



PART 1:

Research support to African protected areas

Why it is important to contribute to the scientific understanding of African protected areas?

One might wonder why the European Union, International bodies and dedicated African Regional Observatories support knowledge on African protected areas. The following chapters examine:

- The essential role African protected areas play in achieving global biodiversity goals;
- The evolving landscape of international collaboration, and an insight on the long history of the European Union's support through funding, research, and partnerships;
- Continuously increasing knowledge from the scientific community and opportunities to strengthen evidence-based conservation by addressing remaining knowledge gaps;
- The contribution of international frameworks and agreements to coordinated efforts for biodiversity conservation;
- Innovative methodologies to study Africa's diverse network of protected areas, and particularly consider challenges of their analysis at the continental scale.

 Namaqua chameleon, Namib Desert, Namibia.
Source: Yathin S Krishnappa on Wikimedia Commons under CC BY SA 3.0 DEED.

1.1 The changing roles of African protected areas for people and nature

1.1.1 Why Africa is critical to achieving global conservation goals

It is impossible to meet global conservation commitments without Africa. Africa's long evolutionary history has resulted in ecosystems and species that are ecologically and biologically unique. However, the continent's young population faces distinct development challenges, so striking the right balance between nature conservation and economic and social development is as important as ever.

Africa's biodiversity is unique

The species and ecosystems in Africa are unique in two distinct ways¹. First, African biodiversity differs from that of the rest of the world. Roughly 70% of the more than 7 300 African species assessed by the IUCN Red list of Threatened species occur nowhere else on earth². This means that their disappearance from Africa would also mean global extinction. Second, biodiversity is highly variable within the continent. For instance, Eastern Africa and its adjacent islands are home to 1 457 species that occur nowhere elsewhere in the continent.

African species assessed by IUCN Red List:

Sub-regional endemics		Endemics
East Africa + adjacent islands 1457	Central Africa 345	Pan-African endemics 2927
	West Africa 298	
Southern Africa 765	North Africa 62	
Non-endemics 2273		

Endemic species in Africa.

Roughly 70% of the more than 7 300 African species assessed by the IUCN Red List of Threatened species occur nowhere else on earth. Many of these are restricted to sub-regions within the continent (here sub-regions are based on delineations used by the Intergovernmental Science Policy-Platform for Biodiversity and Ecosystem Services).

Source: Brooks, T.M. et al. (2016) Analysing biodiversity and conservation knowledge products to support regional environmental assessments. *Scientific Data*, 3, art. 160007.

Nine of the world's 36 global Biodiversity Hotspot are within Africa³. These hotspots are areas with exceptionally high concentrations of endemic species, but which also experience exceptional habitat loss. Despite the relatively small areas of these hotspots, they contain disproportionately high numbers of endemic species. For example, the Cape Floristic Region in southern Africa covers just 74 000 km², but contains approximately 1.9% of all known plant species³.



Biodiversity hotspots.

The fynbos biome of the Cape Floristic Region is one of nine Biodiversity Hotspots in Africa. Despite covering just 74 000 km² (roughly 0.15% of global land area), this biome contains more than 5 600 endemic plant species that occur nowhere else on earth (approximately 1.9% of all known plant species).

Source: Abu Shawka on Wikimedia Commons under CCO 1.0.

A unique evolutionary history

The reason for Africa's remarkable biodiversity is its unique evolutionary history. The continent straddles the equator, which means that it covers a long climate gradient that includes the tropical forests of the Congo and the hyper-arid Sahara and Namib Deserts at higher latitudes. However, while different parts of the continent may have similar climatic conditions today, they had very different climatic histories. For example, while the Namib has been desert for millions of years, the Sahara contained rangelands as recently as the Holocene Climate Optimal, roughly 6 000 years ago⁴. These historical biogeographical patterns are presumably the reason African species were able to withstand the late Pleistocene (~22 000 years ago) extinctions that affected the rest of the world⁵. In Africa, evolutionary ancient paleo-endemic species exist alongside recently evolved neo-endemics, indicating that African ecosystems are both evolutionary cradles and museums⁶. This mixture of evolutionary process has resulted in assemblages of species unlike anywhere else on earth.



A distinct evolutionary history.

The aardvark, *Oryzomys afer*, an insectivorous mammal endemic to sub-Saharan Africa, is one of the most evolutionary distinct mammals on earth. It is the only living species in the order Tubulidentata (for comparison, humans are just one of more than 500 species in the order Primates), and its closest relatives have been extinct since the Pleistocene (10 000 to 2 million years ago).

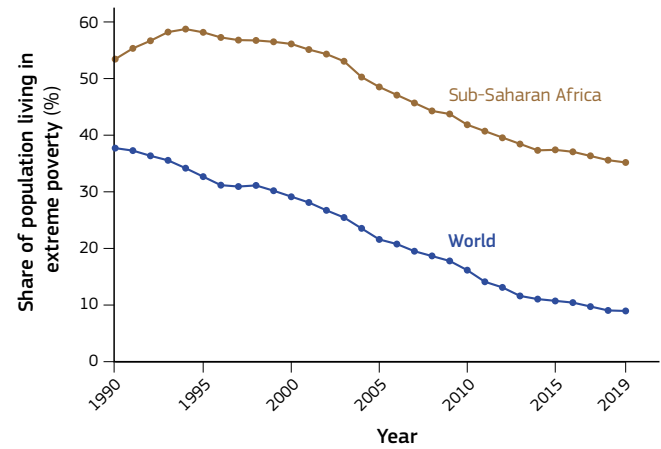
Source: Kelly Abram on Wikimedia Commons under CC BY 4.0.

Novel pressures

Africa's biodiversity is globally significant, but it also faces unique challenges. Perhaps the most pressing of these issues is poverty. One out of three Africans (35.4%) live below the international poverty line, US\$ 2.15 per day. By comparison, fewer than one out of ten people worldwide (9.1%) live under similar circumstances. Many Africans depend directly on nature for food, water, fuel, building materials, and medicines¹. Others rely on employment opportunities in sectors that depend on natural resources or negatively affect natural ecosystems and species.

Today, the median age in Africa is 18.6 years old, considerably younger than the global average of 30 years old. Thus, more and more Africans will enter the workforce in upcoming decades. Supporting inclusive and sustainable economic development offers pathways to meet the aspirations of a growing workforce and alleviate poverty, while also helping to protect the continent's rich biodiversity through careful planning and long-term vision¹.

Share of population living in extreme poverty, 1990 to 2019:



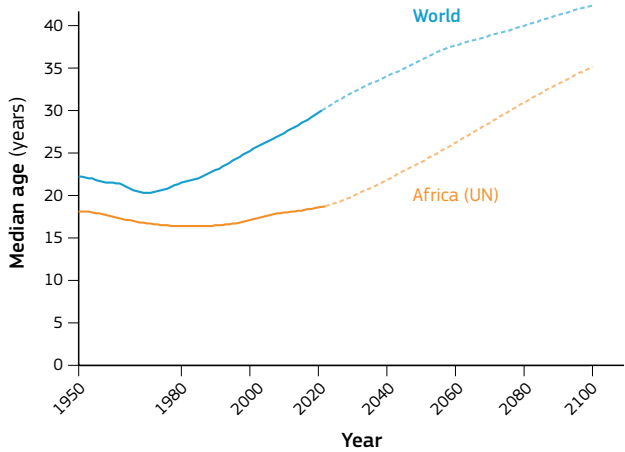
Note: This data is expressed in international-\$ at 2017 prices. Depending on the country and year, it relates to income measured after taxes and benefits, or to consumption, per capita.

More Africans live in poverty compared to the rest of the world.

One out of three Africans (35.4%) live on less than US\$ 2.15 per day, the international poverty line. By comparison, fewer than one out of ten people worldwide (9.1%) live under similar circumstances.

Source: World Bank Poverty and Inequality Platform (2023) accessed through Our World in Data (CC BY 4.0 DEED).

Median age:



Note: The median age splits the population into two equal groups, with as many people older than it as people younger than it. Future projections are based on the UN medium-fertility scenario².

