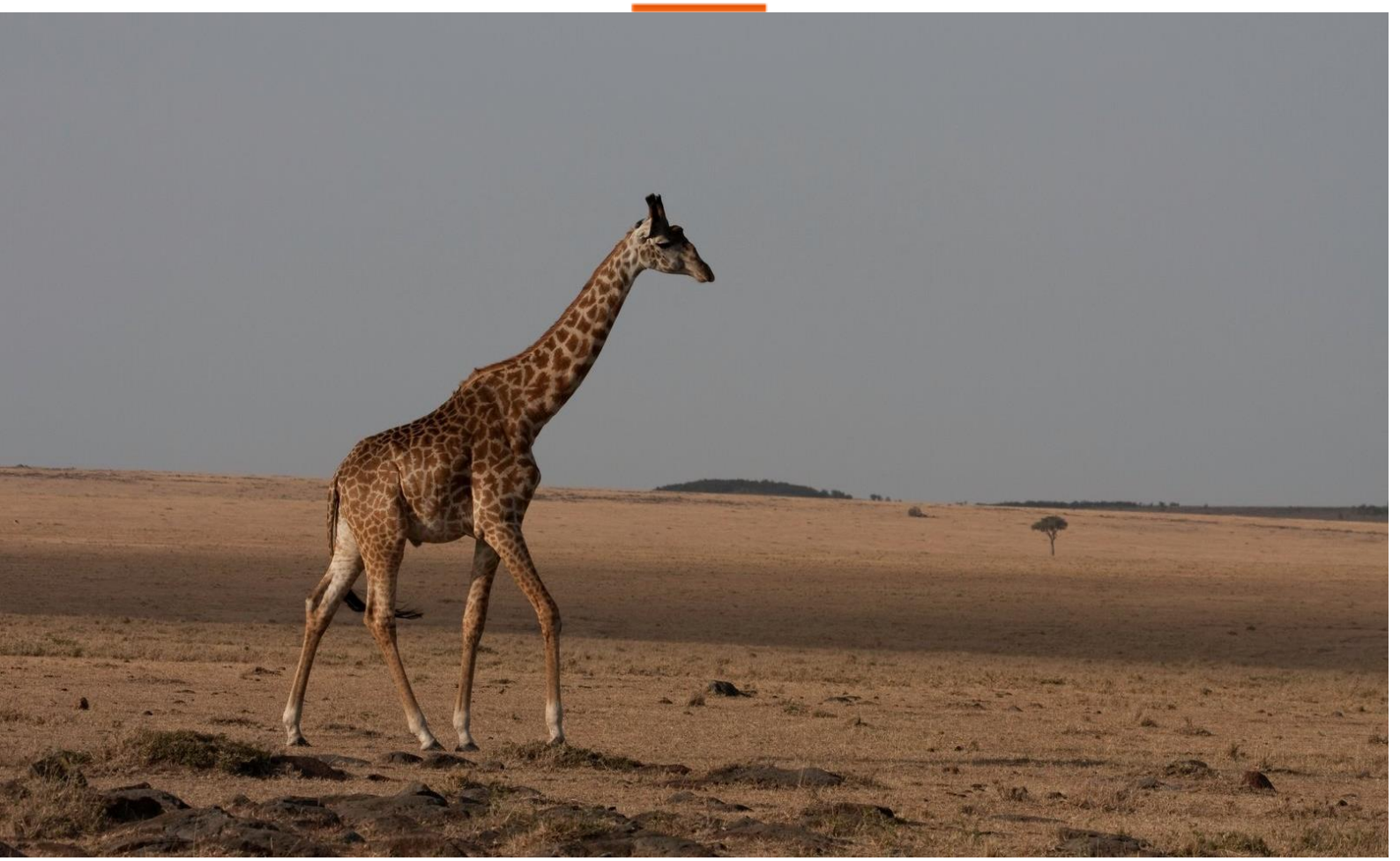
European Commission



Larger than elephants

Inputs for an EU strategic approach to wildlife conservation in Africa

Development and Cooperation – EuropeAid

A joint patrol of Gabonese and Congolese forest guards with seized ivory in a poachers' camp on the Ivindo River, Gabon-Congo border. Photo © Victor Mbolo – WWF

Afar herdsman near the Filoha springs in Awash National Park, Ethiopia. The guard post is clearly visible in the background. Photo © M. Murray

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ACRONYMS

AEC	African Economic Community
AES	African Elephant Summit
AEMLAP	African-Eurasian Migratory Landbirds Action Plan
AEWA	African-Eurasian Migratory Waterbird Agreement
AfDB	African Development Bank
AfESG	African Elephant Specialist Group
Afropol	African Police Office
AfRSG	African Rhino Specialist Group
AMD	African Mammal Databank
AMV	Africa Mining Vision
ARREST	Africa's Regional Response to Endangered Species Trafficking
ASEAN-WEN	Association of Southeast Asian Nations Wildlife Enforcement Network
AU	African Union
BIOPAMA	Biodiversity and Protected Areas Management
CAADP	Comprehensive African Agricultural Development Programme
CAP	Common African Position
CAPE	Cape Action for People and the Environment
CAR	Central African Republic
CBD	Convention on Biological Diversity
CBFP	Congo Basin Forest Partnership
CBMRM	Community-based Natural Resource Management
CEMAC	Economic and Monetary Community of Central Africa
CEPF	Critical Ecosystems Partnership Fund
CI	Conservation International
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
COMESA	Common Market for Eastern and Southern Africa
COMIFAC	Commission des forêts d'Afrique centrale (Central African Forests Commission)
CMS	Convention on the Conservation of Migratory Species of Wild Animals
DG	Directorate General
DG DEVCO	EU Directorate General for Development and Cooperation
DG ENV	EU Directorate General for Environment
DNA	deoxyribonucleic acid
DOPA	Digital Observatory for Protected Areas
DRC	Democratic Republic of Congo
EAGLE	Eco-activists for governance and law enforcement
EAC	East African Community
ECCAS	Economic Community of Central African States (Communauté économique des États d'Afrique centrale – CEEAC)
ECOFAC	Écosystèmes forestiers d'Afrique centrale
ECOFAUNE	Écosystèmes fauniques du Nord-Est RCA
ECOWAS	Economic Community of West African States
EIA	Environmental Impact Assessment
ETIS	Elephant Trade Information System
EU	European Union
Europol	European Police Office
FIELD	Foundation for International Environment Law Development

FR	forest reserve
FSC	Forest Stewardship Council
GCA	Game Control Area
GDP	gross domestic production
GIS	Geographical Information System
GIZ	Deutsche Gesellschaft fur Internationale Zusammenarbeit
GPS	Global Positioning System
GR	game reserve
HWC	human-wildlife conflict
IBA	Important Bird Area
ICCWC	International Consortium on Combating Wildlife Crime
IFAW	International Fund for Animal Welfare
IGAD	Intergovernmental Authority on Development
IGF	Fondation internationale pour la gestion de la faune (International Foundation for Wildlife Management)
Interpol	International Criminal Police organisation
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature and Natural Resources
JRC	Joint Research Centre of EU
KfW	Kreditanstalt für Wiederaufbau – Development Bank
KLC	Key Landscape for Conservation
LAGA	The Last Great Ape organisation
LATF	Lusaka Agreement Task Force
LIFE/LIFE+	EU funding instrument for the environment
MAB	Man and Biosphere Reserves
MDG	Millennium Development Goal
MEA	Millennium Ecosystem Assessment
MIKE	Monitoring the Illegal Killing of Elephants
MIKES	Minimizing the Illegal Killing of Endangered Species
MPA	Marine Protected Area
NASCO	Namibian Association of CBRNM Support Organisations
NBSAPs	National Biodiversity Strategy Action Plans
NEPAD	New Partnership for Africa's Development
NGO	non-governmental organisation
NICECG	National Inter-agency CITES Enforcement Coordination Group of China
NNR	national nature reserve
NP	national park
NR	nature reserve
NRM	Natural Resource Management
NRT	Northern Rangelands Trust
NTFP	non-timber forest products
NWS	National Wildlife Sanctuary
OCFSA	Organisation pour la conservation de la faune sauvage en Afrique
OECD	Organisation for Economic Cooperation and Development
OFAC	Observatory of Central African Forests
PA	protected area
PES	payments for ecosystem services
PETS	Public Expenditure Tracking Service

PFM	Participatory Forest Management
PPP	public private partnership
RAPAC	Réseau des aires protégées d'Afrique centrale
REDD/REDD+	Reduced Emissions from Deforestation and Forest Degradation/REDD+
RRI	Rapid Results Initiative
SADC	Southern Africa Development Community
SEA	Strategic Environmental Assessment
SSC	Species Survival Commission of IUCN
TA	technical assistant
TEEB	The Economics of Ecosystems & Biodiversity
TFCA	Transfrontier Conservation Area
TFNP	transfrontier national park
TNS	Sangha Trinational
TP	transfrontier park
TRAFFIC	The Wildlife Trade Monitoring Network
TRIDOM	Dja-Odzala-Minkebe Trinational Landscape
UEMOA	Union économique et monétaire ouest-africaine (West African Economic and Monetary Union – WAEMU)
UK	United Kingdom
UN	United Nations
UNECA	United National Economic Commission for Africa
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNODC	United Nations Office on Drugs and Crime
UNEP	United Nations Environmental Program
UNWTO	United Nations World Tourism Organisation
USA	United States of America
USAID	United States / US Agency for International Development
USFWS	United States Fish and Wildlife Service
WAEMU	West African Economic and Monetary Union (Union Economique et Monétaire Ouest-Africaine – UEMOA)
WCCB	Wildlife Crime Control Bureau (India)
WCO	World Customs Organization
WCS	Wildlife Conservation Society
WEMS	Wildlife Enforcement Monitoring System
WEN	Wildlife Enforcement Network
WCMC	UNEP World Conservation Monitoring Centre
WHS	World Heritage Site
WLFC	Wildlife and Forest Crime
WMA	wildlife management area
WR	wildlife reserve
WWF	Worldwide Fund for Nature

0 EXECUTIVE SUMMARY

This study was funded by the European Commission and has for objective to provide input for an EU strategic approach for African Wildlife Conservation, an operational response of the "Wildlife Crisis Window" of the EU's flagship "EU Biodiversity for Livelihoods (B4Life). B4Life is an umbrella framework to ensure better coherence and coordination of EU actions in the area of natural resources and ecosystems. B4Life was defined in 2014 with the purpose of highlighting the strong linkages between ecosystems and livelihoods in view of contributing to poverty eradication. It aims to tackle the drastic biodiversity loss by promoting good governance of natural resources, securing healthy ecosystems for food security, and supporting innovative ways to manage natural capital in the framework of green economy.

The impetus for developing this strategic approach has come from the growing global awareness of a wildlife crisis in Africa. Although the much publicised plight of the African elephant and rhino has placed the issue at the forefront of international debate, conservation practitioners working on the ground in Africa have known for a long time that the wildlife crisis is by no means limited to a few iconic African wildlife species, which are only the visible portion of an iceberg that hides a steady erosion of wildlife over a wide range of species in all biomes. The scale of the wildlife crisis is immense and one of the main aims of this document is to underline (a) just how much needs to be done and why, and (b) what are likely to be the most realistic and effective strategic priorities for saving Africa's wildlife heritage, given the rate of human population growth and associated habitat loss. It is also hoped that the document will serve as a way of federating the different wildlife conservation actors, both within and outside Africa, around a balanced series of common themes.

One of the key points that emerges from the following is that the pressure on land and natural resources in Africa has increased conspicuously in recent decades, and is set to increase considerably more as a result of ongoing demographic and economic trends; more than ever before, Protected Areas (PAs) have to be at the heart of any strategic approach to wildlife conservation as these are the areas where the most intact assemblages of Africa's wildlife are found. A second key point is that African people living in wildlife-rich areas need to have tangible benefits in the preservation of Africa's wildlife if they are (a) to accept the costs of living with it and (b) be able to continue using it sustainably. Thirdly, efforts to tackle the international illegal trade require concerted actions to stop the killing, stop the trafficking and stop the demand for wildlife and forest products. Fourthly, good quality and up-to-date information is essential in order to inform the choice of strategic options and monitor outcomes. Lastly, all of the above will require a whole raft of institutional, policy and legal improvements or changes to occur in parallel.

Combining the above considerations brings us to an overall objective, or desired outcome, for the strategic approach to wildlife conservation:

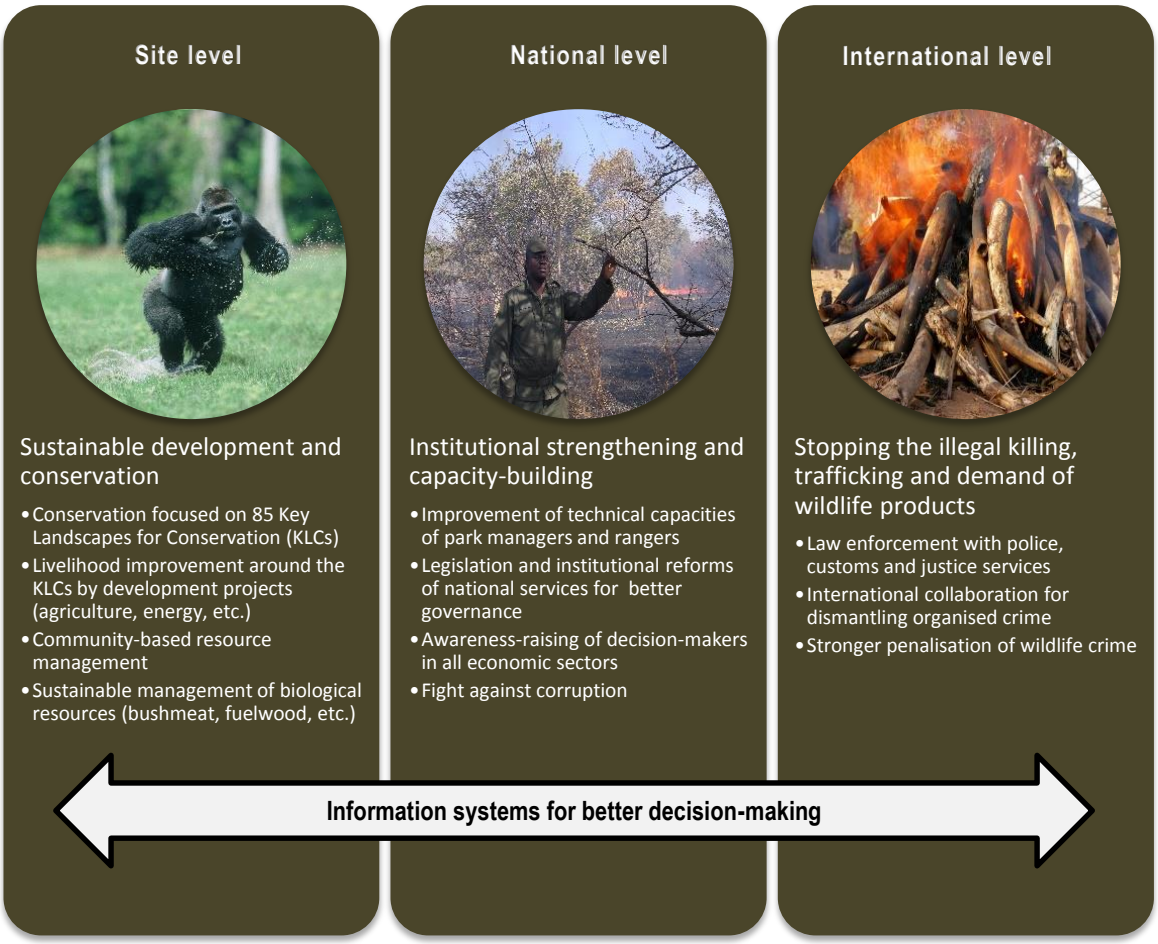
> **A full suite of viable populations of the unique wildlife heritage of sub-Saharan Africa maintained in healthy, functioning and resilient ecosystems supporting livelihoods and human development.**

Thus the strategic approach developed herein is primarily targeted at the conservation of large functioning ecosystems or landscapes supporting key African wildlife populations. It contributes to wider goals of biodiversity conservation by, for example, protecting many small areas of outstanding importance to particular threatened taxa where those small areas fall within larger conservation landscapes. A secondary tactic supporting wider biodiversity goals is to make conservation funds available to agencies and projects protecting small important sites that cannot be contained in the large key landscapes identified.

