of global GDP depends on nature and the services it provides, with three key economic sectors – construction, agriculture, and food and drink – all highly dependent on it."

As part of Pillar 4 in the EU Biodiversity Strategy, the European Union commits to raising the level of ambition worldwide by focussing specifically on initiative in the African wildlife economy:

"This will be part of its work on biodiversity conservation, restoration, sustainable use and mainstreaming in all development and partnership policies... In Africa, the EU will launch the NaturAfrica initiative to protect wildlife and key ecosystems while offering opportunities in green sectors for local populations."

[Read the strategy](#)

The AU Green Recovery Action Plan

The African Union (AU) realises the significance of nature in supporting the post-Covid economic recovery. As a first step, the AU acknowledges the importance of understanding the role of natural capital when evaluating national wealth:

"Effective management and legal sustainable use of wildlife improves the livelihood of local communities, strengthens their resilience to the adverse impacts of climate change as well as contributing to national economies. Just as importantly, it turns the wildlife into an asset rather than a liability to the rural communities that live with the wildlife."

In order to mainstream wildlife into the broader economy, the AU Green Recover Action Plan aims to:

"Support the development and application of tools to better integrate nature and natural capital including biodiversity in national, sectoral and urban recovery and development strategies and plans."

[Read the Action Plan](#)



<https://africa-knowledge-platform.ec.europa.eu/>

This StoryMap was compiled for the Africa Knowledge Platform, a project of the European Commission's Joint Research Centre.

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Related publications

[State of the Wildlife Economy in Africa report](#) by the School of Wildlife Conservation, 2021

[EC-JRC , 2021. Legal notice](#)