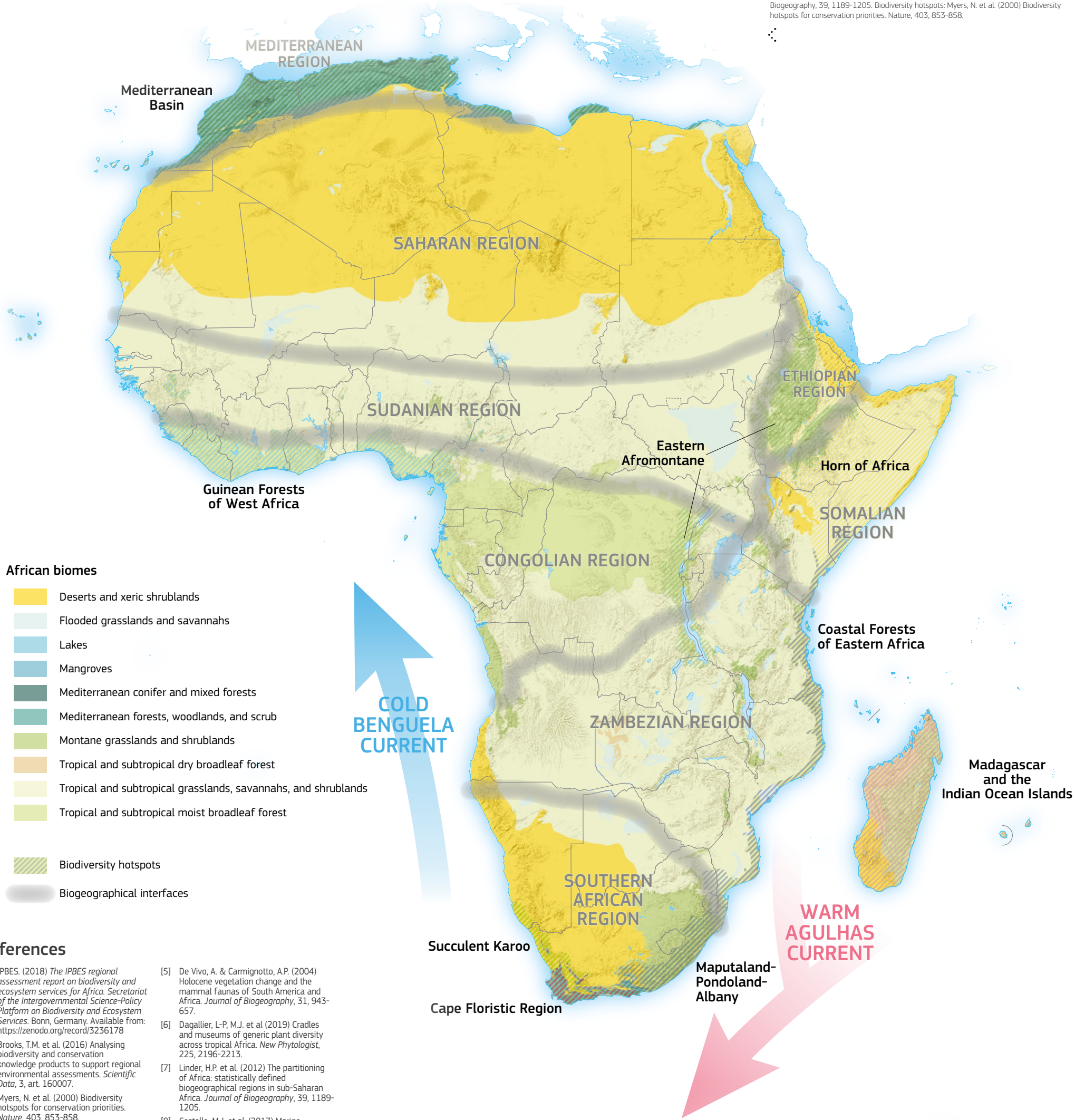
A young continent.

The median age of African is 18.6 years old, which is considerably lower than the global average of 30. While the African population is projected to grow older by the end of the century (35.1 years), they will remain younger than the global average (42.3 years).

Source: United Nations, World Population Prospects (2022) accessed through Our World in Data (CC BY 4.0 DEED).

Evidence-based action

It is challenging to meet Africa's urgent development needs without eroding its rich biodiversity and long evolutionary history. This Atlas aims to demonstrate existing scientific evidence - and critical information gaps - which could play a role in addressing challenges and informing pathways to shape the policy and action for conserving African biodiversity in upcoming decades.



Africa's unique biogeography.

African terrestrial, freshwater, and marine ecosystems are the outcome of tens-of-thousands of years' worth of unique evolutionary history. Ocean currents, climate, and topography have crafted distinct biogeographical regions, including 9 of the world's 36 Biodiversity Hotspots.

Source: Biogeographical boundaries: Linder, H.P. et al. (2012) The partitioning of Africa: statistically defined biogeographical regions in sub-Saharan Africa. *Journal of Biogeography*, 39, 1189-1205. Biodiversity hotspots: Myers, N. et al. (2000) Biodiversity hotspots for conservation priorities. *Nature*, 403, 853-858.

1.1.2 The historical evolution of African protected areas

African protected areas have a long and complex history. Long before formal conservation systems were introduced, Africans lived alongside wildlife for centuries, relying on hunting for food and hides, and managing their land through practices such as sacred forest groves, seasonal hunting zones and restricted grazing areas. These systems were often disrupted or marginalised during the colonial period, when, in the 19th century, European powers introduced conservation practices and land use models shaped by their own interests (e.g. rubber, animal hides, ivory and game meat) and frequently excluding local communities from land and resource governance. The arrival of Europeans set off several waves that all shaped today's protected areas. Here we describe five such waves, illustrated using specific geographical examples.

The history of African protected areas is long and diverse. Conservation on the continent is river fed by different historical tributaries. Whether they were originally colonial-era hunting reserves, safe-havens for threatened species, landscapes for rural development, or engines for ecosystem services, contemporary African protected areas embody centuries of values, trends, and conflicts. With such an evolving and diversified context from past to present, there are several aspects to take into consideration for the future of protected areas policies.

1 Natural protection from colonial expansion

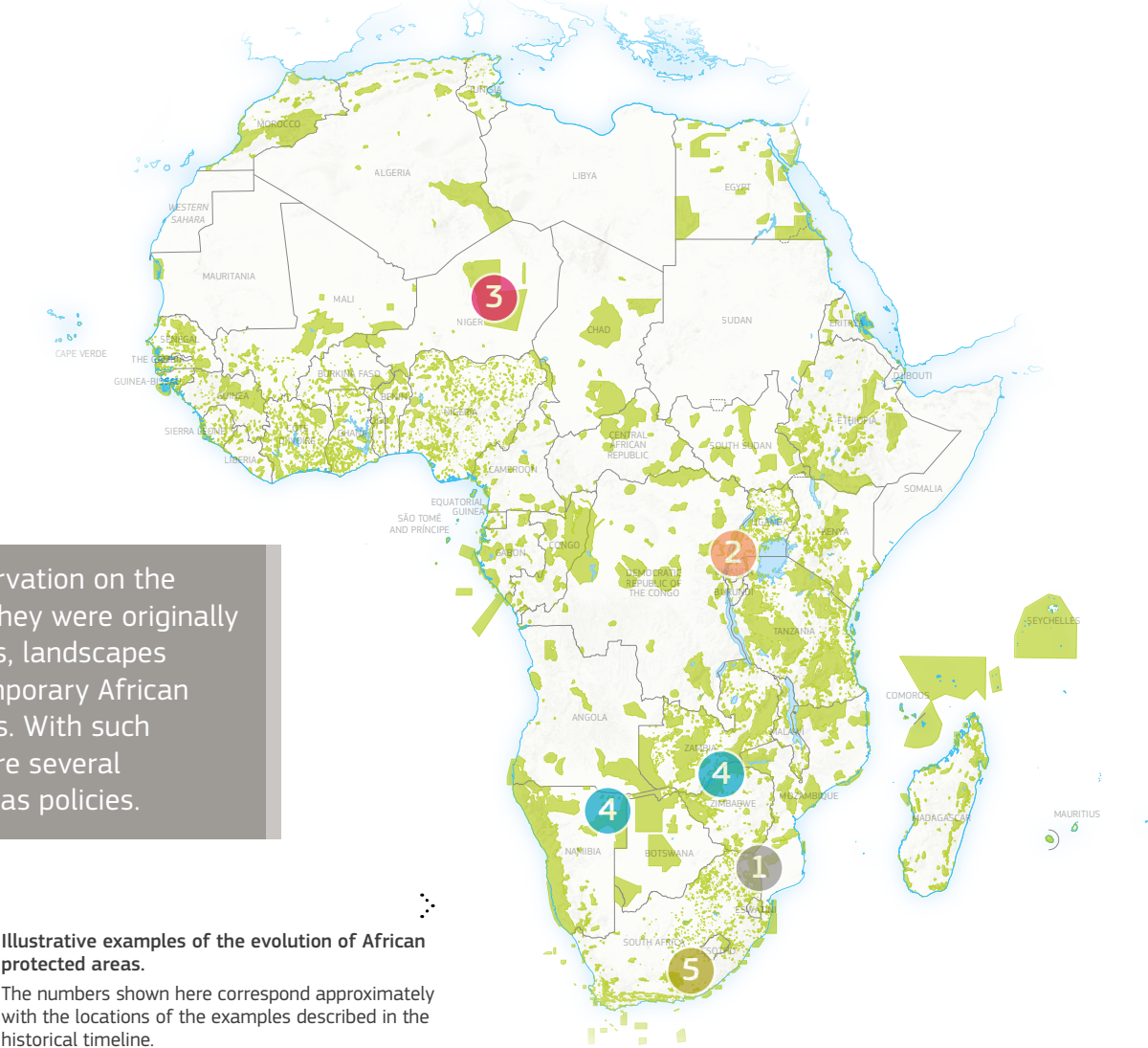
By the late 1800s, European hunters and tradesmen had, to a large part, reshaped African biodiversity. By 1870, hundreds of thousands of animals hides were exported from Durban Harbour each year², leading the editor of the Natal Mercury to write, *"There are evidently some mighty hunters in the interior and at the present rate of destruction the celebrated gamehordes of South Africa will gradually become a memory of the past."* Yet, one thing still stood in the hunters' way: the tsetse fly.