The strategic approach is available in a summary document and in detailed format. The detailed Strategic Approach to Wildlife Conservation in Africa is presented in six chapters as follows: (i) Synopsis, (ii) Southern

Africa, (iii) Eastern Africa, (iv) Central Africa, (v) Western Africa, (vi) Cross-cutting sections (elephants, rhinos, trade, Madagascar, birds).

The strategic approach describes the special features of each region, the conservation challenges and issues, and the ongoing conservation efforts. Drawing on lessons learnt and promising approaches from each region, the documents propose detailed indicative conservation actions.
Three types of actions are proposed: at site level, national level and international level.



At *site level*, the strategic plan is based on 85 Key Landscapes for Conservation (KLCs) covering about 300 major protected areas. These areas will have the capacity to sustain viable populations of large African wildlife species within functioning ecosystems under the greatly increasing external pressure on land that is anticipated this century. At the same time, they will act as foci in developing the rural economy through sustainable use of natural resources. A suitable network of KLCs will protect the well-known wildlife species of the region and stimulate economic growth. Transfrontier Conservation Areas (TFCAs) are a central part of this strategic approach.

Local development projects for the benefit of the populations living in the proximity of protected areas must be proposed in order to reduce the pressure on the habitat and the wildlife. In particular, agricultural and energy projects for the benefit of the local communities will bridge the gap between conservation *sensu stricto* and economic development.

Lastly, the issue of the unsustainable use of biological resources (bushmeat, fuelwood) must be addressed. The plan identifies three areas where action must be taken by reducing the demand, providing alternative sources and creating a conducive enabling institutional and policy environment so that local resource users have a secure stake in the resource and an incentive to manage it sustainably.

They will be supported at the *country level* with an emphasis on policy reform, institutional strengthening and awareness raising. This will include expansion of the current national and regional facilities for mid-level and senior-level training in wildlife management. The selected Transfrontier Conservation Areas will be further supported at the *regional level* with an emphasis on key reforms in national laws to give landholders and rural communities the right to manage wildlife and woodlands for their own benefit.

While on-the-job training will always be an important component of support to PAs, the major constraint to effective PA management is the weakness of the PA management authorities and the absence of career opportunities to encourage competent conservation practitioners (at all levels) to join the authority and stay on to make their career. Support for institutional strengthening and/or reform of national PA authorities should therefore be a strategic priority of this plan.

In addition to the KLC approach to conservation and the dismantling of wildlife trafficking networks, awareness raising is prioritised. As part of the recommended awareness-raising programme, a communication strategy will furnish materials and information on wildlife conservation to a range of targeted audiences.

Actions to dismantle wildlife crime networks at the *international level* are also key components of the plan and should focus on three themes: (i) building collaboration between organisations and agencies; (ii) strengthening law enforcement; (iii) properly penalising wildlife crime. Regional law enforcement initiatives should be supported, as should the important efforts of non-governmental organisation (NGO) wildlife enforcement networks.

Marine ecosystems and oceanic islands are also critically impacted by threats to wildlife, including unsustainable harvesting. Furthermore, we are aware that issues relating to the impoverishment of the marine environment and oceanic islands are as far-reaching as those of the terrestrial environment. A separate, but linked, strategic approach is therefore required for marine ecosystems and oceanic islands. Similarly a separate but linked strategic approach may be required for the conservation of freshwater ecosystems that recognises unique elements of the aquatic fauna. Some freshwater ecosystems are incorporated into this strategy, particularly those wetlands that have importance for waterbirds, or as terrestrial ecosystems in their own right (such as the Okavango Delta, swamp forest areas in Central Africa, the Rift Valley Lakes, the Sudd, Lake Chad, the Senegal Delta and Inner Niger Delta), or have exceptional importance for biodiversity (Lakes Malawi and Tanganyika for example).

The European Union wishes to assist in building an inclusive strategic approach to the conservation of African wildlife that involves all political and organisational stakeholders working for the benefit of Africa, its wildlife heritage and its peoples. This document may be viewed as a first step in the process of building a consensus, after which the various strategic elements proposed will need to be translated into action through a series of programmes and projects for which detailed results and indicators will have to be developed and rigorous performance monitoring and accountability measures applied. Through cooperation we trust that the long-term future of African wildlife can be secured and that this will be done in such a way as to provide the greatest benefits to the nations and peoples of Africa, and not least to the local people who live alongside and within some of the most spectacular wild ecosystems on the planet. The natural heritage of Africa greatly enriches the global natural heritage and we hope this strategic approach to its conservation will encourage others to adopt compatible strategic approaches in other regions.

1 INTRODUCTION AND SPECIAL FEATURES OF SUB-SAHARAN AFRICA

1.1 BACKGROUND TO THE CURRENT STUDY

Africa – the cradle of human evolution and a continent of extraordinary wildlife from elephants to flamingos to the Tai Toad – is facing an unprecedented wildlife crisis. A combination of habitat loss and degradation, poaching and changing climate amidst a context of poverty, political instability, weak governance and porous international boundaries is driving a high proportion of the continent's unique fauna and flora towards extinction. This constitutes a tragic loss of irreplaceable global heritage, a loss of resources desperately required for the livelihood of local communities, loss of vital ecological services, collapse of unique wildlife migration networks and fuels a vicious cycle of further poverty, corruption, and illegal operations by terrorist organisations. Yet at the same time Africa is a continent of rapid change and development, with real gross domestic production (GDP) growth rates rising steadily to 5% or higher. Africa's political, economic and physical landscapes are changing and are set to change more over the coming decades. The extent to which wildlife and wild lands remain a significant feature of the continent will be determined by decisions and actions taken over the timeframe of this strategy. There is an urgent need to invest to ensure that Africa's future embraces and protects the iconic wildlife.

The objective of this document is to identify at the scale of sub-Saharan Africa the principal threats to wildlife (including animals and plants) and the most appropriate responses. This includes interventions to tackle both broad wildlife conservation needs and specifically the growing problem of illegal wildlife trade (including ivory, rhino horn, endemic species, bushmeat and rare timbers). Special attention is also given to improving the livelihood of rural populations in the vicinity of wildlife areas with a view to reducing their reliance on the unsustainable use of wild resources and the illegal use of protected wildlife. A fundamental prerequisite to reach these objectives is to address indifference and low awareness of civil society at national and international level by communication and education.

The document outlines a proposed strategic approach at global, regional and local levels within an urgency timescale from immediate to long-term actions to stem the growing wildlife crisis in Africa. It is intended to help guide inputs and better coordinate programmes for wildlife conservation in Africa. Gaps in current attention are identified, innovative approaches are proposed and approaches currently showing success are recommended for up-scaling and wider application.

The full report is structured into six documents:

- **Synthesis**
- **Southern Africa** – Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia, Zimbabwe
- **Eastern Africa** – Burundi, Eritrea, Ethiopia, Kenya, Tanzania, Rwanda, Uganda, South Sudan, Somalia
- **Central Africa** – Cameroon, Central African Republic, Chad, Congo Republic, Democratic Republic of Congo, Equatorial Guinea, Gabon, São Tome e Príncipe
- **Western Africa** – Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo
- **Special topics** – elephants, rhinos, trade, Madagascar, birds.

The current wildlife crisis in Africa is a major concern globally and for Europe. More generally, biodiversity is important for sustainable development. This is underlined in the European Commission Communications *A decent life for all: Ending poverty and giving the world a sustainable future* of 27 February 2013 (COM(2013) 92) and *A Global Partnership for Poverty Eradication and Sustainable Development after 2015* (Communication of 5

February 2015, COM(2015) 44). In addition, stepping up action to tackle the global biodiversity crisis and help averting global biodiversity loss is one of the actions laid down in the EU Biodiversity Strategy to 2020 of 3 May 2011 (COM(2011) 244 final). This Strategy tallies with the Strategic Plan for Biodiversity adopted under the Convention for Biological Diversity[1].

1.2 AFRICA – ICONIC WILDLIFE CONTINENT

In Africa we find vast wild landscapes of forests, savannahs, mountains, wetlands, coasts and deserts with a dazzling range of animals from okapi to penguins. This is the home of the 'big five' – elephant, rhino, buffalo, lion and leopard – that are so attractive to safari tourists. Africa is the cradle of mankind, origin of our species and ape ancestors. Africa retains the last great migrations of mega-fauna, literally millions of antelopes trailing over great savannahs between seasonal feeding areas. It is also the wintering home of many millions of migratory birds, many coming from their breeding grounds in Europe. The continent is home to many thousands of additional wildlife species, which also show a high level of continental endemism as a result of Africa's long geological history of isolation. The island of Madagascar constitutes a unique mini-continent with its own strange fauna of lemurs and unrivalled levels of endemism in most taxa. The rivers and lakes of Africa contain thousands of unique fish species including the endemic cichlids so familiar in aquaria or on the dining table as tilapia. The Congo basin alone contains an estimated 1 250 fish species.[2] Africa contains three of the world's 17 'Megadiversity' countries – Democratic Republic of the Congo (DRC), South Africa and Madagascar.[3]

1.3 PATTERNS OF WILDLIFE DISTRIBUTION

Wildlife is not distributed uniformly across the continent but follows patterns of geography, climate, vegetation, faunal barriers, Pleistocene refugia and anthropogenic transformations of the landscape. It is clearly not possible to conserve all parts of the continent. The challenge is therefore to identify the most important areas for wildlife and focus conservation inputs where they can deliver the best positive impacts.

Overall vegetation distribution shows a core of humid evergreen forests in the tropical zone of the Congo basin, Guinea coast and eastern Madagascar, whilst deserts prevail across North Africa and in Southwest coastal Africa. Between these extremes, vegetation grades from woodlands to savannah to arid scrub. This major pattern is complicated by a pattern of lakes and wetlands and a few high mountains and plateaus (Figure 1).

Different species are specialised to occupy different vegetation zones but their distributions also reflect factors of geographic isolation, radiations and refugia. The plants themselves show ancient phytochoria with high levels of endemism in regions of past floral radiation[4]. Animal taxa show widely different distribution patterns. Aquatic life shows great richness and endemism in isolated lakes and large river systems. Insects, birds and primates are best represented in the forest regions whilst ungulates and large carnivores are mostly distributed in savannah areas. Many rare endemics are confined to isolated montane regions. Other species, such as the African elephant, have a broader habitat use and are widespread across the continent.

[1] CBD: https://www.cbd.int/sp/ and the related Aichi Targets: https://www.cbd.int/sp/targets/
[2] Darwall, W.R.T., K.G. Smith, D.J. Allen, R.A. Holland, I.J. Harrison, and E.G.E. Brooks (Eds.) (2011). The Diversity of Life in African Freshwaters: Under Water, Under Threat. An analysis of the status and distribution of freshwater species throughout mainland Africa, IUCN, Cambridge, United Kingdom and Gland, Switzerland, xiii+347pp+4pp cover.
[3] Mittermeier, R.A., P. Robles Gil and C. Goettsch Mittermeier (Eds.). (1997). *Megadiversity. Earth's Biologically Wealthiest Nations*, CEMEX, Mexico.
[4] White, F. (1983). The vegetation of Africa: A descriptive memoir, UNESCO, Paris.

1.3.1 Prioritisation approaches

Many approaches have been developed to assess and prioritise the biological importance of different areas in Africa with respect to different criteria, including diversity, endemism, endangered species, wilderness areas, etc. All have their merits but no single approach comprehensively covers all aspects. They include the Worldwide Fund for Nature's (WWF) global 200 selection of the most important eco-regions[5], Conservation International's Megadiversity approach for areas with the greatest overall biodiversity, or its Hotspot approach for areas combining high levels of biological importance with high levels of threat[6, 7], the Critical Ecosystems Partnership Fund's Ecosystem Profiling for hotspots[8], specific efforts to identify sites of plant importance[9], bird importance[10] or other taxa and the interesting approach of global irreplaceability[11]. Reference was made to all these approaches during the present work and the areas identified (section 5.1) do cover all the major ecosystems and consistently rate them as being of high importance for most taxa.

1.4 THE SOCIO-ECONOMIC SETTING

As one after another of the former European colonies gained independence, the second half of the 20th century has seen massive socio-economic changes across sub-Saharan Africa. Stability of the fledgling nations has been questionable with frequent civil wars, coups d'états, rebellions and cross-border incursions. Population rose dramatically from 220 million in 1950 to 800 million by the turn of the century and is projected to reach 2.1 billion by 2050 and almost 4 billion by 2100 (Table 1). **This exponential rise in the human population on the African continent will have a profound impact on the distribution and abundance of wildlife**. The case of Tanzania, whose GDP is largely dependent on tourism based on wildlife, starkly illustrates this point. At current rates of population growth, by the end of the century the population of Tanzania will be two-thirds that of the United States of America (USA) but in an area ten times smaller. Worse still, Nigeria, also with a surface area roughly ten times smaller than the USA, is projected to have a population that will be double that of the USA.