The tsetse fly, *Glossina sp.*, exists throughout most of tropical Africa and is a vector for the *Trypanosoma* parasite, which causes sleeping sickness in humans and nagana in cattle. These flies inhibited exploration and the exploitation of land, discouraging European settlement in the worst affected areas³. The flies were effectively natural guardians of land and game in many parts of the continent that would eventually become protected areas.

This period of hunting, trade, and colonial expansion is vividly retold by Sir Percy Fitzpatrick in *Jock of the Bushveld*, a classic book about Fitzpatrick's adventures with his dog, Jock. These adventures took place in an area that would one day become the southern portion of Kruger National Park, South Africa (established in 1926 after the expansion of Sabi Game Reserve, which was established 28 years earlier). Among tales of hunting expeditions and encounters with wildlife, Fitzpatrick also described his attempt as an ox-wagon transport rider, which failed when his oxen succumbed to nagana, the disease spread by tsetse fly. Whereas hunters had by this time depleted wildlife throughout other parts of southern Africa, tsetse fly ensured that there was still wildlife worth protecting at the onset of the 20th century.



Jock of the Bushveld.
Illustrations from the classic account by Sir Percy Fitzpatrick of his travels with Jock, a Staffordshire bull terrier cross, through the area that would become Kruger National Park, South Africa. The story describes Fitzpatrick's hunting expeditions and his failure as an ox-wagon transport rider when his oxen succumbed to nagana, the disease spread by tsetse fly.
Source: Public domain content accessed through the Library of Congress, Washington DC, USA.



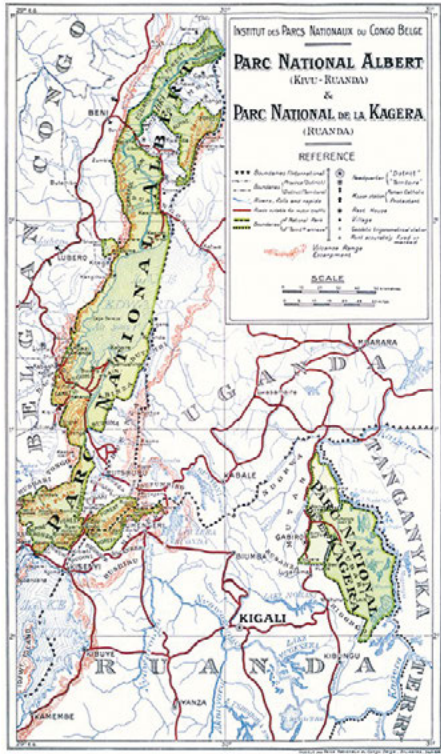
Illustrative examples of the evolution of African protected areas.
The numbers shown here correspond approximately with the locations of the examples described in the historical timeline.
Source: Own map illustration.

2 Early protected areas

As wildlife populations declined due to overhunting, elite hunters often from influential families convinced colonial administrations of the importance of preserving their hunting privileges¹. Early conservation efforts included hunting laws, which limited which species could be hunted legally, and introduced license fees that excluded many indigenous people. By the 1890s, game reserves became more common throughout eastern and southern Africa. At the heart of these reserves was the notion of spatial zoning to separate animals from people.

In 1900, European colonial powers met to sign the '1900 Convention for the Preservation of Animals, Birds, and Fish in Africa', which called for the *"establishment, as far as it is possible, of reserves within which it shall be unlawful to hunt, capture, or kill any bird or other wild animal except those which shall be specially exempted from protection by the local authorities"*. The convention was never ratified, but it shaped much of the conservation activities at the start of the 20th century.

By then, colonial powers had begun devising strategies to eradicate tsetse fly – including the widespread culling of wildlife – but these efforts were stalled by the outbreak of the First World War. Colonial conservation returned to Africa after the war, leading to the establishment of the continent's first national parks. Albert National Park (later to become Virunga National Park in the Democratic Republic of the Congo) became the first national park in Africa in 1925. King Albert of Belgium was an important figure behind the park after being impressed by a visit to Yosemite National Park in the United States. Unlike Yosemite, Albert National Park was not intended to encourage tourism, but rather to preserve a natural laboratory for international scientists¹. This science-driven approach became common throughout Francophone Africa. By contrast, the more open savannah ecosystems in eastern and southern Africa were more conducive to game viewing, which meant that national parks had a much larger emphasis on tourism throughout British colonies¹.



The earliest colonial National Parks.
A map of Parc National Albert (now Virunga National Park, Democratic Republic of the Congo) and Parc National de la Kagera (now Akagera National Park, Rwanda) in what was then the Belgian Congo.
Source: Fair use for non-profit research from George A. Smathers Libraries, The University of Florida.

3 Species-specific fortress conservation

The model of African protected areas remained relatively stable during the period leading up to and during the Second World War. After the war, however, there was a conservation boom throughout the continent⁴. Colonial powers began focusing on the transformation and modernisation of African society. In a move to increase international wildlife tourism, remnant wildlife populations were segregated in national parks, 'primitive' hunting practices were abolished, and African labour was relocated away from wilderness areas.

Many of today's international NGOs were established around this time, starting with the International Union for the Protection of Nature in 1948 (the precursor to the IUCN). The African Wildlife Foundation and the World Wildlife Fund followed soon thereafter. Scientists and managers from international organisations, rather than colonial officers, became more prominent in shaping the direction of African protected areas¹. As science became more aware of humans' negative impact on nature, conservation from the 1970s onwards began framing conservation as an attempt to protect nature from people⁵. Ideas like habitat loss, extinction, and over-exploitation dominated scientific thinking, and protected areas became a way to protect nature from these threats. During this period, the first Red Lists of threatened species brought endangered species to the fore, and protected areas were seen as a tool for saving threatened species.

An example is the Air and Ténéré Addax Sanctuary in Niger, which exists specifically to protect the critically endangered addax, with fewer than 100 mature individuals living in isolated populations⁶. Despite the dedicated Strict Nature Reserve, Tuareg insurgencies in the 1990s and 2000s obstructed conservation interventions and today addax populations are no longer believed to be self-sustaining in the area. This, sadly, reminds us how conservation effectiveness relies on broader social dynamics that cannot be excluded from protected areas.



The addax, the white antelope of the Sahara.
The addax, *Addax nasomaculatus*, is a critically endangered antelope species that used to be widespread throughout the Sahara, but is now restricted to isolated populations in Niger and Chad. The Air and Ténéré Addax Sanctuary in Niger was established in 1988 to protect this antelope, but today it is unlikely that a viable population still exists there.
Source: Haytem93 on Wikimedia Commons CC BY-SA 4.0.

4 Community-based conservation

As the limits of fortress conservation became more obvious, a new approach to protected areas was emerging in newly independent African countries. This period coincided with the end of the Cold War, which ushered in several UN-led conferences focused on alleviating poverty. African states began establishing community-based conservation initiatives, where local people were allowed to utilise natural resources within larger conservation landscapes. In 1989, Zimbabwe established the CAMPFIRE programme (Communal Areas Management Programme for Indigenous Resources), which allowed locals living on communal lands to earn income from nature-based activities. This approach was a major departure from fortress conservation because it treated wildlife as a renewable resource to be managed sustainably by locals.

While community-based conservation models have been used throughout the continent, its uptake has been higher in eastern and southern Africa⁷. One programme that has received notable recognition internationally for its contribution to national income and local employment is the Namibian communal wildlife conservancy programme⁸. More than 60 communities, covering 17% of Namibia's land area participate in this programme, which has created more than 500 permanent and 3000 temporary jobs⁹. However, these benefits are counter-balanced by substantial declines in several herbivore populations, especially in the north-western conservancies⁹ where harvesting rates have not seemed to adjust to drought conditions.

While community conservancies demonstrated the value of including local communities in protected area management, they also showed the importance of managing ecosystem services effectively, especially as the climate changes.



Game Counts in Puros Conservancy, Namibia.
The 1990s introduced two significant community conservancy initiatives in southern Africa. In Zimbabwe, the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) programme was launched in 1989, while the Namibian Communal Conservancies were formalised in 1996. Both programmes involve local communities to improve conservation and rural development.
Source: USAID Biodiversity & Forestry on Flickr CC BY-NC 2.0.

5 Protecting nature's services

The role of protected areas in preserving ecosystem services began receiving more attention at the start of the 21st century. The Millennium Development Goals and their successors, the Sustainable Development Goals drew attention to ecosystem services. The establishment of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services formalised the scientific consensus on nature's contributions to people. For the most part, however, protected areas did not focus exclusively on ecosystem services, but considered these services as conservation goals alongside protecting species and their habitat. This seems likely to change in the future.