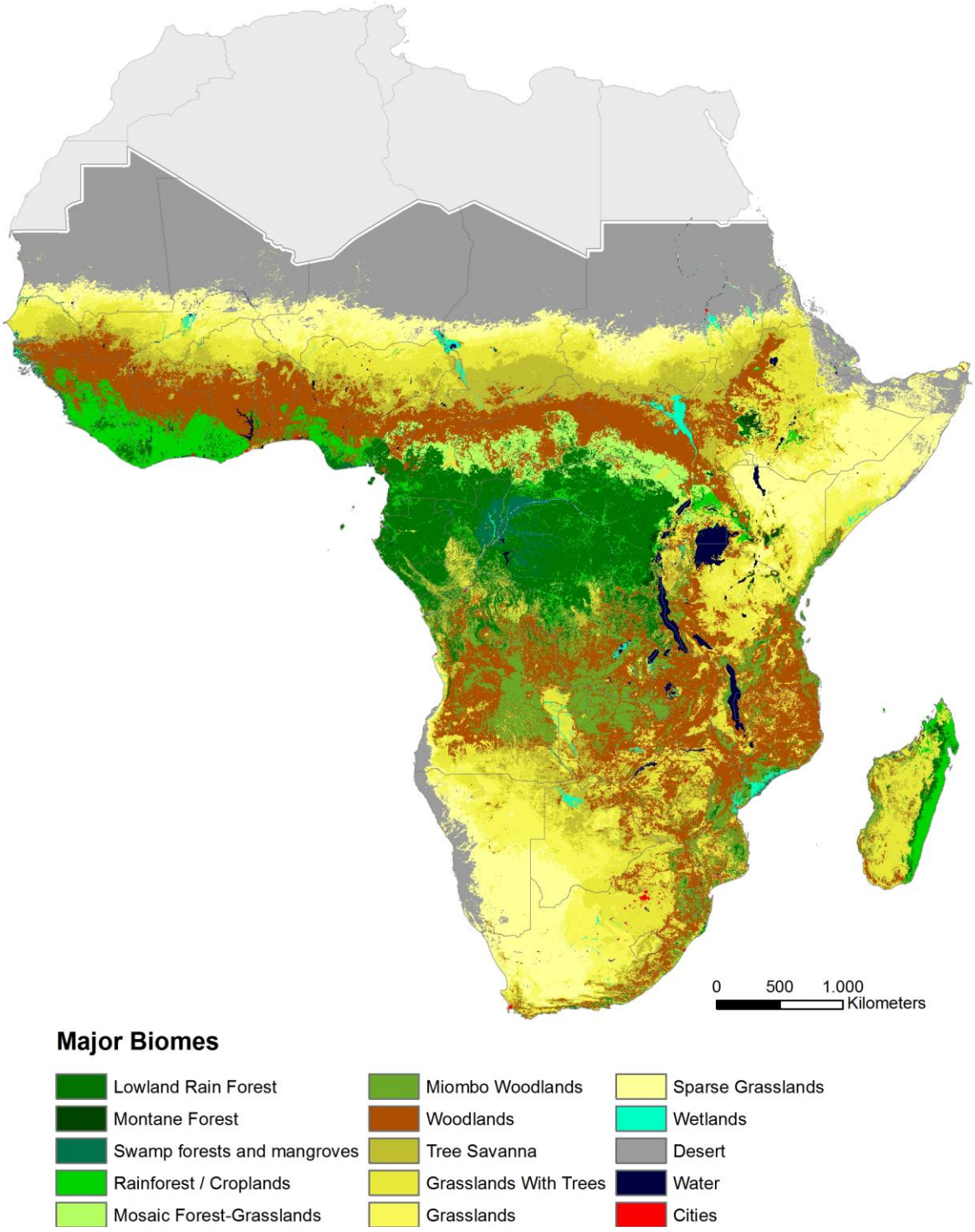
New industries have emerged in the form of beef ranching, commercial plantations of traditional crops such as banana, mangos, yams, groundnuts, cola and oil palm, plus new crops such as cocoa, rubber, coffee, tea and sisal. Forest regions have established timber production industries. Several countries have been able to build up significant industries based on eco-tourism. Overall, agricultural production (including fisheries) supplies most of the domestic economy but only about 30% of African exports. The bulk of exports are derived from oil and gas reserves and the mining of gold, diamonds, copper, chromate, cobalt, manganese, phosphorus, aluminium and uranium with rare metals emerging as a new precious resource (e.g. coltan – columbite and tantalite metal ore used for producing tantalum capacitors in the electronics industry).

Despite this great wealth in natural resources, the economic development of the continent has been disappointing. Although Africa and Asia had similar levels of income in the 1960s, Asia has since outpaced Africa. Of the 49 countries listed globally as 'least developed countries' by the United Nations (UN) 34 are in Africa. Poor performance has been blamed on the lack of infrastructure, lack of investment, political instability and corruption. Corruption has involved extracting profit from trade and industry and exporting this capital overseas rather than

[5] Olson, D. M. and E. Dinerstein (2002). The Global 200: Priority ecoregions for global conservation, *Annals of the Missouri Botanical Garden* 89(2), pp. 199-224.
[6] Myers, N. et al. (2000). Biodiversity hotspots for conservation priorities, *Nature* 403, pp. 853-858.
[7] Mittermeier, R.A., N. Myers, P. Robles Gil, and C. Goettsch Mittermeier (2004). (Eds.). *Hotspots Revisited: Earth's Biologically Richest & Most Endangered Ecoregions*. CEMEX, Mexico City.
[8] http://www.cepf.net/where_we_work/Pages/default.aspx
[9] Davis, S.D. et al. (1994, 1995, 1997). *Centres of Plant Diversity: A Guide and Strategy for their Conservation*, Volumes 1–3, WWF, Gland, Switzerland and IUCN, Cambridge, UK.
[10] BirdLife International (2013). *State of Africa's birds 2013. Outlook for our changing environment*, Nairobi, Kenya, BirdLife International Africa Partnership.
[11] Le Saout et al. (2013). Protected areas and effective biodiversity conservation, *Science* 342, pp. 803-805.

reinvesting in local economies. Researchers estimate that from 1970 to 1996, capital flight from 30 sub-Saharan countries totalled USD 187 billion, exceeding those nations' external debts[12].

Figure 1 Major African biomes (derived from GLC 2000, Mayaux et al., 2004)



[12] Wrong, Michela, When the money goes west, *New Statesman*, 14 March 2005. Retrieved 28 August 2006.

Since 2000, the African economy has improved considerably. In 2013, Africa was the world's fastest-growing continent at 5.6% per annum, and GDP is expected to rise by an average of over 6% per year between 2013 and 2023[13]. Growth has been present throughout the continent, with over one-third of sub-Saharan African countries posting 6% or higher growth rates, and another 40% growing between 4% and 6% per year. China and India are increasingly important trade partners: 12.5% of Africa's exports are to China and 4% are to India, which accounts for 5% of China's imports and 8% of India's. The Group of Five (Indonesia, Malaysia, Saudi Arabia, Thailand and the United Arab Emirates) is another increasingly important market for Africa's exports.[14]

One of the secrets of Africa's economic upturn has been the emergence of effective economic trading blocs and growing political maturity. Since 1975, a variety of different political and economic unions have evolved, including the African Union (AU), African Economic Community (AEC), Common Market for Eastern and Southern Africa (COMESA), East African Community (EAC), Southern African Development Community (SADC), Economic Community of Central African States (ECCAS), Economic and Monetary Community of Central Africa (CEMAC), Economic Community of West African States (ECOWAS), West African Economic and Monetary Union (WAEMU), and the New Partnership for Africa's Development (NEPAD – an economic development programme of the AU). These structures can play a key role in advancing conservation agendas. For example, SADC is closely involved with the development of Peace Parks and TFCAs through its Protocol on Wildlife Conservation and Law Enforcement. In Eastern Africa, the EAC promulgated a Protocol on Natural Resource Management and the East African Legislative Assembly passed the EA Community Transboundary Ecosystems Bill. In Central Africa, ECCAS has set up an anti-poaching cell in response to the upsurge in wildlife crime and trafficking and its links to national security.

1.5 SPECIAL FEATURES OF THE REGIONS

For convenience it is common to consider sub-Saharan Africa as four regions – western, central, eastern and southern (Figure 2). Madagascar is biologically so distinct as to merit special regional treatment. Each region has shared features of geography, language and political relations. Each region also has distinctive characteristics in terms of wildlife and conservation priorities.

Table 1 Human population trends in sub-Saharan Africa (countries covered in this document)

	Population size (millions)		
	2013	2050	2100
Southern Africa	***151***	***298***	***525***
Angola	21	54	97
Botswana	2	3	3
Lesotho	2	3	3
Malawi	16	41	85
Mozambique	26	60	112
Namibia	2	4	4
South Africa	53	63	64
Zambia	15	44	124
Zimbabwe	14	26	33
Eastern Africa	***313***	***714***	***1 208***
Burundi	10	27	56
Djibouti	0.9	1	1
Ethiopia	94	188	243
Eritrea	6	14	22
Kenya	44	97	160
Rwanda	12	25	36
Somalia	10	27	54

[13] http://www.worldbank.org/en/region/afr/overview
[14] Economic Report on Africa 2012,United Nations Economic Commission for Africa (UNECA), p. 44. Retrieved 2 March 2013.

	Population size (millions)		
	2013	2050	2100
Sudan	38	77	116
South Sudan	11	25	39
Tanzania	49	129	276
Uganda	38	104	205
Central Africa	***114***	***261***	***448***
Central African Republic	5	8	12
Cameroon	22	49	82
Chad	13	33	63
Congo	4	11	21
Democratic Republic of Congo	67	155	262
Equatorial Guinea	0.7	2	2
Gabon	2	3	5
São Tome e Príncipe	0.1	0.4	0.6
Western Africa	***333***	***811***	***1 634***
Benin	10	22	33
Burkina Faso	17	41	75
Gambia	2	5	8
Ghana	26	46	57
Guinea	12	24	36
Guinea Bissau	2	3	6
Côte d'Ivoire	20	42	76
Liberia	4	9	16
Mali	15	45	101
Mauritania	4	8	12
Niger	18	69	204
Nigeria	174	440	913
Senegal	14	33	58
Sierra Leone	6	10	14
Togo	9	14	25
Madagascar	***23***	***55***	***105***
Africa & Madagascar	***934***	***2 139***	***3 920***

Figure 2 Countries of the four regions as defined in this document.

1.5.1 Southern Africa

The ten countries of Southern Africa comprise the wealthiest and most developed region of sub-Saharan Africa, although the development of countries is rather uneven. They also exhibit very high diversity of habitats and species. Physically much of the region is a raised plateau edged by a great escarpment on its south-eastern edge, including the dramatic Drakensberg Mountains and flat-topped Table Mountain. This combined with the southerly location results in colder southern winters than the rest of Africa and indeed penguins can be found at the most southerly points.

Physical wonders of the region include the great Etosha saltpans, the unique inland delta of Okavango and the great Victoria Falls on the Zambezi River. The region contains some large deserts such as the Kalahari – home of the Bushmen or San People – and the ancient Namib Desert, which has been arid for 55 million years and is considered to be the oldest desert in the world. It extends along the coast of Namibia and merges with the Kaokoveld Desert in Angola and the Karoo Desert in South Africa, which has the world's richest flora of succulent plants. Fynbos shrubland forms a major element of the Cape Floristic Region, which is one of the six recognised floral kingdoms of the world with some 9 000 vascular plant species of which 69% are endemic to South Africa.

Another important centre of plant endemism lies on the eastern coast of southern Africa below the Great Escarpment.

Lake Malawi is the most southerly lake of the East Africa Rift system. It is 570 km long. The lake contains more species of fish than any other lake on earth including an incredible radiation of more than 1 000 endemic species of cichlid fish. It also contains tilapia, a globally important food species, four mouth-brooding species of chambo (*Nyasalapia*), and many endemic molluscs.

With some of the oldest and largest reserves and parks in Africa, southern Africa contains more elephants and rhinos than the rest of the continent. Parts of the region face great pressure from expanding rural populations; however Namibia has the lowest human population density. With agriculture limited in arid regions, the emphasis is placed on ranching, leading to the erection of thousands of fences which pose a hazard and barrier to the wildlife of the dry forest and savannah.

Southern African countries have had a long record of wildlife conservation and game management, and have been pioneers of community-based natural resource use, transfrontier conservation and other innovative conservation approaches.

1.5.2 Eastern Africa

East Africa is the most complex and diverse of the four regions in terms of physical geography, climate, biodiversity, and human culture and languages. The region includes the highest and lowest points on the continent and a range of habitats from rain forests and coastal reefs to deserts. Unique features include the montane fauna and flora of the Ethiopian Highlands, the tropical glaciated mountains of Ruwenzori, Kenya and Kilimanjaro, the forested escarpments of the Albertine Rift Valley, the great lakes of Africa including unique soda lakes with their amazing flocks of millions of pink flamingos, the unique Horn of Africa, the largest and most spectacular migrations of savannah wildlife – wildebeest, zebra and associated antelopes, gazelles and stalking carnivores – in the Mara-Serengeti region between Tanzania and Kenya or white-eared kob and tiang in Gambella-Boma between Ethiopia and South Sudan, plus some important relict forests of the East African coasts. The region contains many of the most famous and spectacular protected areas of the continent.

The famous Ngorongoro crater of Tanzania is a testimony to the volcanism of the region, and the Virunga volcanoes that form the border between Eastern Africa and Central Africa are still active today.

The 676 km long rift lake, Lake Tanganyika, is the longest freshwater lake in the world and only exceeded in total mass and absolute depth by Lake Baikal in Russia. The lake has a maximum depth of 1 470 m. It also harbours 250 different cichlid fish and 150 other fish species; 98% of the cichlids are endemic. The much shallower Lake Victoria covers more area but is not a rift lake, shows less endemism but remains an important fishery for the local populations of three countries.

The region contains many important fossil sites of early man and ancestral hominids with associated animal remains.

1.5.3 Western Africa

Western Africa, comprising 15 countries, exhibits a gradation of aridity from the southern fringes of the great Sahara Desert in the north, through the arid Sahel region, seasonally arid Western African savannah woodlands and very diverse evergreen rainforests along the Guinea coast region, fringed by tropical mangrove forest. The homogeneity of these zones is broken by isolated mountain blocks such as Mount Nimba, Loma Mountains, Fouta Djalon, Air and Jos plateaus, some large lakes and rivers. The Guinea rainforests are divided into two

distinct blocks by the Dahomey Gap. The forest of southern Nigeria and Cameroon is transitional between Western and Central Africa as well as being a distinctive and very biodiverse Pleistocene refuge in its own right. The region is characterised as having high biodiversity values in a wide range of ecosystems, but weak and underfunded management for biodiversity protection. Especially significant wildlife of Western Africa includes several key endemics such as pygmy hippo, several primates, duikers, birds, amphibians and reptiles. More widespread species of high conservation importance include elephant, lion, chimpanzee, desert cheetah, the Cross River gorilla, giant eland, giraffe and several northern antelopes (addax, oryx, roan, etc.). Wetlands are of huge international significance for migrating waterbirds as well as local fisheries. Western Africa is the main wintering area for a large suite of Afro-Palaearctic migrant birds. Biological richness is very high in the small forest zone.

Matched to the climatic zones are patterns of human life patterns: the desert and Sahel regions are characterised by pastoral herders, whilst the more humid southern sectors are populated by farmers. As Sahel conditions have become increasingly unproductive as a result of climate change, overgrazing and the unsustainable cutting of its few trees for fuel and charcoal, herdsmen have been forced to move ever southwards. Meanwhile the creation of political or national boundaries has changed some of the original pastoral migration patterns. Greatly increased population density in the agricultural zones has led to the extension of farm clearance of woody vegetation into the forest zones and further north. The result is a clash of ethnic and religious groupings and life styles, and the entire region has been repeatedly devastated by civil unrest. The region is also characterised by poor institutional governance and weak monitoring, poor planning and policy and sectorial approaches with unsustainable land and resource use.

The biodiversity-rich forest zone is threatened by fragmentation, bushmeat hunting and conversion to agriculture, whilst the arid savannah zone has been almost stripped of larger wildlife with a system of large but degraded and almost empty protected areas.

1.5.4 Central Africa

Central Africa contains the most extensive continuous forests in all of Africa. The moist, tropical forest block of what is loosely referred to as the Congo Basin is the dominant feature of the Central African region in terms of surface area, species richness and diversity, carbon sequestration and influence on climate. The Congolian swamp forests are the largest area of swamp forest on the planet. The Gulf of Guinea islands of Equatorial Guinea and São Tome e Príncipe (named the Galapagos of Africa for the richness of endemism) also contain small but biologically important areas of moist tropical rainforest. To the north and south of the moist forest block the ecological transitions to woodland and savannahs produce a number of biologically important and unique ecosystems.

Overall diversity, particularly floral diversity, of the Central African forests is high, though not as high as the Southern African region. What makes these forests particularly interesting is that much of the fauna and flora is found nowhere else in the world, and this is true, not only at the species level but also at the genus and even family levels. Iconic and endemic species include forest elephant, okapi, and four subspecies of gorilla, bonobo, aquatic genet and Congo peacock. The montane forests and afro-alpine formations on Mount Cameroon and the Cameroon Highlands in the west and the Albertine Rift in the east are areas of particularly high biodiversity and levels of endemism.

The Congo basin is also a gigantic carbon sink and as such plays a vital role in regulating the planet's greenhouse gases. It has a dominating influence on local weather patterns since over 50% of the rain that falls on the central Congo basin comes from evaporation and evapo-transpiration from the forest itself. It is important to underline that average rainfall over the Congo basin is relatively low (c. 2 000 mm) when compared with

Amazonia and Southeast Asia, and places it close to the threshold of dry forests. This means that most, if not all, of the moist forest tree species would likely be lost if rainfall were to decrease slightly through climate change or extensive forest clearance. With a shift to drier forests, fire would start having a devastating impact on the remaining forests, hydrological regimes would be profoundly affected, and the impact on human livelihoods in the region would be profound. The vastness and apparent intactness of the moist tropical forests of the Congo basin forests therefore belies the extreme precariousness of its existence.

A key difference to other regions of Africa is the generally intact nature of vast areas of habitat outside protected areas, particularly in the moist forest zone, together with the low human densities. This means that it is not too late to do something for conservation. Elsewhere in Africa much of the natural habitat outside protected areas has already gone or is severely degraded.

1.5.5 Madagascar and the Western Indian Ocean islands

Although separated from the African continent by a gap of barely 400 km, the island of Madagascar has evolved in isolation from Africa for 165 million years and from India for 65 million years. It exhibits both high species richness and extraordinary levels of endemism. There are more plant species in Madagascar than the entire Congo basin. Forests to the north and east are humid whilst those in the west and south are increasingly arid. The island constitutes a region of disproportionate conservation importance with high levels of endemism and a high proportion of endangered species.

Special fauna of Madagascar include the famous lemurs, tenrecs and chameleons. Several of the larger fauna were exterminated after the arrival of humans, including giant tortoises and the enormous elephant birds, whose fractured eggs shells can still be found today.

The main threat to forests is slash-and-burn agriculture, known as tavy in Madagascar. In the East, tavy is principally for hill rice whereas in the west and south it is practised to cultivate a mixture of crops, usually cassava and a variety of vegetables. As the human population has risen, fallow periods have decreased and more forests have been cleared. In addition, cutting for charcoal production and the illegal harvest of rare timbers such as rosewood compounds the deforestation problem. Hunting for bushmeat is a direct threat to wildlife whilst mining for ilmenite, nickel and cobalt is a new and growing threat that is impacting several protected areas, including Ankarana and Isalo national parks.

The terrestrial ecosystems of the smaller Western Indian Ocean Islands (Seychelles, Union of the Comoros and Mauritius, together with the French islands of Réunion, Mayotte and the Iles Eparses) are of exceptional conservation importance as part of the Madagascar and Indian Ocean Islands biodiversity hotspot, with many endemic and threatened species and ecosystems.

1.6 THE ASIA DIMENSION

The rapid growth of Asian economies and most notably the growth of China over the past few decades profoundly impacts Africa's natural resource base. China is not only now the biggest market for the mineral wealth of the continent but is also the largest market for timber (both legally and illegally sourced) and wildlife parts (both legal and illegal). Wildlife imports include rare woods, orchids, all types of reptiles, pangolins, primates, parrots, all parts of rhinoceros and ivory. Thailand is also an important destination for illegal ivory whilst Vietnam is now the biggest importer of illegal rhino horn.

2 CONSERVATION ISSUES AND CHALLENGES

International attention, often provided by many very high-profile individuals (royalty, world leaders, film stars and celebrity sportsmen), has been brought to the devastating and horrific levels of poaching of elephants and rhino. More sustained awareness has been focused on the bushmeat trade and the killing and eating of rare apes. Politicians and the UN General Assembly are alarmed at the growing evidence of links between wildlife trafficking, organised crime and terror organisations.[15] But these headline-grabbing issues are only the tip of the 'African ecological crisis' iceberg.

Even if we could halt the poaching and wildlife trafficking tomorrow, Africa would still face a much deeper and more serious degradation of its natural environment, including its entire wildlife heritage and loss of ecosystem services that are vital for human development on the continent. Failure to tackle the several causes of such degradation endangers all cherished and iconic animals, migratory birds, important fisheries and possibilities for the sustained use of natural resources including timber, fisheries, soils and grasslands. The loss of ecosystem services would inevitably lead to poverty, famines, civil strife, wars, the spread of uncontrolled diseases, mass movements of refugees and the collapse of many global economic institutions well beyond the confines of the African continent.

2.1 LOSS OF SPECIES

Red Data Lists and specialist reports continue to document a depressing catalogue of species losses and severe declines across Africa.

- African elephants have declined from 5-10 million in the 1930s to a mere 500 000 today. They still occur in 35-38 range states but poaching for ivory has re-emerged as a serious threat. It is estimated that 35 000 elephants were poached in 2013. Most seriously threatened is the forest elephant *Loxodonta africana cyclotis* which lost 62% of its population between 2002 and 2012.
- The Southern white rhino was rescued by conservation action from the brink of extinction and now numbers about 20 000 but its northern race is feared to have gone extinct in its original habitat and the three races of black rhino have all crashed to a total of a mere 4 000 animals.
- Africa has lost between 30% and 50% of its lions over the past two decades and may now number as few as 32 000 animals. The situation is especially desperate in Western Africa. A recent six-year survey showed that from a known occurrence in 21 protected areas in 2005, lions are now confirmed in only four sites, roaming in just 1.1% of their historic range in Western Africa and are extinct in all of their former range in Northern Africa.
- The great apes are becoming increasingly endangered by the bushmeat trade, deforestation, the pet trade and human diseases. All are endangered and survival is realistic in only a few key localities of Western and Central Africa.
- Many other iconic mammals are listed as regionally or globally endangered, including such familiar animals as cheetah, hippo, giraffe, large antelope, anteaters, etc.
- One-tenth of African birds are listed as globally threatened. Of 119 Afro-Palaearctic long-distance migrant species (those breeding in Europe and wintering in sub-Saharan Africa), 48 (40%) show marked declines in population. Vultures are especially threatened: they are killed as a result of carcasses being poisoned to eliminate carnivores, poisoned by eating the veterinary drug diclofenac in carcasses of domestic cattle, and killed so as not to attract attention to evidence of poaching.
- African amphibians are becoming threatened as a result of the spread of diseases and moist habitats becoming drier.

[15] UN General Assembly resolution on Illicit Trafficking / Illegal Trade in Wildlife, November 2014.

- Africa's rich diversity of freshwater fish is second only to that of South America and almost totally endemic. These species are vital for the functioning of freshwater ecosystems and are of huge economic importance. Many millions of people rely on freshwater fish for food and income, and many species of perch and tilapia have become globally important commercial species. Twenty-eight per cent of Africa's freshwater fish species are listed as endangered. The main causes are shrinkage of lakes, pollution of waterways, invasive plants such as water hyacinth, overfishing and the introduction of alien fish species.

The Species Survival Commission (SSC) of the International Union for Conservation of Nature and Natural Resources (IUCN) publish global red lists of threatened species rated as critical (CR), endangered (EN), vulnerable (V) and least concern (LC), and encourage national efforts to make more detailed national red lists. Africa lists a high percentage of threatened species in most taxa and each revision or update adds ever more species to these lists. Already several significant animals have become extinct: quagga, bluebuck, western black rhino, etc. Other species have become extinct over a large proportion of their range.

Africa is failing to meet Millennium Development Goals (MDGs) and global targets under implementation of the Convention on Biological Diversity (CBD) to reduce and reverse such trends of biodiversity loss.

There is evidence of some regional variation in the pattern of species loss. When indices for population abundance of 69 species of large mammal within 78 protected areas over a 35-year period are compared, the results (Figure 3) show the sharpest losses in Western (and Central) Africa, and a slight rise in Southern Africa where species losses in the previous centuries had been highest.

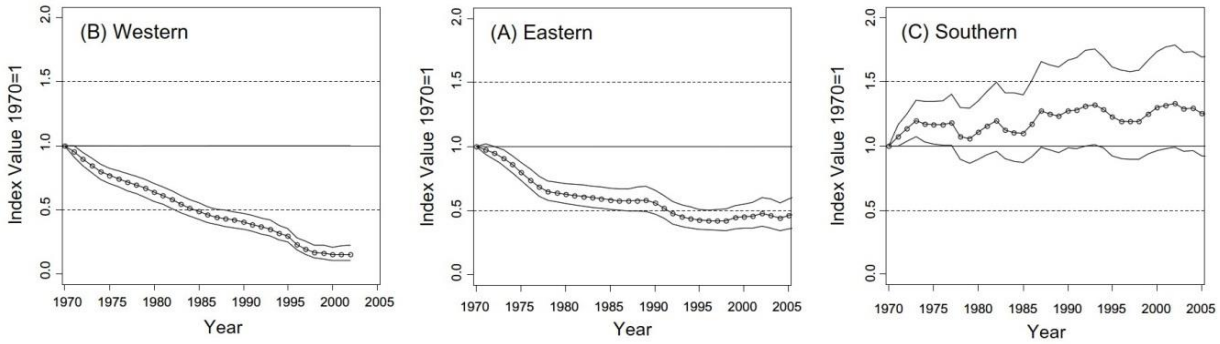


Figure 3 Relative trends in mammal population indices in Africa
Source: Craigie, I.D. et al. (2010). Large mammal population declines in Africa's protected areas, *Biological Conservation* 143, pp. 2221-2228.

2.2 LOSS OF ECOLOGICAL SERVICES

'Natural capital' – our ecosystems, biodiversity and natural resources – underpins economies, societies and individual well-being. The values of its myriad benefits are, however, often overlooked or poorly understood. They are rarely taken fully into account through economic signals in markets, or in day-to-day decisions by businesses and citizens, nor indeed reflected adequately in the accounts of society.

Clearing, fragmentation and degradation of natural habitats have already led to massive losses of ecological services like the decline and pollution of water sources, loss of hunting and grazing habitats (provisioning services); reduction of carbon fixation leading to accelerated climate change (regulating services); recreation, aesthetic enjoyment, spiritual and tourism potential (cultural services); desertification, soil formation and photosynthesis production (supporting services).

Major losses result from:

- degradation of savannah and grasslands. This is subtle and difficult to monitor but forest loss is very clear. Climate change, overgrazing, fire, lowered water tables and agricultural expansion have all contributed to the degradation of Africa's grasslands;
- water sources drying up and becoming polluted (resulting in the spread of diseases);
- degradation of grazing areas (resulting in population migrations);
- degradation of soil fertility (resulting in famines, expensive aid programmes and bad loans);
- loss of non-timber products (bushmeat, fish, honey, medicinal plants, etc.);
- loss of tourism revenues and potential.

The elimination of keystone species such as elephants and seed dispersing primates has profound additional impacts on the regeneration of vegetation. The loss of bees and other pollinators is affecting pollination of fruits and vegetables as well as wild plants.

The Economics of Ecosystems & Biodiversity (TEEB) programme has compiled and reviewed many studies evaluating these ecosystem services in economic terms. Some service values of wetlands, forests and pollinating species greatly exceed conversion values. Globally these services have been valued at USD 125 trillion per year in 2008[16], up from an estimated USD 33 trillion per year in 1997[17]. The figure for Africa, which represents 20% of the global land area, must be greater than USD 10 trillion per year, far higher than the GDP actually registered. This figure is diminishing rapidly since ecosystems will continue to deteriorate if no restorative action is taken.

Loss of ecological services drives a vicious cycle of poverty leading to emigration and civil unrest, ethnic and civil wars, collapse of governance and an accelerated plunder of more biological resources.

2.3 DIRECT THREATS

Wildlife and ecosystems face a variety of major threats. The following are identified as the most serious.

2.3.1 Habitat loss and fragmentation

Habitat loss and fragmentation in Africa can be divided into three main types: (i) habitat loss and fragmentation due to all types of agriculture (including agro-plantation and game fences); (ii) habitat loss and fragmentation due to oil, gas, mining and hydroelectric dam developments; (iii) loss and fragmentation of forests.