South Africa, for example, is in the process of establishing a new high-altitude national park in the Grasslands of the Eastern Cape Province with the primary goal of protecting ecosystem services¹⁰. What distinguishes this national park from others is that it will exist within a working agricultural landscape. Private and communal landowners will voluntarily commit their land to the national park, and in return will access government support for restoration activities to enhance water supply and create employment opportunities. Not only will locals benefit from sustainable agriculture and other compatible land-uses, downstream residents benefit from improved water supply. The added advantage of this approach to protected areas expansion is its relative versatility, which may become more important if protected areas are designed to be spatially mobile to adjust to climate change (an approach already considered for marine protected areas, for example¹¹).



Boundless Southern Africa.
South African National Parks is in the process of establishing a new high-altitude national park in the Eastern Cape Province. This protected area promises to be unique because it will exist within an agricultural landscape, where landowners voluntarily commit their land to the national park, receiving in return government support for restoration activities that enhance downstream water supply.
Source: Boundless Southern Africa on Flickr CC BY-ND 2.0.

Where we are today

Although the history of African protected areas have gone through various phases, these have not followed a predictable sequence with one replacing another. Instead, these phases can be seen as different tributaries flowing into the same river representing contemporary conservation. Today's protected areas reflect this layered history, offering valuable insights for the understanding of science and policy.

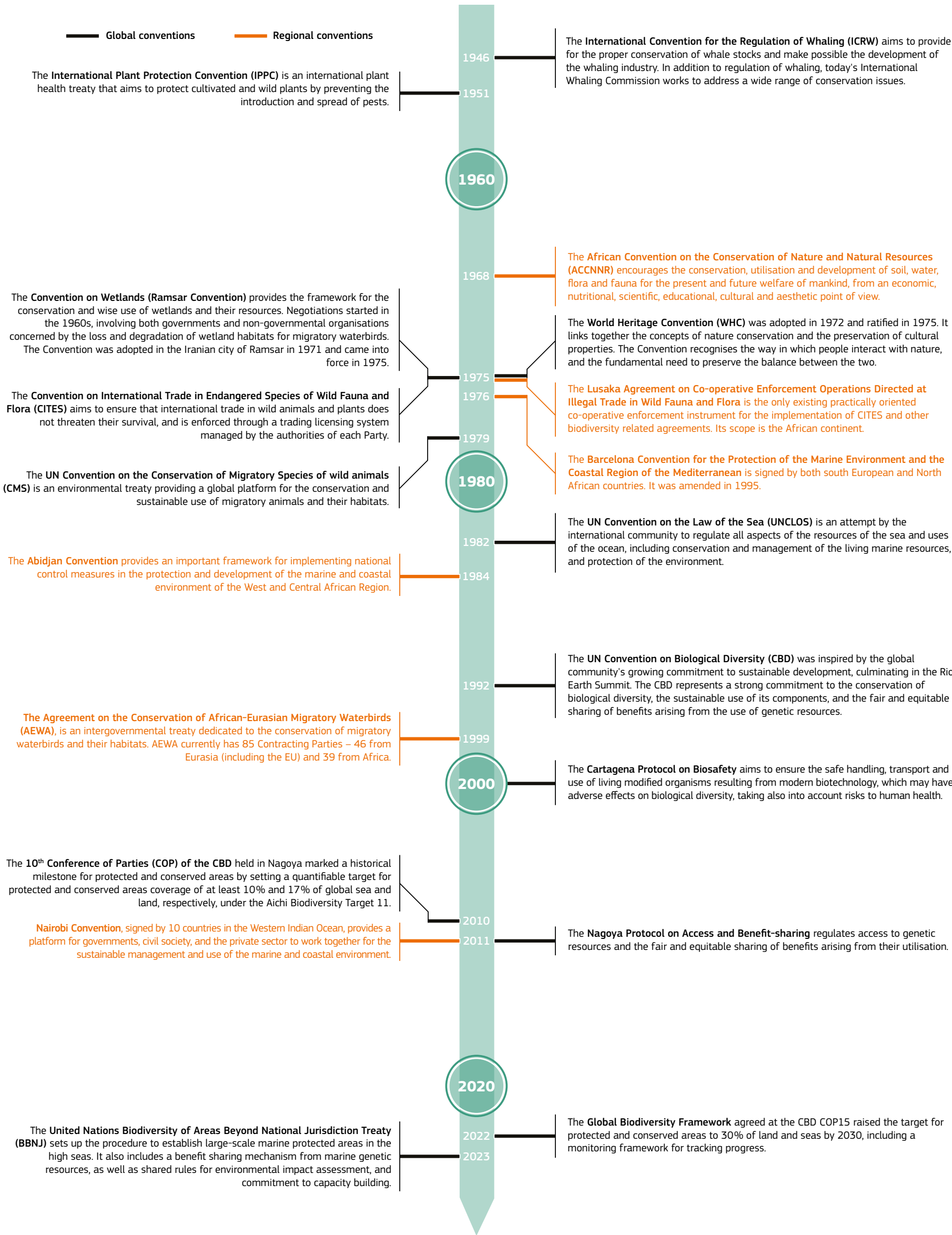
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- [2] Van Rensburg, A.P.J. (1968) Golden Gate: Die geskiedenis van twee plaas wat 'n Nasionale Park geword het (*The history of two farms that became a national park*). Koedoe, 11, 83-138.
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1.1.3 International policy instruments for protected and conserved areas

Global environmental governance encompasses a variety of laws, policies, international agreements, and decision-making procedures at local, national, and international scales. Global environmental conventions are a critical part of this system of governance¹. This timeline shows historical milestones for major global conventions for nature and biodiversity conservation. The international community has been working collectively on environmental action for more than 50 years. Starting in 1972, 113 governments convened in Stockholm for the first United Nations Conference on the Human Environment². Earlier regulations had paved the way to the Stockholm Conference, but these generally treated biodiversity as an input into economic sectors. For example, the International Whaling Commission was established in 1946 to conserve whale stocks for the development of the whaling industry.

Things started changing by the early 1970s, when the Convention on Wetlands (Ramsar Convention) set the tone for modern global multilateral environmental agreements. Since then, a series of binding conventions emerged on the conservation of terrestrial, freshwater, and marine biodiversity³, culminating in the United Nations Convention on Biological Diversity in 1992.



Algeria									
Angola									
Benin									
Botswana									
Burkina Faso									
Burundi									
Cabo Verde									
Cameroon									
Central African Republic									
Chad									
Comoros									
Côte d'Ivoire									
DR Congo									
Djibouti									
Egypt									
Equatorial Guinea									
Eritrea									
Eswatini									
Ethiopia									
Gabon									
Gambia									
Ghana									
Guinea									
Guinea-Bissau									
Kenya									
Lesotho									
Liberia									
Libya									
Madagascar									
Malawi									
Mali									
Mauritania									
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Morocco									
Mozambique									
Namibia									
Niger									
Nigeria									
Republic of Congo									
Rwanda									
São Tomé & Príncipe									
Senegal									
Seychelles									
Sierra Leone									
Somalia									
South Africa									
South Sudan									
Sudan									
Tanzania									
Togo									
Tunisia									
Uganda									
Zambia									
Zimbabwe									

Africa's participation in multilateral environmental agreements. The status of the major global and regional conventions for nature and biodiversity protection in Africa.

Sources: United Nations Information Portal on Multilateral Environmental Agreements: <https://www.informea.org/en/nea-topic/biological-diversity>; List of Parties: <https://www.cbd.int/information/parties.shtml>

Nation status:

Parties to ICRW, Ramsar, WHC, CITES, Lusaka, CMS, CBD and BBNJ

- Ratified
- Accepted
- Signatory
- Accession

Parties to AEWA:

- Party
- Non-party range state

Full names of the policies:

ICRW: International Convention for the Regulation of Whaling

Ramsar: Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat

WHC: World Heritage Convention

CITES: Convention on International Trade in Endangered Species of Wild Fauna and Flora

Lusaka: Lusaka Agreement on Co-operative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora

CMS: Convention on the Conservation of Migratory Species of Wild Animals

CBD: Convention on Biological Diversity

AEWA: Agreement on the Conservation of African-Eurasian Migratory Waterbirds

BBNJ: The United Nations Biodiversity of Areas Beyond National Jurisdiction Treaty

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1.1.4 Target 3 of the Global Biodiversity Framework

Target 3 of the Kunming-Montreal Global Biodiversity Framework has grabbed headlines for aiming to protect 30 % of land and ocean. However, protected area coverage is only one element of a much more comprehensive and ambitious target.

In December 2022, African countries were represented at the 15th Conference of Parties to the United Nations Convention on Biological Diversity, which led to the adoption of the Kunming-Montreal Global Biodiversity Framework¹. This Framework lays out the vision for measures deemed critical to addressing the dangerous loss of biodiversity and restoring natural ecosystems. It lays out a set of 23 Targets for 2030 intended to achieve long-term outcome-oriented goals by 2050 to preserve and restore nature, use biodiversity sustainably and fairly, and invest and collaborate towards achieving these goals.