Net deforestation in the rainforests was estimated at 0.28% per year between 1990 and 2000 and at 0.14% per year between 2000 and 2010. Western Africa and Madagascar exhibit a much higher deforestation rate than the Congo Basin – three times higher for Western Africa and nine times higher for Madagascar.[18] In the drier ecosystems, deforestation between 1990 and 2000 was estimated at 0.34% per year.[19] Agriculture and fuelwood are the key agents of deforestation; fuelwood and charcoal represent 90% of all wood removal from the forests of Africa[20]. Deforestation rates are likely to increase significantly over the next decades as populations grow, new

[16] Costanza, R., R. de Groot, P. Sutton, S. van der Ploeg, S.J. Anderson, I. Kubiszewski, S. Farbe, and R.K Turner (2014). Changes in the global value of ecosystem services, *Global Environmental Change* 26, pp. 152-158.
[17] Costanza, R., et al. (1997). The value of the world's ecosystem services and natural capital, *Nature* 387, pp. 253-260.
[18] Mayaux, P., J-F. Pekel, B. Desclée, F. Donnay, A. Lupi, F. Achard, M. Clerici, C. Bodart, A. Brink, A. R. Nasi, R. and A. Belward (2013). State and evolution of the African rainforests between 1990 and 2010, *Philosophical Transactions B, Royal Society* 368:20120300, http://dx.doi.org/10.1098/rstb.2012.0300
[19] Bodart, C., Brink, A., Donnay, F., Lupi, A., Mayaux, P. and F. Achard (2013). Continental estimates of forest cover and forest cover changes in the dry ecosystems of Africa between 1990 and 2000 *Journal of Biogeography* 40, pp. 1036-1047.
[20] Forests of the Congo Basin, *State of Forests* 2010 p. 39.

land is needed for subsistence and commercial agriculture, plantations and mining, and better access is provided by road networks. Large-scale industrial agriculture and ranching in Southern and Eastern Africa is another key agent of habitat loss and fragmentation. In Southern Africa, a major cause of wildlife decline has been the fragmentation of the habitat caused by the erection of game fences, as illustrated for central Namibia in Figure 4 below. Such 'fencescapes' are increasingly found elsewhere, including in South Africa and Botswana. This situation has been seriously aggravated by the creation of a Beef Export Zone and subsidies offered under the Lomé and Cotonou Agreements, which have led to extensive fencing, habitat fragmentation and the collapse of migratory wildlife populations[21].

Figure 4 Veterinary fences in central Namibia have had a profound impact on migratory species (Eckardt, unpublished)

Industrial oil and mineral exploration and extraction are recognised as growing threats, especially in forest and wetland areas. Many permits overlap with protected areas, including World Heritage Sites. The WWF has calculated that the percentage spatial overlap of leased oil and gas concessions with protected areas for the whole of Africa is 26.65%. If 'not yet leased' concessions are included the figure rises to 46.57% spatial overlap with protected areas (Figure 5).

[21] EIA briefing document for members of the ACP-EU Joint Parliamentary Assembly, Social Affairs and Environment Committee, Ljubljana, Slovenia, 15-20 March 2008.

Figure 5 Overlap of oil and gas concessions with protected areas in Africa
Source: WWF

Fragmentation of forests has disastrous impacts on forest wildlife populations. The key agents are slash-and-burn agriculture, fuelwood collection and charcoal. Fuelwood and charcoal represent 90% of all wood removal from the forests of Africa. Fragmentation is also caused by industrial logging and mining (with their associated road and rail infrastructures), agro-industrial plantations (with oil palm plantations becoming an increasingly important threat) and hydroelectric dams. Loss and fragmentation of other wildlife habitats – woodlands, savannah and mangroves – due to agricultural expansion and development isolates protected areas and potential corridors.

Populations of many African-Eurasian migrant birds are in serious decline because of threats along their flyways. In sub-Saharan Africa the key issue is habitat loss and degradation, particularly in the Sahel and humid zones to the south.

2.3.2 Overhunting and overfishing

The commercial bushmeat trade is emptying vast tracts of seemingly intact forest and savannah. The range of species includes rare apes and smaller primates as well as ungulates and rodents. This is the key wildlife issue in Western and Central Africa, but it is under-recognised in Eastern Africa, Madagascar and some areas of Southern Africa.

Fishing in inland freshwater systems is unsustainable over much of sub-Saharan Africa because fishing regulations (minimum mesh size, seasons, protection of spawning grounds, etc.) are rarely respected. Furthermore, as bushmeat supplies dwindle through overhunting, pressure on freshwater fish resources is likely to increase.

2.3.3 Illegal wildlife trafficking

Criminal organisations in ivory and rhino horn trafficking undermine security and good governance and hence effective conservation. Whilst elephant populations in Southern Africa appear stable, populations in the rest of Africa are declining dramatically, especially the forest elephant *L. a. cyclotis*. Rhinos are being exterminated, even in the well-protected reserves of Southern Africa such as Kruger. Secondary species may be affected because poachers spread poison around kills to destroy the tell-tale flocks of vultures.

Trafficking is also endangering numerous, less profiled species such as apes (Western and Central Africa), other primates (all regions), reptiles (especially Madagascar), pangolins (humid regions), parrots (Western and Central Africa), valuable timbers (Western and Central Africa and Madagascar – rosewood), orchids (humid regions) and abalone (marine regions).

2.3.4 Alien invasive species

Alien invasive species are a serious and increasing problem in all regions of Africa. The opening up of forests, changing climate and deliberate introductions have resulted in growing lists of species that replace native flora and fauna and negatively impact ecology. Introduced pines, Australian acacias, eucalypts, waterweeds, fish, insects, molluscs, and some birds and mammals are the main culprits.

2.4 DRIVERS OF THE THREATS

2.4.1 Population growth and poverty

Population growth and increasing poverty levels are inextricably linked in most of Africa. Although human population density across the Congo basin and in Namibia is low compared to other regions of Africa, overall rates of population growth are the highest on the planet and the population of Africa is expected to double by 2050 (Table 1). How Africa will feed this expected enlarged population presents a major challenge but the current agriculture in many countries of the continent is very inefficient, undeveloped and can be enormously improved. Extreme poverty in rural areas leads to overexploitation of natural resources because rural populations cannot take a long-term view of resource use. The burgeoning human population also leads to increasing levels of human-wildlife conflict (section 2.4.8) resulting in loss of wildlife.

2.4.2 Poor governance

Poor governance is the overriding issue in Western, Central Africa and Eastern Africa and includes a suite of related failures: weak legislation[22] and enforcement; dysfunctional health, education, justice and extension

[22] The current legal framework that affects wildlife and the wider biodiversity is inadequate, although the degree to which it is considered to be poor varies from country to country. This limits the extent to which countries can fulfil their obligations to the international agreements that they have signed or respond to emerging threats to wildlife that may require a broad coordinated legal response. Most countries in

services; poor communications; poor planning; low hygiene; inefficient agriculture; misuse of natural resources and pollution of water resources; corruption and poverty. Also included is the phenomenon of 'land grabbing' where, for example, multinational agro-alimentary interests (e.g. oil palm) acquire huge surface areas of land without due process in terms of land-use planning, environmental assessments and transparency of attribution. The mining, logging and pharmaceutical sectors have also been known to be involved in this practice.

2.4.3 Inadequate land tenure and local resource rights

The issue of land tenure and the alienation of rural populations from their wildlife heritage is a key driver of threats to wildlife. Over much of Africa the state is the owner of the land and its wildlife, and existing legal and policy frameworks give little incentive for rural people to protect and sustainably manage the wildlife that they share the land with. This leads to a situation of 'tragedy of the commons' where open access to the natural resources causes severe impoverishment, and even disappearance, of species and habitats.

2.4.4 National and regional conflict

Conflict has overwhelmed many countries of Africa and is especially significant in the Central African region. Many of these conflicts can in fact be described as natural resource conflicts. Conflict and poor governance feed off each other and result in loss of wildlife.

2.4.5 Political indifference and lack of awareness

A low level of knowledge of and appreciation of wildlife issues, lack of recognition of the vital ecological services delivered by healthy ecosystems and poor ecological understanding of the impacts of human activities and developments on those ecosystems are rife at all levels. Lack of awareness among the EU's population and leaders, African communities, planners, developers and leaders, and Asian consumers all contribute to unsustainable exploitation and inadequate protection of African wildlife and ecosystems. When denied rights to use wildlife sustainably, local communities see wildlife only as a dangerous threat to life, crops and property or a competition to human development.

2.4.6 Climate change

Climate change is a threat to both global and local causes. The Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) (AR5) reconfirmed that the human influence on the climate system is clear. Desertification is driven by overgrazing, cutting and burning of vegetation and misusing water resources. Opening up forests reduces the rates of transpiration that is re-deposited as secondary rainfall, often hundreds of miles away. Rising sea levels threaten beaches and coral reefs, which are also under pressure from increasing water temperatures and ocean acidification. Experts are, in particular, alerted about the speed of ocean acidification which is happening faster than ever. Rising temperatures are causing African glaciers to melt and are changing vegetation zones in the Afromontane regions. The wetlands of Northern and Western Africa are drying up. Droughts have profound impacts on vegetation, wildlife and humanity.

Changes in a variety of African ecosystems are already being detected from changes in breeding seasons to alterations in migratory, feeding and nesting patterns. Climate change impacts on Africa's ecosystems will probably have a negative effect on tourism as, according to one study, between 25 and 40% of mammal species in national parks in sub-Saharan Africa will become endangered. Some botanists expect significant species losses of between 25 and 68%, dependent on the severity of mean temperature change[23].

Western and Central Africa have legal structures that have evolved over centuries in Europe and which were designed for a very different relationship with wildlife and the environment than applies in Western and Central Africa. Traditional relationships, enshrined in customary laws and based on different systems of ownership and access, are rarely codified in national legislation. (Source: Mallon et al., in press, 2015.)

[23] Sommer, J.H. (2008). *Plant Diversity and Future Climate Change – Macroecological analyses of African and global species distributions*, Doctoral Thesis, Mathematisch-Naturwissenschaftliche Fakultät, Rheinische Friedrich-Wilhelms-Universität Bonn.

These dynamics need to be factored into conservation approaches and investments in the design and management of protected areas, and species conservation should be planned with climate change predictions in mind. In particular, climate change should be seen as a further impetus for conservation actions outlined throughout this document, including the need to expand the protected areas and improve the representative coverage of biomes, enhance management of the given protected area estate, ensure connectivity between habitats, restore ecosystem functions and reduce other pressures on biodiversity.

2.4.7 Endemic and emerging diseases

Endemic diseases affect conservation in two main ways. Malaria (spread by mosquitoes), river blindness, sleeping sickness and nagana (both spread by tsetse flies), elephantiasis and rinderpest all served as natural defences in maintaining large areas of Africa as wild and undeveloped. The eradication of rinderpest and a better control of other diseases has opened up these regions for human occupation and development. Meanwhile, some diseases that were stable in wildlife populations, but now given close access to human populations, have been able to make a host species jump to become serious human zoonoses, such as HIV and Ebola. Resulting epidemics create population movements and breakdown of local economies, social services and wildlife protection. Chytrid disease, now found on every continent, has wiped out a number of amphibian species. It kills amphibians by blocking the transfer of vital substances through their skins, eventually causing cardiac arrest. The disease originated in Southern Africa and was probably spread by the pet trade or the export of clawed frogs used in pregnancy testing.

2.4.8 Human-wildlife conflict

When humans and wildlife share the same landscapes and resources human-wildlife conflict (HWC) often occurs, resulting in negative impacts not only on wildlife populations but also on human social, economic and cultural life. The underlying causes are attributed to land-use changes and high human population growth. The negative impact of HWC on local communities has become an increasingly important issue to governmental authorities at all levels, especially when the situation is exacerbated by media reporting on the negative perceptions of the general public towards those species that cause the most conflicts. For local rural communities, human-wildlife interaction often evokes loss and fear, with disruption to livelihoods and food insecurity, which in turn undermine conservation and HWC mitigation strategies. Human-wildlife interactions have been detrimental to wild mammals; many species have been reduced in number due to hunting, pastoralism, habitat modification, disease control or problem animal control. For a charismatic species like the elephant, a positive correlation has been established between the level of conflict and illegal killing. Human-elephant conflict has become a priority objective of elephant management at many sites for the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES).

The human health / wildlife health / livestock health nexus is a particularly important issue arising from humans and wildlife sharing the same landscapes. In Southern Africa, nature-based tourism, which seeks to maximise returns from marginal lands, contributes as much to the gross domestic product of Southern Africa as agriculture, forestry and fisheries combined.[24] However agro-pastoralists sharing the land depend greatly on livestock for their livelihoods, and the need to balance their livelihoods and environmental security with the development of alternative land uses and opportunities gives rise to a very complex set of development issues relating to animal, human and environmental health. The management of wildlife and livestock diseases (including diseases transmissible between animals and people) presents a challenge for which there are no easy solutions.

[24] Osofsky, S.A., D.H.M. Cumming, and M.D. Kock (2008). Transboundary Management of Natural Resources and the Importance of a "One Health" Approach: Perspectives on Southern Africa, pp. 89-98, in Fearn, E. and Redford, K.H. (eds.), *State of the Wild 2008-2009: A Global Portrait of Wildlife, Wildlands, and Oceans*, Island Press, Washington, D.C.

3 ONGOING CONSERVATION EFFORTS

3.1 INTERNATIONAL, REGIONAL AND NATIONAL PLANNING FRAMEWORKS

Most countries in sub-Saharan Africa are party to the major international environmental conventions, in particular Ramsar Wetlands (1971), World Heritage Convention (1972), CITES (1975), Bonn Migratory Species (1979), Biological Diversity (1992), the UN Framework Convention on Climate Change (1992) and the UN Convention to Combat Desertification (1994). Most countries are also members of IUCN which, through its various Commissions, sets the international management criteria and standards for different categories of PAs, and coordinates efforts to conserve a wide range of plant and animal taxa of importance and concern.

Virtually all these treaties and bodies require their member states to produce some sort of national Action Plan, such as National Biodiversity Strategy Action Plans (NBSAPs) under the CBD and the National Ivory Action Plans by ten African countries under CITES. Additionally, a wide range of non-binding species-specific Action Plans at regional and/or national levels driven by the Specialist Groups of IUCN's Species Survival Commission exist, amongst others elephants, rhinos, lions, hyenas, giraffes, great apes and lesser flamingos. Levels of implementation of these different action plans vary widely across the continent and in many cases implementation has been challenging for African states.

The countries' overall responses to wildlife issues are also influenced to a lesser or greater extent by the regional and sub-regional political bodies to which they belong, including EAC, COMESA, ECCAS, ECOWAS, SADC, NEPAD, the Intergovernmental Authority on Development (IGAD) and the Central African Forests Commission (COMIFAC).

3.2 STRATEGIC APPROACHES

3.2.1 Protected areas

Protected areas are at the heart of wildlife conservation in Africa and constitute the earliest strategic approach to wildlife conservation since colonial times. Today they represent a major form of land-use and, in Southern and Eastern Africa, are a significant contributor to employment and foreign exchange earnings. Other concepts that have evolved over the years and have been used to guide and inform wildlife conservation and protected area planning in Africa include biodiversity hotspots, ecoregions, water basins, conservation for development, biosphere reserves and transfrontier conservation. The Critical Ecosystems Partnership Fund (CEPF) has developed a consultative system of ecosystem profiling to identify priorities in many of Africa's biodiversity hotspots[25].

Nominal PA coverage of sub-Saharan Africa is now 14.3%, with over 1 000 PAs currently listed under the IUCN's categories I-IV on the United Nations Environmental Program's World Conservation Monitoring Centre (UNEP-WCMC) World Protected Area Database. Category I-IV PAs in sub-Saharan Africa are shown in Figure 6 below. Regional proportions are shown in Table 2. These figures leave most African countries somewhat short of the 17% terrestrial coverage agreed as the Aichi targets of CBD but well above that of many European countries. Most of the earlier and largest PAs in Africa are established in savannah biomes, targeted at African large mammals. Over the decades additions were made to cover major gaps in terms of representative coverage of all the major ecosystems, including moist forests, mountain systems, woodlands and the Karoo and Fynbos. Several large moist forest protected areas have been created in the Congo basin over the past 20 years, including a network of 13 National Parks in Gabon, enacted in 2007.

[25] http://www.cepf.net/where_we_work/Pages/default.aspx

Whilst larger PAs are ecologically more resilient and offer better ecosystem functions, they are the most difficult to manage and have generally proved unable to resist the gangs of well-armed poachers who cross national borders with ease to decimate large mammal populations. In most of the countries of Central and Western Africa, and in some countries of Eastern and Southern Africa, many PAs are 'paper parks' with no real management because of inadequate staff, capacities and funding. Biodiversity has declined steeply in these areas. The protected areas where biodiversity is being most effectively protected are those that are receiving direct support from donor agencies and their technical partners through technical assistance, public private partnerships (see 4.1.4 and 4.1.5 below) and other arrangements.

Table 2 Summary table of terrestrial PA coverage in sub-Saharan countries covered in this document

Region	Area of PAs (km^2)	Number of PAs (all categories)	Number of category I-IV PAs*	PA % cover
Western Africa	675 713	1 934	245	11.0
Central Africa	652 318	230	216	12.2
Eastern Africa	824 578	1 676	365	13.2
Southern Africa	1 236 557	1 984	250	21.0
Total	**3 389 164**	5 824	1 076	14.3

* *This includes the many National Parks which are not yet reported as Category II protected areas in the WDPA database (October 2014).*

3.2.2 Devolution of wildlife management responsibility

In Eastern and Southern Africa, there have been important moves towards the devolution of responsibility for wildlife use and management in various types of PA (wildlife management areas, village forest reserves, privately or communally owned conservancies, etc.) and the results in terms of wildlife protection have been globally positive with wildlife populations making sometimes spectacular recoveries. In Kenya, for example, there are several hundred community and private wildlife conservancies that engage in the non-consumptive utilisation of wildlife (i.e. tourism). Since ownership and ultimate responsibility for all wildlife is vested in the State, regardless of whether it is inside or outside the formal PA estate, the conservancy movement is of great assistance to the Kenya Wildlife Service, which seeks only to register conservancies and assist in the development of their management effectiveness. Box 1 below describes how community engagement in the Northern Rangelands Trust in Kenya contributes to tackling the illegal wildlife trade. Similarly in Namibia, non-consumptive and consumptive use of wildlife in communal area conservancies deliver positive conservation outcomes while generating significant benefits for the communities.

With the exception of Ghana, states in Central and Western Africa have not yet fully embraced the concept devolution of responsibility for management of wildlife to local communities, and indeed this kind of approach is probably not yet realistic given the weak state of institutions and civil society, and the widespread issue of poor governance. Nevertheless some recent changes in wildlife and conservation laws (e.g. DRC) have opened the door for the development of this kind of approach in the future.

Box 1: Community engagement in tackling illegal wildlife trade – the case of the Northern Rangelands Trust, Kenya

Community conservancies are proving increasingly effective as partners in the fight against ivory poachers in Kenya. In the north of the country, conservancies now manage more than 2.5 million hectares of community land, much of it critical range for the African elephant. First established in Northern Kenya in 1995, there has been growing demand from communities to set up conservancies since the mid 2000s. The Northern Rangelands Trust (NRT) has been a key player in their development in Northern Kenya since 2005, helping to set up and support 19 conservancies in that part of the country.

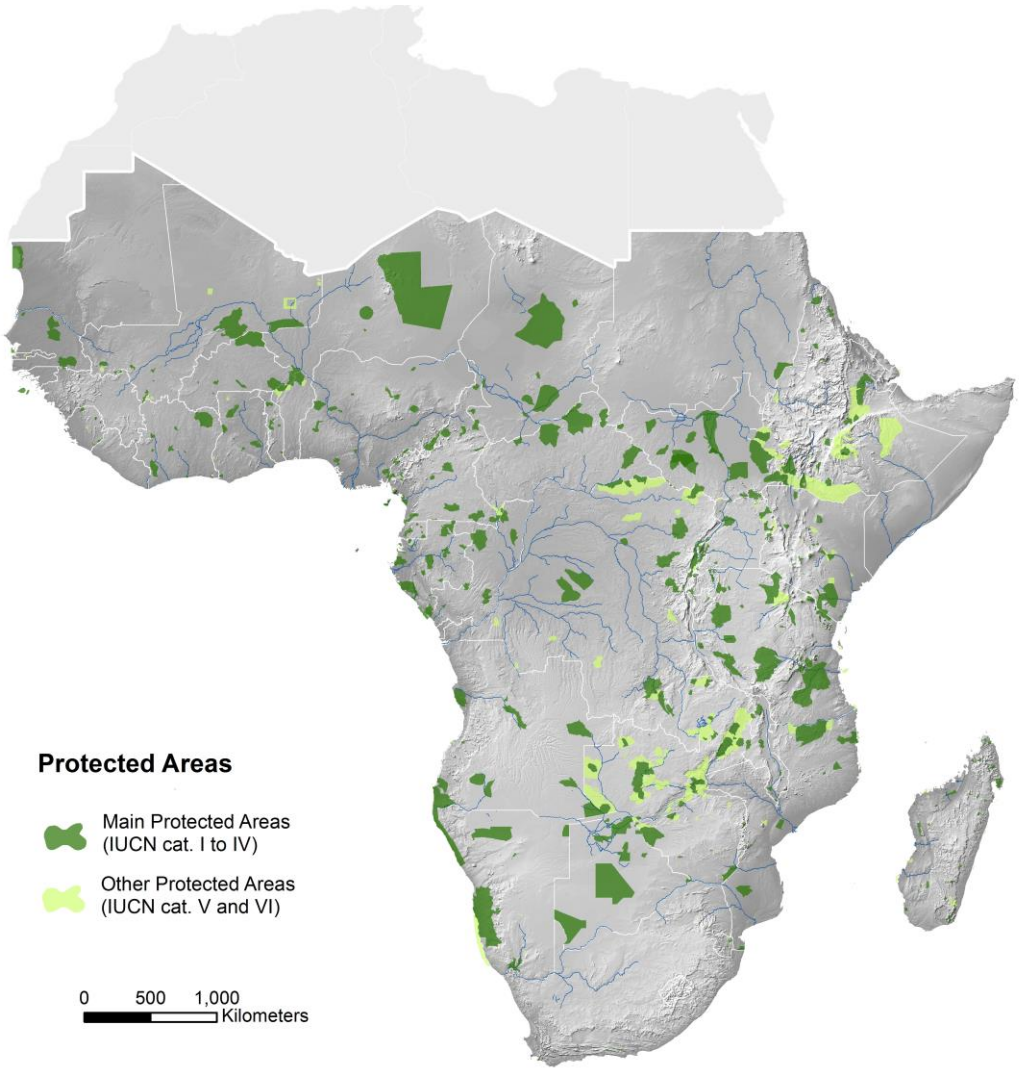
During the course of 2013, NRT conservancies generated 700 full-time (including tourism operations) and 800 part-time jobs. Revenue from tourism was USD 545 000, of which 60% went into funding community development projects based on priorities determined by the communities themselves. Joint conservancy-NRT programmes raised livestock sales and revenue for women through micro-enterprises. Non-financial benefits during the same period included better security (considered more important by communities than direct financial benefits), improved rangeland health and access to grazing, the use of conservancy transport for emergencies and increased social cohesion.

Conservancies have also been making their presence felt in conservation. Most appear to be effective in reducing poaching. The conservancies' approach to tackling elephant poaching is multi-faceted, including community rangers, mobile rapid-response teams, intelligence gathering and social pressure. Anecdotal evidence, carcass data and aerial survey data on elephants between 2002 and 2008 show that elephant populations increased by 27% during this period, and the proportion of elephants killed in NRT conservancy areas was significantly lower than outside. While conservancies were unable to contain the massive spike in poaching levels in 2011 and 2012, they have upped their game in the past two years, working closely with the Kenya Wildlife Service and the police and boosting investment. In the past two years poaching has declined, from 59% in 2013 to 43% in 2014. Reports from rangers suggest that the number of elephant sightings is stable on conservancy land, in spite of overall population decline. This suggests the elephants concentrate in areas where they feel safe.

The reason the conservancies are effective in conservation is linked to the broader benefits they bring to local communities. In essence, these well-governed, community-owned and autonomous institutions are set up with the aim of improving social well-being, land management and wildlife conservation. The inclusive nature of conservancies is key to their influence and success. They do not set up boundaries between people and wildlife, nor do they exclude other people from using the land.

Source: King, J. and I. Craig, 2015. Northern Rangelands Trust in Roe, D. (ed.). *Conservation Crime and Communities: Case studies of efforts to engage local communities in tackling illegal wildlife trade*, IIED, London.

Figure 6 IUCN category I-IV protected areas of sub-Saharan Africa



3.2.3 Landscape and transfrontier conservation

The landscape approach to conservation is one in which complexes of PAs are conserved hand-in-hand with the eco-sensitive and wildlife-friendly development of intervening and surrounding areas. This landscape approach has been widely embraced by conservation agencies in Africa as a way of enhancing ecological connectivity and gene flows across viable habitats linking PAs.

The transfrontier conservation approach is a relatively new conservation initiative, developed initially in Southern Africa, that brings together a complex and diverse mosaic of land uses spanning international borders under one shared or joint management structure. It includes national parks and game reserves, forest reserves, wildlife and game management areas, communal land and private land. It has the role of combining conservation and development, and promotes culture and peace and offers a promising approach to the conservation of iconic African wildlife within intact ecosystems. The transfrontier conservation approach is also being embraced in Western and Central Africa, although the concept is less developed here and does not, for example, bring together management of a mosaic of land uses under a shared management structure. Instead there are simply

intergovernmental agreements for coordinated management for transfrontier areas where there are in most (but not all) cases contiguous protected areas. Where the PAs in transfrontier conservation areas of the Congo basin are not contiguous, the inter-zone areas are largely occupied by logging and/or mining concessions with which the aim is to build collaborative relationships for conservation.

3.2.4 Combating illegal trafficking of wildlife.

Africa has not escaped the ravages of the global illegal trade in wildlife and its products, the fourth largest illegal trade after narcotics, humans and counterfeit products. Of all Africa's iconic 'flagship' species few if any have greater relevance to the conservation of the continent's overall wildlife and wilderness than the elephant and the rhino. An estimated 100 elephants and three rhinos are being lost daily, and the issue has become a cause for great international concern, and a key catalyst for the elaboration of the present document. However many other African plants and animals are also entering the illegal trade from precious woods to apes, birds, reptiles, amphibians and fish.

Various strategies are being developed to combat the poaching of elephants and rhinos, and the illegal trade in ivory and horns. These include global awareness raising, monitoring of populations and poaching levels (e.g. Minimising the illegal Killing of Elephants or MIKES), monitoring the trade (e.g. the Elephant Trade Information System or ETIS), law enforcement (including paramilitary operations), stopping the demand for illegal ivory and rhino horn, forensic investigation to determine the provenance of ivory and rhino horn, and addressing human-elephant conflict. On the general issue of illegal wildlife trade, important international trade regulators and monitors that are of direct relevance to Africa include the International Consortium on Combating Wildlife Crime (ICCWC), CITES, the Wildlife Trade Monitoring Network (TRAFFIC), International Criminal Police organisation (Interpol), United Nations Office on Drugs and Crime (UNODC) and the World Customs Organisation (WCO). A new initiative is the Wildlife Justice Commission in The Hague, an international accountability mechanism that undertakes investigations and uses them to create pressure on governments.

3.3 INTERNATIONAL CONSERVATION PARTNERS

NGOs play a significant role in supporting environmental conservation across Africa, delivering *in situ* conservation, supporting institution building, awareness raising and campaigning, providing expertise, research and monitoring services, generating funding (domestic and international) for conservation, and supporting policy development. They can also act as catalysts for government action.

Wildlife conservation in Africa is heavily reliant on external support, particularly in Central and Western Africa where conservation is generally low on national agendas and the state institutions responsible for wildlife conservation and law enforcement are particularly weak. In these regions biodiversity conservation is delivered predominantly through international donor agencies, conservation NGOs and other technical partners working in partnership with the national forestry, wildlife and protected area authorities. NGOs work with funds provided by donor agencies but also mobilise many sources of private funding. While the role of conservation NGOs in Eastern and Southern Africa remains very important, national institutions are generally better organised than in Central and Western Africa and less reliant on them to help manage PAs. Nevertheless they are still heavily reliant on bi- and multilateral aid organisations and private donors to help fund conservation activities and policy development.

African protected areas benefit from several global programmes. The United Nations Educations, Scientific and Cultural Organisation (UNESCO) offers support to 41 natural or mixed World Heritage Sites nominated as containing 'outstanding universal value'. Another UNESCO programme supports 52 Man and Biosphere Reserves (MAB) in sub-Saharan Africa, selected for the study of the impacts of human activities on natural areas. There are 168 wetland sites of global significance listed as Ramsar sites. More than 1 200 sites are identified by

BirdLife International as Important Bird Areas (IBAs), which work with local partners to help protect many of these. The programmes of many international NGOs are geared to support a long list of key biodiversity areas, biodiversity hotspots and other sites of importance for specific wildlife across the continent.

The International Union for the Conservation of Nature and Natural Resources (IUCN) provides assistance and sets standards for many areas of wildlife conservation worldwide through its several specialised commissions. The World Commission on Protected Areas provides help in the reviewing, planning and management of protected areas and publishes a series of best practice guidelines to help various aspects of this work. The commission also helps the UN in the implementation of the Programme of Works on Protected Areas under the Convention for Biological Diversity (CBD). The Global Environmental Facility (GEF) provides funds and projects to support this programme.

Being listed or recognised as globally important may help a site negotiate better investment from its national government and puts it in a good position to apply for additional funds or projects from international sources but is no guarantee of adequate support. Indeed 12 of the 41 World Heritage Sites are currently included on the List of World Heritage in Danger.

Despite these many programmes the level of external support to PAs in Africa falls a long way short of the actual needs.

4 LESSONS LEARNED AND PROMISING APPROACHES

Despite several decades of initiatives, projects and programmes by more than 100 conservation agencies and NGOs, the overall trends of biodiversity status across Africa are continuing deterioration. Why have these efforts failed and what hope is there that we do have better solutions? From the four regional analyses a number of common themes emerge as well as themes specific to particular regions.