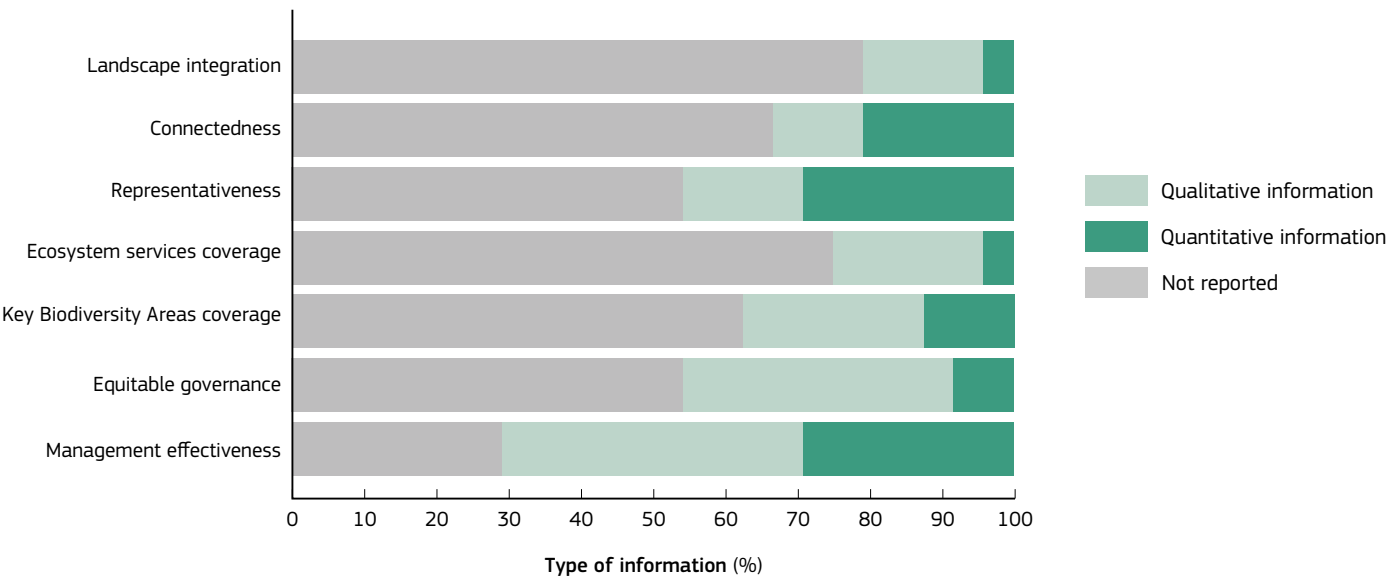
Since its adoption, Target 3 of the Global Biodiversity Framework has arguably grabbed most headlines. This Target, also referred to as the 30×30 initiative, aims to protect 30% of lands and seas by 2030. It is considerably more ambitious than its predecessor, Aichi Biodiversity Target 11 from the Strategic Plan for Biological Diversity 2010–2020, which aimed to protect 17% of land and 10% of seas². Target 3 concerns protected areas and other effective area-based conservation measures that are a central element of biodiversity conservation strategies at local, national and global levels³. In full, it aims to:

Ensure and enable that by 2030 at least 30 per cent of terrestrial and inland water areas, and of marine and coastal areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognising indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognising and respecting the rights of indigenous peoples and local communities, including over their traditional territories.

Target 3 is cross-linked with other GBF targets by setting the ambition to expand areas where to prioritise objectives such as integrated and inclusive participatory spatial planning (Target 1), ecosystems restoration (Target 2), species recovery (Target 4), curbing invasive alien species (Target 6), integrated biodiversity loss and climate change mitigation (Target 8), evidence-based effective management (Target 21), community engagement (Target 22).

Although Target 3 spells out a shared global ambition, countries contribute differently based on their unique contexts and national priorities. Countries outline their national targets in *National Biodiversity Strategy and Action Plans* and report progress through *National Reports* to the Convention on Biological Diversity. The feature map shown here presents the nationally reported progress towards Aichi Biodiversity Target 11 for 2010–2020. Many African countries made insufficient progress towards previous protected area targets.

Perhaps more concerning than the perceived lack of progress for large parts of the continent is the low quality of information



Target 3 contains several different elements to be considered:

What?

At least 30% of terrestrial, inland water, marine and coastal areas are effectively conserved and managed through protected areas, or other effective area-based conservation measures (hereafter referred to simply as protected areas).

Where?

Protected areas should prioritise areas that are particularly important for biodiversity, ecological functioning and ecosystem services. These include areas of high species richness, or areas with high levels of endemic or threatened species and ecosystems.

How?

The network of protected areas should be ecologically representative of the full variety of species, ecosystems, ecological processes and geographical regions.

Protected areas should be configured in a way that maintains spatial connectivity, allowing the free movement of plants and animals.

Protected areas should be managed effectively to achieve positive outcomes for biodiversity conservation through the adoption of adequate objectives and processes, governance systems and resourcing, and consistent monitoring.

Governance should be equitable by engaging relevant actors to participate fully in the establishment, management and governance of protected areas. Both costs and benefits of establishing and managing such areas should be shared fairly.

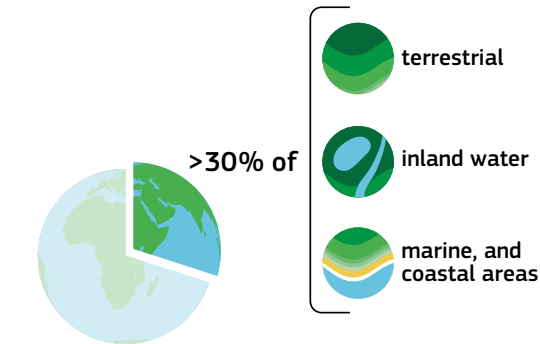
While ensuring...

Protected areas should integrate into wider landscapes, seascapes, and the ocean.

Where appropriate, the sustainable use of resources within protected areas should remain fully consistent with conservation outcomes.

The rights of indigenous people and local communities over their traditional territories should be recognised and respected.

in national reports. The majority of a subset of 24 countries in Eastern and Southern Africa did not report on all elements of Aichi Biodiversity Target 11 for 2010–2020. Even when countries did provide information, these tended to be qualitative descriptors rather than quantified data. Although this does not necessarily mean that countries were not implementing actions towards these elements, it suggests that existing evidence is insufficient to prove that the growth in protected area coverage is not merely contributing to the phenomenon of ‘paper parks’ (i.e. where protected areas exist only on maps without tangible positive impacts on nature).



The lesson learnt from this is that African nations would benefit from improving their monitoring towards all elements of Target 3 of the Global Biodiversity Framework. The only headline indicator for Target 3 is the coverage of protected areas⁴. Although 8 component indicators and 16 complementary indicators have also been identified for the various elements of Target 3, these are optional for national level reporting⁴. Therefore, without investment in conservation science and monitoring in the short term, there is a real risk of reaching 2030 without full knowledge of whether efforts towards the Global Biodiversity Framework have succeeded or not.

Information gaps in national reporting to the Convention on Biological Diversity.

For 24 countries in Eastern and Southern Africa, national reporting showed information gaps for the elements of Aichi Biodiversity Target 11 for 2010–2020. With the exception of management effectiveness, the majority of countries did not report on elements of Target 11. When countries did report on the elements, they tended to provide qualitative descriptions, rather than quantitative information. This is true even though global scale information exists and is publicly available (e.g. representativeness, connectedness, and landscape integration).

Source: Information synthesised from 6th National Reports to the Convention on Biological Diversity (<https://www.cbd.int/reports>).

Nationally reported progress towards protected area targets 2010–2020.