4.1 PROTECTED AREAS

4.1.1 Protected areas have proved the test of time but require long-term support.

Increasingly wildlife populations and fragile habitats have become confined to protected areas within the wider landscape. Over much of sub-Saharan Africa the areas with the most intact assemblages of biodiversity are in protected areas, or areas under active management like sport-hunting zones. In Western and Central Africa in particular, the protected areas where biodiversity is being most effectively protected are those that are receiving support from donor agencies and their technical partners; most national protected area agencies are weak and under-resourced. It follows therefore that **external funding support for PAs needs to be long term**. This is particularly the case in Western and Central Africa, but is also relevant for Eastern and Southern Africa. In Africa, the costs of biodiversity conservation and PA management greatly outweigh the level of resources that most if not all the African countries mobilise from national budgets, and with a handful of exceptions almost all of the African PAs will never be able to generate sufficient revenue to cover their management costs. It should however be stressed that although funding is a necessary condition for success, funding on its own is not a sufficient condition for success. Management skills are probably the most important differentiating criterion. Where there are good management skills the necessary funding will generally exist. In effect, adequate funding is an outcome of good management in as much as it is an input requirement for good management.

4.1.2 Governance and resourcing of PA / NRM agencies

The under-valuation of ecosystem services and biodiversity by governments is a fundamental driver of the institutional weaknesses that generate inefficient, ineffective and corrupt management practices. These

weaknesses centre on human resources that are too few in number, poorly paid and equipped, ill trained and inadequately supervised. Whether for routine operations or capital development, the level of resources made available to PA / Natural Resource Management (NRM) agencies is invariably inadequate. Badly paid and unsupervised field staff in particular will always be corruptible. There is in effect no accountability mechanism built into the traditional conservation approach where protected areas are managed by governments or the NRM agencies. In a democracy, accountability is achieved through the ballot. However, if the conservation of biodiversity and protected area management does not have meaning for the electorate then this is an ineffective mechanism to achieve accountability. By separating out protected area policy and regulation from execution (for example through a public private partnership approach, section 4.1.5) then accountability can be re-established.

4.1.3 PA design: connectivity and the landscape approach

Recent and developing trends are exposing weaknesses in the designs of PA systems. These include failure to include representative examples of all major ecotypes, and the erosion of connectivity through the accelerating transformation of hitherto undeveloped areas between PAs. For example, elephants seldom if ever spend a full year within a PA, and so it is the species most affected by the ongoing appropriation of unprotected habitat, and the one causing the most serious conflict with man as a result. In response, new PAs and corridors between PAs must be created wherever possible in order to improve PA resilience and long-term system viability. This is in line with the overall landscape approach to conservation (section 3.2.3) which aims to enhance ecological connectivity and gene flows across viable habitats linking PAs.

It is widely accepted that veterinary cordon fencing for disease management in Southern Africa has been environmentally damaging, especially in relation to wildlife migration. Environmentally sensitive alternatives are now being developed such as a commodity-based trade approach and other integrated disease management models, which it is hoped will result in considerably less negative impacts on wildlife migration.

4.1.4 Transfrontier Conservation Areas

As ecosystems often span international boundaries, the landscape approach has led to the emergence of the concept of Transfrontier Conservation Areas (TFCAs) (section 3.2.3). This new conservation paradigm emerged in Southern Africa with the first Peace Park in 1990. It is defined as an area, or component of a large ecological region, that straddles the boundaries of two or more countries, encompassing one or more protected areas as well as multiple resource use areas. The TFCA combines policies on wildlife conservation, community development, and the promotion of culture and peace under one roof. It brings together a complex and diverse mosaic of land uses under one shared or joint management structure. The concept has been embraced at the highest political level in the SADC countries where there are currently 18 existing and potential TFCAs in various stages of development.

One of the key advantages of the transfrontier approach to conservation is the opportunity to plan and undertake both conservation and development at the scale of landscapes that incorporate entire ecosystems. This enables more effective conservation, more efficient use of natural resources, and a greater social and economic involvement of communities. Five levels of TFCA management can be recognised: (i) landscape management for migratory species; (ii) landscape management for livelihoods development; (iii) water basin management; (iv) PA management; (v) promotion of culture and peace. In conflict-torn Central Africa, transfrontier conservation has the added advantage of providing protection for a shared species in the event of conflict and a breakdown of law and order in one or other of the countries. The most profitable form of land-use in the TFCAs in Southern Africa is a combination of wildlife-based tourism and full diversification of natural resource-based enterprises. The various enterprises include non-consumptive tourism, safari hunting, the sustainable harvesting of meat, crafts and non-timber forest products, and the provision of ecosystem services such as water and carbon sequestration.

In Western, Central and Eastern Africa, the transfrontier conservation approach is also being embraced although the concept is less developed and does not bring together management of a mosaic of land uses under a shared management structure. The situation also differs in that, unlike in Southern Africa where most TFCAs are situated on marginal land in terms of productivity and services, the moist forest areas of Central Africa are not marginal lands and the dominant land use is industrial logging and mining. However, the presence of organised industrial private sector operators opens the possibility for enhancing wildlife conservation through public private partnerships (section 4.1.6 below).

4.1.5 Public private partnerships for the management of PAs

One of the major constraints to effective protected area management through classic donor-funded technical assistance projects for PAs is that the technical partners responsible for project implementation do not have a strong enough mandate to take the required actions and make the difficult decisions (such as replacing corrupt or incompetent staff). This is closely tied with the issue of lack of accountability mentioned in section 4.1.2 above. Public private partnership (PPP) agreements bring accountability to the system and give the implementing partner a stronger and clearer mandate with greater decisional independence (including powers to hire and fire), and greater administrative and financial flexibility. In a PPP, the civil society enters into partnership with the government and/or the communities for managing PAs. The civil society comprises two main distinct components: NGOs, which are non-profit driven, and private commercial companies, which are profit driven. There are several categories of PPPs involving (i) only two partners such as government and a private company (e.g. a game-viewing lodge or a hunting concession), (ii) three partners such as government, communities and a private company (e.g. conservancies), (iii) four partners such as government, communities, a private company and NGOs (e.g. CBNRM programmes). In 28 of the 54 African countries, hunting companies manage hunting areas which are officially gazetted PAs. In about 35 African countries, game-viewing tourism companies manage lodges located inside or next to PAs. In effect, the private sector partner brings a more business-like approach to park management. The involvement of the private sector partner also acts as an important lever for raising other sources of funding. PPP agreements are particularly pertinent in countries where national capacities for protected area management are very weak. Table 3 below summarises some of the legal mechanisms through which the private sector can assist with PA management. It should be noted, however, that the underlying assumption in Table 3 is that the government is both the policy-maker and implementer of the state conservation mandate, a principle that is considered outdated and flawed in some conservation quarters.

4.1.6 Public private partnerships for wildlife management in buffer zones

Given that logging concessions will soon cover all of the exploitable forests in the Congo basin, partnerships with well-managed logging concessions, particularly if they are adjacent to an actively managed PA, can considerably increase the surface area over which positive conservation outcomes can be achieved. Central African forest laws are generally sound and if implemented correctly can have considerable positive impacts for conservation. Concessionaires control access to their concessions and are legally bound to integrate wildlife protection and other conservation measures in their legally binding forest management plans (resulting in a mechanism for accountability). Forest Stewardship Council (FSC)-certified companies, of which there are an increasing number in Central Africa, are generally keen to collaborate with specialist conservation organisations. In large TFCAs, such as the greater Dja-Odzala-Minkebe Trinational Landscape (TRIDOM)/Sangha Trinational (TNS) in Central Africa, effective collaborative agreements of this nature would greatly enhance connectivity between the PAs.

4.1.7 Smart land-use planning and development in and around protected areas

Early engagement with the rapidly expanding mining and oil and gas sectors in Africa is going to be crucial for conservation. In the TRIDOM landscape of Central Africa, planned industrial mining concessions cover the landscape with considerable overlaps with PAs. For the oil and gas sector, over 26% of PAs in Africa have leased concessions overlapping with them but if yet-to-be leased concessions are added the figure rises to over 46.6% (Figure 4, section 2.3.1). The key will be early engagement of all stakeholders in the process of integrated land-use planning. This presents very obvious challenges in countries with limited human and financial resources, absence of cross-ministerial working, lack of good quality and accessible data, lack of a strong civil society and in some situations existing or potential conflict, amongst many other reasons. Based on assessed needs, however, investment in better data, mapping and Geographical Information System (GIS) for land-use decision-making and socio-economic scenario planning is a key prerequisite. Such investment can help identify the best areas for development and also the most necessary areas for protection to conserve vital ecosystem services, biodiversity and major ecosystem processes and wildlife spectacles, such as the annual wildebeest migration in Kenya/Tanzania.

Table 3 Legal mechanisms through which civil society (private companies and NGOs) may assist governments or communities in PA management (adapted from the Wildlife Conservation Society / WCS)

Mechanism	Description	Examples	Strengths	Weaknesses
Technical assistance	Private entity provides advice, financial support, training and/or assistance with technical or scientific tasks while management authority rests with government (or community)	FZS in Serengeti; WCS in Cross River	Government managers have legitimate law enforcement authority; helps build national capacity	Success depends on capacity of government partner and/or willingness to follow advice of technical assistants (TAs); frequent tension between TA and official PA director so success is largely dependent on human factors; arrangement may lack transparency, with *de facto* relationship closer to co-management or concession
Co-management	Agreement between government and private entity divides responsibilities, and establishes mechanisms for joint implementation and for conflict resolution at multiple hierarchical levels	WCS in Niassa; Carr Foundation in Gorongosa; IGF Foundation in Gilé; Peace Park Foundation in Limpopo	Transparent and legitimate assignment of responsibilities; leverages authority of government, capacity of private partner, and opportunities for capacity building	Frequently complex arrangement with significant transaction costs; can fail if trust deteriorates; actual power relationship between partners may be unequal
Joint appointment	One or more senior managers simultaneously hold(s) position(s) in government and private entity	ACF in Virunga	In principle, seamless co-management partnership	Outcome depends on qualities of and relationships between key individuals; potential lack of transparency and conflict of interest
Joint legal entity	Government and private partner (and potentially other stakeholders) create new joint venture and delegate management authority to it	APN in Zakouma; WCS in Nouabalé Ndoki	Combines national legitimacy of TA with conservation expertise of concession	High legal and administrative transaction costs; many governments will not agree to delegation; potential long-term loss of capacity / derogation of responsibility by state; potential problems with shared law enforcement responsibility
Agency agreement; Lease or concession	Government leases land or grants or sells (or pays to deliver) conservation authority to private entity	WCS in Makira; APN in Garamba NP; in over half of the 54 African countries numerous private tourism companies are managing sport hunting or game viewing in or around PAs	Full authority vested in qualified PA managers; simple management structure	May face political opposition over questions of sovereignty which can lead to problems of law enforcement authority; may not build national PA management capacity
Private ownership	Government sells land to private entity	Game ranches in Kenya, Zimbabwe, South Africa, Mozambique (*Fazenda do Bravio*)	Clear and simple authority with strong incentives for good long-term management	Same challenges as concessions; may not be legally possible in e.g. francophone countries; community participation may be weak; does not build capacity of national PA management authorities

4.1.8 Monitoring and research

Park ecosystems respond to both internal changes, such as disease outbreaks, fire and vegetation succession, and to external changes, species introductions, climate change and surrounding land-use change. As the pace of change quickens, there is even greater need for high quality research and monitoring services to devise and manage effective conservation responses. Ranger-based management information systems using a Global Positioning System (GPS) and GIS mapping software (e.g. MIST and its successor SMART, or Cybertracker[26]), to give spatial information on poaching wildlife signs and ranger effort are progressively being mainstreamed into PA management systems and are proving to be highly useful management tools.

Conservation orientated and fundamental research will always be vital components of PA and buffer zone management and the range of relevant topics is very wide indeed. Understanding how species and ecosystems respond to human activities (hunting, logging, farming, fencing, fire, pastoralism, irrigation, etc.) will become ever more relevant as human population growth continues to accelerate.

4.2 ENGAGING WITH LOCAL COMMUNITIES AND CBNRM

Engaging with communities around PAs and promoting sustainable NRM is undoubtedly one of the most complicated issues that NRM agencies have to face across Africa. The basic premise underlying all Community-based Natural Resource Management (CBNRM) is that illegal and unsustainable natural resource use by the rural poor can be halted by giving them ownership of, and management responsibility for, the resource, so that they may directly benefit from its use and their livelihoods improve accordingly. Consequently they will automatically acquire a vested interest in protecting it from unsustainable exploitation.

Sport hunting and photo tourism can generate significant benefits for local communities, particularly in the more open biotopes of Southern and Eastern Africa where access is relatively easy and the iconic African savannah species abound. It has proved far less easy to develop community-based consumptive and non-consumptive tourism in the moist forest environment where access is difficult, visibility limited, the environment 'hostile' for the client and the 'carrying capacity' (in terms of numbers of tourists) limited.

Apart from generating benefits directly linked to the utilisation of wildlife, CBNRM also addresses other ways of improving livelihoods while minimising environmental damage. This can include measures to reduce the costs of living with wildlife (self-help against human-wildlife conflict), as well as to promote alternative crops, or improve agronomy and livestock breeds. It also involves the introduction of new 'holistic' approaches for the improved exploitation of rangelands, as well as new techniques of soil and carbon-friendly 'conservation agriculture'. In the forest sector, Participatory Forest Management (PFM) approaches include Reduced Emission from Deforestation and Forest Degradation (REDD+), payment for ecosystem services and the use of recognised certification of sustainability to add value to specific forest products in trade.

Efforts by the conservation community to develop economic returns from conservation have led to the development of 'conservation enterprise' models.[27] A conservation enterprise is a commercial activity that generates economic benefits in a way that supports the attainment of a conservation objective. Conservation enterprises provide incentives through monetary and non-monetary benefit flows for communities and landowners to conserve wildlife on their land. Enterprises can be single businesses or interventions into the value chain for a product, such as in the forestry or agriculture sectors. Given the complexity of running a business in Africa, the

[26] http://www.cybertracker.org
[27] African Wildlife Foundation (2011). *Conservation Enterprise: A Decision Support Toolkit*, 50pp., AWF, Washington, D.C.

most successful conservation enterprises are built in partnership with conservation managers, communities and private sector operators.

However CBNRM is not a panacea that alone will neutralise the unsustainable utilisation of natural resources that is driven by poverty. Various factors are at play to ensure that there are no neat solutions.

- In many African countries, rural populations do not have clearly defined user rights over wildlife and other natural resources so have no stake in ensuring sustainable use of it. Land tenure law is often complex and overlaps with and contradicts traditional tenure (e.g. Central Africa). This leads to a situation of 'open access' to resources resulting in overexploitation. In Southern Africa, recognition of rights of use has progressed much further than in the other regions but even here issues of poor governance at the local level have imposed limitations on the CBNRM approach in some areas.
- CBNRM schemes and indeed agricultural expansion cannot escape the fundamental undermining issue which is that human populations continue to increase everywhere while the resource does not. Thus as the population increases, in order for the harvest to remain steady (i.e. sustainable), each person will have to accept a smaller share of the harvest, in other words a declining income. CBNRM is therefore more difficult where population pressure on land is already high and governance is weak.
- The notion of 'community' among forest-living people in Central Africa is misleading because they have such an individualistic approach to the use of natural resources. Mobilising forest people to work together to adopt sustainable methods of natural resource use for the benefit of all is therefore complex, time consuming and costly, and requires expertise from many different fields.