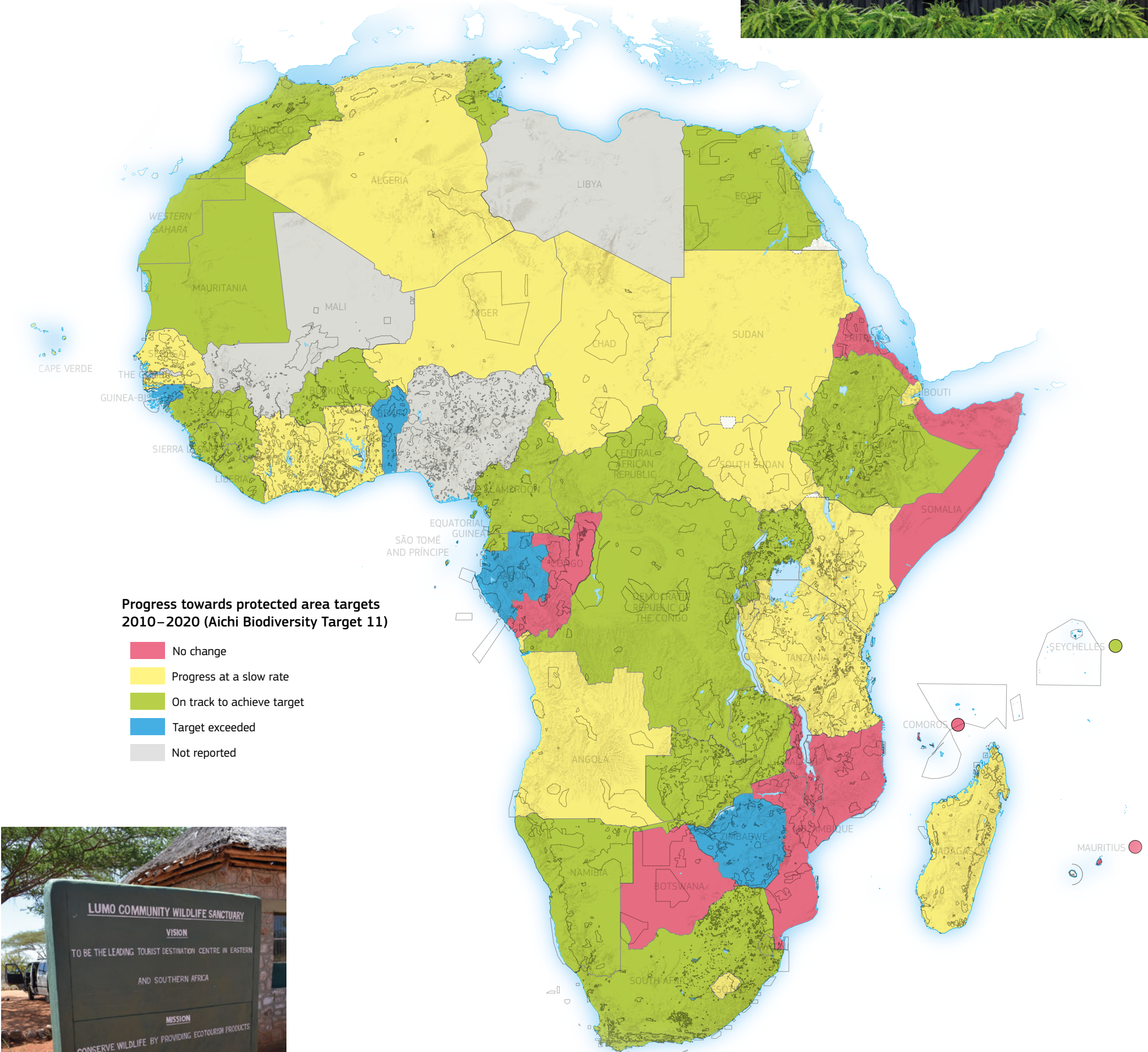
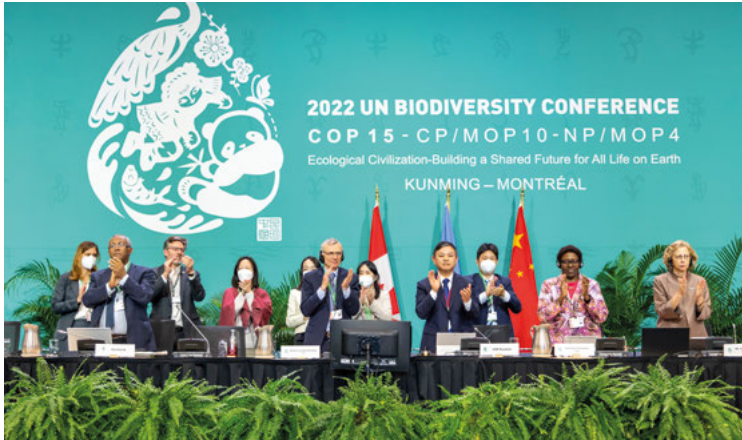
Progress towards Aichi Biodiversity Target 11 of the Strategic Plan for Biological Diversity 2010–2020 as reported by African countries in their 6th National Reports to the Convention on Biological Diversity. Most countries reported on their own national targets rather than the global targets. For example, even though Tanzania met the global 17% protected area coverage target for land, the insufficient progress reported here refers to their national target that emphasised marine protection.

Source: Information synthesised from 6th National Reports to the Convention on Biological Diversity (<https://www.cbd.int/reports>).

The 15th Conference of Parties to the Convention on Biological Diversity.

The Kunming-Montreal Global Biodiversity Framework was adopted at the 15th Conference of Parties to the United Nations Convention on Biological Diversity held in Montreal during December 2022.

Source: UN Biodiversity on Flickr under CC BY 2.0.



LUMO Community Wildlife Sanctuary vision and mission statement at the main gate in Kenya.

Community-led conservation could be the ‘game-changer’ for tackling cross-cutting challenges such as biodiversity loss, climate change, poverty and food security.

Source: Christopher T Cooper on Wikimedia Commons under CC BY 3.0.

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- [1] Convention on Biological Diversity. (2022). Kunming-Montreal Global Biodiversity Framework (No. CBD/COP/15/L.25). Montreal, Canada: Conference of the Parties to the Convention on Biological Diversity.
- [2] Convention on Biological Diversity. (2010). The Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets (No. UNEP/CBD/COP/DEC/XII/2). Nagoya, Japan: Conference of the Parties to the Convention on Biological Diversity.
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1.1.5 European Union Support to African protected areas

The European Union is one of the largest funders of protected areas in Africa, with several iconic protected areas receiving direct financial support since the 1980s. In addition to direct support, the European Union has also contributed to African protected areas indirectly through research, combatting illegal wildlife trade, and official development assistance in related green sectors.

The European Union (EU) has long supported biodiversity conservation and recognised the links between healthy ecosystems and livelihoods. This is particularly the case for African protected areas. The first direct intervention by the EU in protected areas in Africa was in 1985, helping to improve the management of Pendjari National Park, Benin. Since then, EU support to biodiversity has increased, and protected and conserved areas continue to receive direct and indirect support across most countries and regions of Africa. EU funding for protected areas is provided through bilateral cooperation with partner country governments or through grants to international or local NGOs responsible for managing the protected areas. Protected areas are fundamental not only to global efforts to protect biodiversity, but also to the global response to climate change.

By 2022, the EU-funded ECOFAC (Ecosystèmes Forestiers d'Afrique Centrale) programme celebrated 30 years of support to biodiversity conservation in Central Africa, with financing totalling €250 million. ECOFAC included strong cooperation between the EU, the Economic Community of Central African States (ECCAS) and its member countries. Supporting conservation efforts in 320 000 km² of protected areas (about the size of Italy), ECOFAC reinforced the EU's position as one of the largest contributors to conservation efforts in the Congo Basin. In 2002, following the Earth Summit in Johannesburg, the Congo Basin Forest Partnership (CBFP) was established to promote coordination in conservation efforts. The European Commission is also establishing a series of Forest Partnerships to support partner countries to sustainably manage, protect, and restore their forest for the benefits of their populations and long-term development.

In West Africa, the EU supported the AGIR program (Actions de Gestion Intégrée des Ressources), in Senegal, Mali, Guinea, Guinea Bissau, and the ECOPAS program (Ecosystèmes Protégés d'Afrique Soudano-Sahélienne) in Benin, Burkina Faso, and Niger. These programmes were followed by the PAPE (Programme D'Appui Aux Parcs de L'Entente) consolidation phase into the national parks W, Arly and Pendjari, jointly referred to as the WAP Complex, in Benin, Burkina Faso, and Niger. Collectively, these programs invested more than €60 million into West African protected areas. This was followed by the PAPBio and PAPFor programmes (for biodiversity and forests, respectively), supporting the sustainable management of thirty-five strictly terrestrial protected areas and ten coastal and marine protected areas in West Africa.

The lessons from the WAP Complex reiterated the importance of a joined-up approach to protecting and conserving wildlife and ecosystems. This approach was reflected by the strategic positioning of the "Larger than Elephants" EU study published in 2015, which for the first time identified a set of Key Landscapes for Conservation (KLCs) across Sub-Saharan Africa. NaturAfrica (2022–2027), a new ambitious EU initiative of conservation and development is designed around the KLCs. NaturAfrica contributes to the EU's global commitments under the Convention on Biological Diversity to preserve ecosystems, fight wildlife crime, and increase financial flows to developing countries for global biodiversity protection.

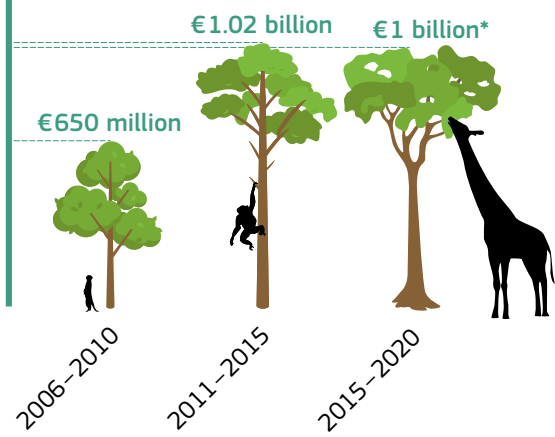
The EU also supports specialised international initiatives, like those focusing on the conservation of unique biodiversity or combating illegal wildlife trade. The EU is one of seven major donors to the Critical Ecosystem Partnership Fund (CEPF), which focuses on the conservation and management of globally significant biodiversity hotspots. Nine of the 36 hotspots are in Africa, where the role of effectively managed protected areas is fundamental. Similarly, the EU supports the MIKES (Minimising the Illegal Killing of Elephants and other Endangered Species) initiative, which evolved from a programme focused on elephants. MIKES is implemented together with African Elephant range States by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and aims to generate reliable and impartial data on the status and threats to elephants and other key endangered species, including great apes and rhinos across Africa.

The EU and its member states continue to be the largest providers of official development assistance, and biodiversity conservation and environmental sustainability continue to be emphasised in their international development efforts and partnerships. These efforts are supported by many other projects and programmes, and other international donors also provide significant support to protected areas in Africa. The EU contribution to the Great Green Wall Initiative, led by the African Union, aims to establish a mosaic of green and productive landscapes across Sahelian and Horn of Africa countries, from Senegal to Djibouti and Somalia. Through the Regreening Africa project, the EU is supporting land restoration across one million hectares, benefitting 500 000 households in Mali, Niger, Senegal, Ghana, Ethiopia, Kenya, Somalia, and Rwanda.

Finally, the EU also supports research activities to provide vital innovation and scientific support to biodiversity conservation efforts through Horizon Europe's Africa Initiative. This initiative specifically allocated funds for enhancing cooperation with the Convention on Biological Diversity.

Together, these investments reflect a decades-long approach to supporting protected areas in Africa, which are fundamental to global responses to biodiversity loss, climate change and sustainable development goals.

TOTAL EU DEVELOPMENT COOPERATION FUNDING FOR BIODIVERSITY



📊 Total EU development cooperation funding from biodiversity. Biodiversity-related funding for development cooperation and international partnership administered by the European Commission Directorate-General for International Partnerships. These figures exclude contributions from other Commission sources (e.g. for research support). Source: European Commission Directorate-General for International Partnerships.

1

Pendjari National Park

Pendjari is a national park in Benin, designated in 1980, representing the largest remaining savannah ecosystem in West Africa. Covering 275 000 hectares, it is part of the W-Arly-Pendjari (WAP) complex and was designated as a UNESCO Man and Biosphere Reserve in 1986. It was one of the first national parks in Africa to receive direct financial support from the European Union and has continued to be a key part of conservation efforts in the West Africa region.



📍 Pendjari National Park, Benin. Pendjari was one of the first African protected areas to receive direct financial support from the European Union. Today it forms part of a vast complex of protected areas spanning the borders between Benin, Burkina Faso, and Niger. Source: J1-Elle on Wikimedia Commons CC BY-SA 4.0.

2

Virunga National Park

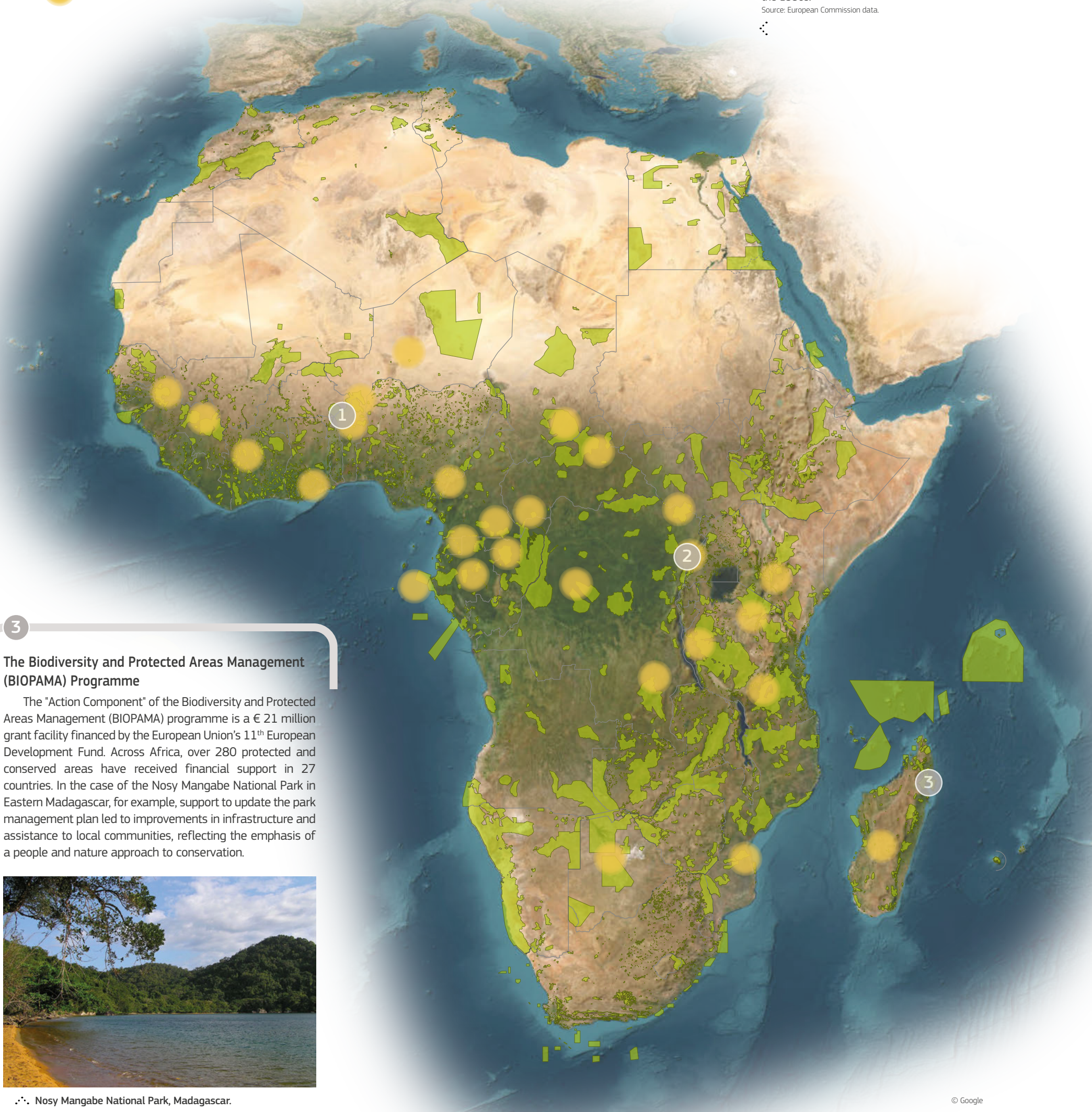
EU development cooperation has supported the protection and management of Virunga National Park since 1988. Created in 1925, Virunga is one of the most biologically diverse protected areas in Africa, home to critically endangered mountain gorillas, elephants and lions in a landscape that includes volcanoes, glaciers, lakes, and plains. EU support contributes to better infrastructure and security in the park, and a training programme for rangers and park managers. It also led the development of hydroelectricity power generation in the park, encouraging further investment and making considerable difference to local livelihoods and businesses. The contrast between the park and its surroundings highlights how critical formal protection is for preserving species and their habitats.



📍 Virunga National Park, Democratic Republic of the Congo. Aerial photographs show the stark differences between Virunga National Park and its surroundings. The European Commission has provided direct financial support to Virunga since 1988, which allows the area to resist land use pressures. Source: Andreas Brink, with permission, all rights reserved.

EU financial support

📍 Approximate location



Sites of direct European Union financial support to African protected areas.

Many iconic African protected areas have received direct financial support from the European Union. In some areas support was temporary (4–10 years), but in many other areas support has been ongoing since the 1980s.

Source: European Commission data.

3

The Biodiversity and Protected Areas Management (BIOPAMA) Programme

The "Action Component" of the Biodiversity and Protected Areas Management (BIOPAMA) programme is a € 21 million grant facility financed by the European Union's 11th European Development Fund. Across Africa, over 280 protected and conserved areas have received financial support in 27 countries. In the case of the Nosy Mangabe National Park in Eastern Madagascar, for example, support to update the park management plan led to improvements in infrastructure and assistance to local communities, reflecting the emphasis of a people and nature approach to conservation.



📍 Nosy Mangabe National Park, Madagascar. Financial support from the European Commission to update the park management plan stimulated infrastructure improvements and assistance to local communities. Source: Bernard Dupont on Flickr CC BY-SA 2.0.

1.1.6 The BIOPAMA Programme

The second phase of the Biodiversity and Protected Area Management (BIOPAMA) programme (2017 – 2025) was one of EU’s largest biodiversity programmes. The International Union for Conservation of Nature (IUCN) and the European Commission Joint Research Centre (JRC) came together as implementing partners to supported 79 countries in Africa, the Caribbean, and the Pacific. Together they administered direct grants, consolidated scientific information, and supported the establishment of regional observatories to improve information management and the efficacy of protected areas.

What is BIOPAMA?



Who were the implementing institutions?

BIOPAMA brought together the conservation expertise of the International Union for Conservation of Nature (IUCN) and the scientific knowhow of the European Commission Joint Research Centre (JRC). As implementing partners, IUCN and JRC shared responsibility for meeting BIOPAMA's specific objectives.



Despite taking important leadership roles, IUCN and JRC were only able to meet the programme's lofty goals through close collaboration with regional, national, and local actors throughout Africa, the Caribbean, and the Pacific.

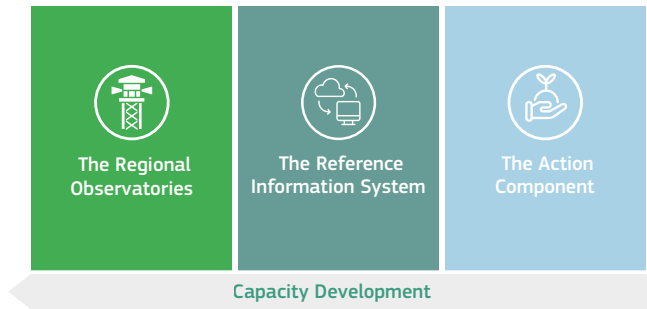
The Reference Information System (RIS).

The RIS homepage, the entry into a rich online system developed by the JRC to supply information at the national or protected area levels.

Source: <https://africa-knowledge-platform.ec.europa.eu/arccx/biodiversity-forest>

What did they do?

BIOPAMA was made up of three intertwined specific objectives:



A key objective was to support the establishment of locally-based regional observatories (see details in Chapter 5.5), which played the dual roles of (i) disseminating information from international data sources to countries and to local users, and (ii) feeding data collected locally into international databases. These regional observatories also participated in regional and national policy fora to ensure that information was tailored to the specific needs of policy stakeholders. Although IUCN and JRC contributed to establishing and supporting these regional observatories, they gradually moved to background roles as the observatories grew in stature and independence.

A second objective was the Action Component, a grant facility to support local interventions to strengthen the management effectiveness and governance of protected areas and enhance the livelihoods of the communities who depend on these areas. IUCN took the lead on the Action Component, which supported more than 300 actions on the ground. Shown in the feature map are the more than 280 protected areas across 27 African countries that were the focus of interventions by roughly 85 institutions that received funding through BIOPAMA.

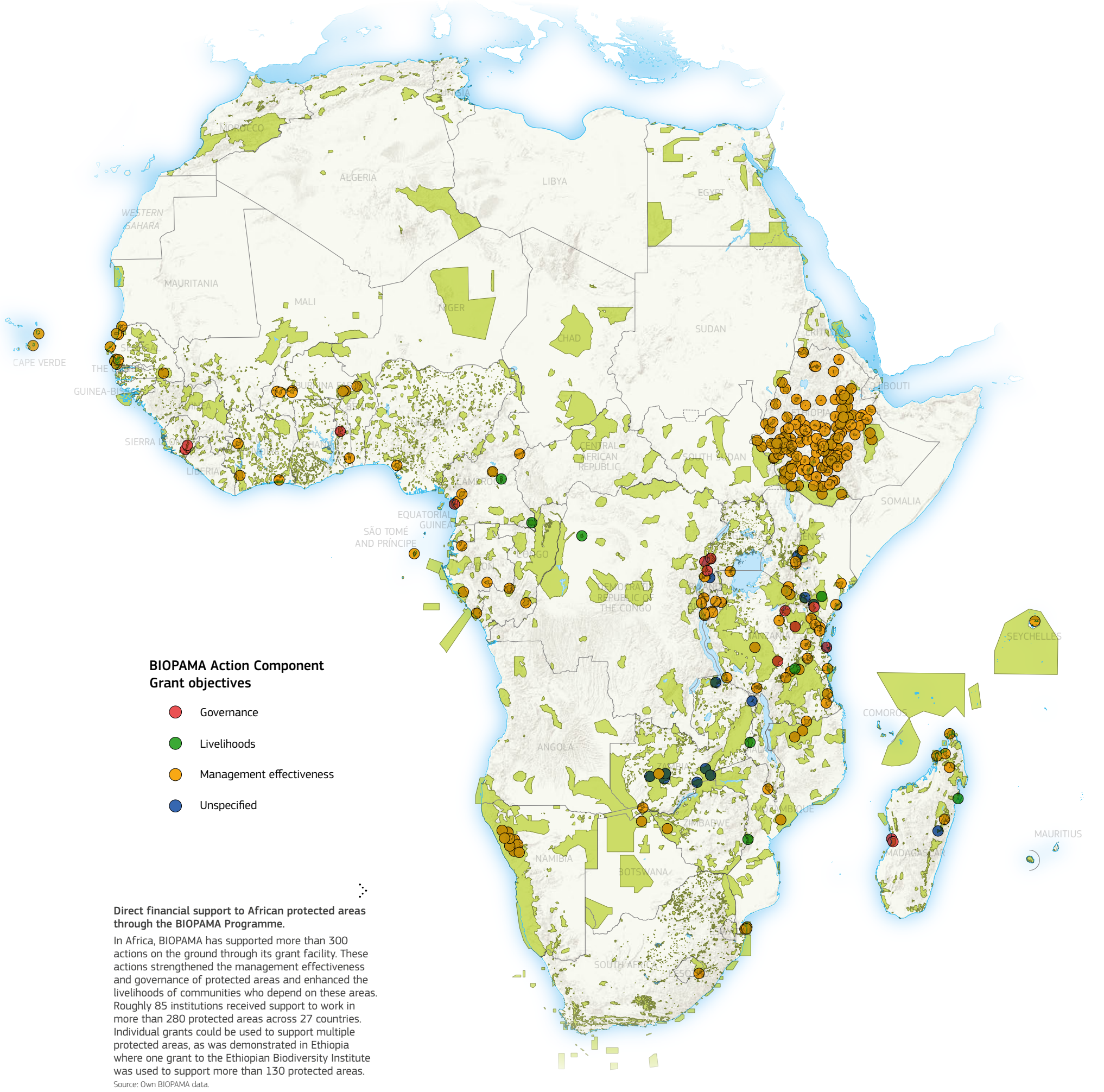
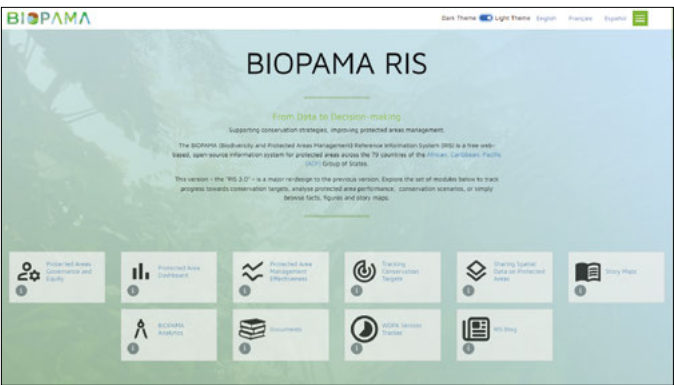
The last objective was developing the Reference Information System (RIS), an online system that brings together all of BIOPAMA's data, information, decision-support tools, and knowledge products in one place. JRC took the lead in developing the RIS, which presents various geospatial datasets at the levels of individual countries or protected areas as a freely accessible online resource. Locally-relevant information from the RIS also fed into the Regional Observatories' own information systems, ensuring that each observatories had up-to-date access to the latest international information.

Consistent learning, technology transfer, and capacity building underpinned the Regional Observatories, the Action Component, and the RIS. This entailed close collaboration between IUCN, JRC, and each of the organisations that made up the Regional Observatories.

How the BIOPAMA RIS informed this Atlas

The RIS provided a trove of information collected over the two phases of BIOPAMA, spanning more than a decade. While it was impossible to distil the full interactive database of information into a single physical product, this Atlas presents a selection of datasets available through the RIS. Because JRC led development of the RIS as part of BIOPAMA, it also took charge of producing this Atlas.

Although this Atlas was inspired by BIOPAMA, it distinguishes itself in two significant ways. First, its geographic focus is limited to the African continent. The motivation for this African-focus should be clear based on the preceding pages, but it does mean that this Atlas does not cover Caribbean and Pacific states despite these being an integral focus of BIOPAMA. However, it also means that this Atlas covers North Africa, a region not included in BIOPAMA. Second, this Atlas goes beyond encapsulating BIOPAMA's lessons. It looks ahead more broadly to priorities for African protected areas that will outlast any single work programme.



Direct financial support to African protected areas through the BIOPAMA Programme.

In Africa, BIOPAMA has supported more than 300 actions on the ground through its grant facility. These actions strengthened the management effectiveness and governance of protected areas and enhanced the livelihoods of communities who depend on these areas. Roughly 85 institutions received support to work in more than 280 protected areas across 27 countries. Individual grants could be used to support multiple protected areas, as was demonstrated in Ethiopia where one grant to the Ethiopian Biodiversity Institute was used to support more than 130 protected areas.

Source: Own BIOPAMA data.