The ultimate solution for sustainable CBNRM must depend on a combination of two things. The first is greater governmental efforts to introduce legislation that supports local ownership and rights to wildlife and natural resources, together with assistance for business start-ups and for monitoring their sustainable use. The other is to reduce the population growth rate to the greatest extent possible, thereby minimising the scale of the poverty alleviation challenge. Some countries, notably China, have grasped this nettle with albeit unpopular measures but at least they are not in denial of this fundamental problem, as are most countries in Africa. Family planning within CBNRM areas is essential if they are to be sustainable in the long term.

Lastly the conservation linked to the development paradigm (for poverty alleviation) that dominates modern biodiversity conservation thinking has resulted too often in conservation projects having to address all the socio-economic ills of populations living around protected areas, despite rarely having either the financial resources or the expertise to do this. Conservation projects should be designed in such a way that they are accompanied by properly funded and resourced socio-economic development initiatives, with objectives that are compatible with wildlife conservation.

4.3 VALUING ECOLOGICAL SERVICES

Ecological services are grossly undervalued, even in countries in which the link between parks and tourism is economically important and well recognised. The under-valuation of ecosystem services and biodiversity by governments is a fundamental driver of ill-considered ecosystem conversions, and of the institutional weaknesses that generate inefficient, ineffective and corrupt management practices. Clearly a better understanding of ecosystem values should result in governments investing more heavily, firstly in the agencies responsible for land-use planning, strategic environmental assessments (SEAs) and environmental impact assessments (EIAs), and secondly in those responsible for protecting natural resources and/or managing their utilisation. For example, European Union (EU) companies operating in Africa should be required to apply EU environmental standards

consistent with target 6 of the EU Biodiversity Strategy to 2020, the future EU no net loss initiative[28], and existing international offsetting principles[29]. The greater 'investment' required has several forms, ranging from policy, legal and structural reforms, to greater capital investments and operational budgets. Importantly the latter should cover enhanced manpower: improved salaries, allowances and working conditions (especially in the field), as well as more and better training.

Much work has been done over the last decade to strengthen the economic argument for policy action to stem biodiversity loss, most notably the TEEB study, which clearly outlines the values that various ecosystem services provide to society, and argues forcefully for these values to become visible in policy discourses where decisions that will impact biodiversity are taken. More needs to be done to embed ecosystem values into decision-making processes in Africa, including into strategic environmental assessments, environmental impact assessments, compensation and offset mechanisms, green accounting, environmental standards and certification, and public procurement decisions. Countries need to create enabling regulatory and fiscal environments that explicitly value ecosystems and the services they provide in order to safeguard their future in a modern Africa.

4.4 LAW ENFORCEMENT

While *in situ* anti-poaching will always be a key component of wildlife management, recent failures to protect elephants and especially rhinos in areas considered extremely safe underline the fact that *in situ* protection measures can never be impenetrable. Conservation outcomes improve significantly if resources are mobilised to monitor closely the entire judicial process from arrest to prosecution. This requires wildlife authorities to work closely with all the national law enforcement agencies (forest, police, customs, justice department, national representatives of Interpol) to detect and prosecute wildlife crime. Such national-level multi-agency Wildlife Enforcement Networks (WENs) are lacking in most countries. The EAGLE (Eco-activists for Governance and Law Enforcement) network of wildlife law enforcement NGOs in Central and Western Africa is having success with their approach to investigations, law enforcement operations, legal assistance for prosecution of cases, and media coverage of the results. It has also developed a toolkit for donors wishing to improve governance in the forest sector (Box 2). In most countries there is also a severe lack of skills in intelligence-based methods for law enforcement, in particular forensic investigations to determine the origins of seized ivory.

In most countries sanctions for wildlife crime are inadequate, and the ratio of arrests to convictions is very low because of corruption, dysfunctional legal systems and lack of understanding of the importance of wildlife crime.

[28] http://ec.europa.eu/environment/nature/biodiversity/nnl/index_en.htm
[29] http://bbop.forest-trends.org/documents/files/bbop_principles.pdf

Box 2: Investing in governance – Being a smart donor in the forest sector. A wildlife law enforcement NGO's approach to strengthening governance in the forest sector

Donors are often frustrated by the way their funds are used by beneficiary governments and institutions. Even when 'conditionalities' are built into the institutional and management arrangement for donor-funded projects, in practice much scope still exists for 'bad governance' in the implementation of beneficiary institutions' broader mandates (appropriate appointment of staff, issuing of licences in compliance with regulations, effective law enforcement, efficient and transparent use of own budgets, etc.), which lie outside the typically narrow remit of project interventions and associated conditionalities. The EAGLE network of Wildlife Law Enforcement NGOs active in Central and Western Africa has developed a Donor Governance Investment Manual entitled *Investing in Governance – Being a Smart Donor in the Forest Sector*. The manual is a toolkit outlining different approaches, which have been tried and proven and can be funded by donors who want their funds to save forests and wildlife by improving governance.

Forensic audits: Forensic audits assess independently the level of real expenditure required for a specific output, and then compare it with what the official figures say. Forensic audits can focus on individual responsibility and indicate 'the smoking gun' concerning embezzlement. However forensic audits' main value is not repression but prevention as their mere presence and the deterrence it creates affect behaviour.

In-depth financial management review: Similar to a classical financial auditing process, this approach also assesses the processes of financial management and conducts physical (on-site) verification of project assets and outputs.

Individual performance contracts: This is a performance-based management tool where a grid or a formula of performance is used to constantly evaluate an individual's output. Sometimes the performance contract is accompanied by financial bonuses for high achievers. Performance contracts have been shown to dramatically increase output, establish a results-orientated approach, and distinguish between honest and dishonest public officials.

Public Expenditure Tracking Service and Budget Tracking: Public Expenditure Tracking Surveys (PETS) are a tried and tested methodology. PETS have been shown to be effective in identifying delays in financial and in-kind transfers, leakage and general inefficiencies in public financial management.

Rapid Results Initiative: Rapid Results Initiative (RRI) is a results-focused learning process aimed at jump-starting major change efforts and enhancing implementation capacity. It tackles large-scale medium and long-term behaviour change through a series of small-scale, result-producing and momentum-building initiatives.

Whistle-blower protection and protected denunciation channels: This is contracted out to trusted third parties to maintain a secured hotline and investigate denunciations, and pass on the information to the relevant Ministry while still protecting the identity of the whistle-blower.

Ministerial Anti-Corruption Commission: A Ministerial Anti-Corruption Commission is measured by transparently processing complaints and allegations, and the results. It needs to be independent and transparent and obtain a mandate for investigations, searches and accessing files throughout the ministerial services.

Corruption-free recruitment: This involves monitoring the human resources departments, undertaking corruption barometer surveys among recruits, and investigating the existence of ghost workers.

Bribe Tester – corruption-resistance test: This tests the honesty of public officials by offering bribes and punishing those who cannot resist the temptation.

Source: *Investing in Governance – Being a Smart Donor in the Forest Sector,* http://www.eagle-enforcement.org/

4.5 WILDLIFE MIGRATION AND DISEASE MANAGEMENT

Veterinary cordon fencing in Southern Africa has been environmentally damaging, especially in relation to wildlife migration. However there are opportunities to develop environmentally sensitive disease control measures that include a number of control measures: (a) commodity-based trade; (b) use of geographical barriers, such as mountains, lakes and unsuitable habitats to achieve natural separation of livestock from potential wildlife carriers of disease; (c) vaccines; and (d) certain kinds of control of livestock movements.

4.6 TRADE IN WILDLIFE PRODUCTS

In Southern Africa and elsewhere on the continent, conservation can be assisted by the sustainable use of natural resources and legal trade. With the exception of South Sudan, all sub-Saharan African countries are party to CITES, and adhere to the principle that, when allowed, trade in CITES-listed species should be legal, sustainable and traceable. Use tends to be sustainable when the landholder has full rights to the species and obtains incentives to preserve the resource; it may not be sustainable when products are harvested by bodies that do not have a direct stake in the long-term maintenance of the resource. This approach to conservation requires close monitoring and tight management but can be highly successful. In Central and Western Africa 'regulated' trade in wildlife products such as African grey parrots is undermined by poor levels of governance. High demand in consumer countries for certain wildlife drive unsustainable and illegal trades in apes, small primates, tortoises (Madagascar), African blackwood, cichlid fish (for aquaria), to name but a few.

In the special case of ivory and rhino horn, sky-rocketing prices in Chinese and SE Asian markets have overwhelmed trade restrictions and law enforcement measures to fuel a new wave of elephant and rhino poaching that is out of control. There is a considerable divergence of opinion amongst professional conservationists as to whether or not totally banning the trade in ivory is in the elephants' best interests or not. The debate is intractable and it is probable that there never will be any single or perfect solution to the ivory trading dilemma. This underlines the importance of improving *in situ* protection, while at the same time working to stop demand from the ultimate consumer.

4.7 BUSHMEAT CRISIS

The commercial bushmeat trade is responsible for significant wildlife declines in most of Africa. In Central and Western Africa it is arguably the single most important cause of wildlife declines with demand greatly outweighing the sustainable level of production from the forest ecosystems. The breakdown of traditional rules for hunting, and legal frameworks that do not give forest peoples a stake in the management of their wildlife resources, has led to a situation of 'open access' to wildlife. Development-orientated actors suggest that a regulated bushmeat trade, which maintains the supplies of appropriate species from forests, can contribute to economic growth in areas where there are few other options, but conservationists argue strongly that sustainable offtake can only be achieved where human populations do not exceed about 1 inhabitant/km² and where the meat is consumed locally (i.e. not sold outside the area). This is an increasingly rare situation. The reality is that, because of the high levels of urbanisation, most of the bushmeat is consumed as a 'luxury' item in urban areas.

An unsustainable trade in bushmeat will continue to exist for as long as rural populations remain poor and the demand for bushmeat in urban markets remains high. Establishing a regulated and sustainable system of harvesting bushmeat will therefore be extremely complex and time consuming to achieve given the fundamental changes to legal frameworks that must occur and the scale of capacity building of local communities for wildlife management that will be necessary. The legitimate fear of conservationists is that by the time the regulatory frameworks are in place and capacities of local communities for sustainable wildlife harvesting have been built,

most of the wildlife will already have disappeared from the forests outside of protected areas. Law enforcement will therefore remain a necessary activity running in parallel with pilot schemes to test and develop models for the regulated participatory management of bushmeat harvesting in rural areas. In urban areas, where bushmeat is generally not a food security issue, the aim should be to reduce consumption by a combination of law enforcement and strategies to change eating habits.

In Southern Africa the bushmeat problem, while serious, is less acute. Possible reasons for this include the greater availability of alternative domestic animal protein sources in rural and urban areas and better law enforcement. Also there are fewer small forest species so the impact of bushmeat trade on biodiversity is less

4.8 POOR GOVERNANCE AND LACK OF POLITICAL WILL FUNDAMENTALLY UNDERMINE CONSERVATION EFFORTS

No lasting progress in wildlife conservation can be achieved if there is **no political will at the very highest level to mainstream natural resource conservation in national development agendas**. In most African countries there is a serious disconnect between the political discourse regarding wildlife conservation, and the resources that governments are prepared to mobilise to conserve wildlife. Most protected area agencies are consistently underfunded and understaffed, even in countries where tourism provides a strong economic incentive to value wildlife. Manpower and operating budgets are inadequate, and flawed human resource management procedures and lack of career development opportunities for staff leads to low morale and corruption. However, the strong political backing for the transfrontier conservation movement in Southern Africa, which from the outset received the strongest possible endorsement from President Mandela and is now being spearheaded by SADC, is a notable exception to this trend and a beacon of hope and faith in the future of African wildlife and conservation. Other examples of strong political leadership from Heads of State improving conservation outcomes include Namibia, Botswana, Gabon and Chad.

5 INDICATIVE PRIORITY CONSERVATION ACTIONS

Despite significant programmes from the UN, NGOs and many international conservation agencies and including considerable interventions over three decades by the EU (ECOFAC, PAPE, BIOPAMA, MIKE, MIKES, ICCWC, ECOFAUNE, REDD+ and various public private partnership initiatives), all reviews indicate that most African ecosystems face accelerating degradation and growing lists of wildlife species facing extinction, including iconic and keystone species such as elephant, rhino, hippo, cheetah, gorilla and chimpanzee. High-profile publicity has been given recently to a new crisis of illegal wildlife trade which sees well equipped poaching units moving across national borders to target key species concentrations and spirit away their valued parts. The EU joins the recent commitment by several agencies to rise to the new challenges.

Concern is further sensitised by the emerging links between the hunting of rhino and elephant, as well as other natural resources (e.g. minerals from DRC, charcoal from Somalia), as a source of funds for terrorist and civil rebel groups in various parts of Africa. Wildlife crime fuels civil strife and corruption as well as robbing local communities of the natural heritage on which their thrifty livelihoods depend.

Ivory and rhino horn hog the headlines but the less publicised trade in other species and especially bushmeat is also becoming highly commercialised, including imports to EU countries. Great swathes of habitat are almost cleared of edible wildlife including the elimination of endemic ungulates, rare monkeys and endangered gorillas and chimpanzees.

Even the immediate loss of wildlife is dwarfed in terms of real long-term losses to the continent by the gradual loss of functioning ecosystems and their valuable ecosystem services. Given that biodiversity underpins the provision of ecosystem services that are vital to human well-being and livelihoods, long-term sustainable achievement of the Millennium Development Goals (MDG) requires that biodiversity loss is controlled as part of MDG 7.

A strong commitment to reversing the ecological degradation of sub-Saharan Africa is essential for humanitarian, security, environment, socio-economic and biodiversity reasons. The EU is uniquely placed to provide this essential support because it has a long history of relevant expertise in this field, large financial resources, delegations in every country, existing agreements at pan-African and regional scales, the ability to back up action with political leverage, ability to integrate actions with other thematic initiatives and, as China's largest trading partner, considerable influence with Chinese authorities.

A stronger EU response is mandated by obligations under several key directives and commitments, including:

- EU 2020 Biodiversity Strategy, which targets a bigger EU contribution to averting global biodiversity loss under CBD and other programmes;
- EU commitment to support the Bonn Convention on migratory species (CMS) including the Agreement on the Conservation of African-Eurasian Migratory Waterbirds;
- EU Thematic Programme on Global Public Goods and Challenges;
- EU commitment to combat organised and serious international crime including Europol;
- Joint Africa-EU Strategy Action Plan, especially including commitments to Peace and Security, Democratic Governance and Human Rights, and Climate Change and Environment;
- EU commitment to international efforts to tackle climate change, including the LIFE programme;
- commitments under the Birds Directive to protect bird populations of all EU wild birds, including migrants;
- EU's Common Foreign and Security Policy;
- EU's and Member States' commitments and obligations as members of the UN Convention on Biological Diversity (CBD) including the transfer of technology;
- Declaration of the February 2014 London Conference on Illegal Wildlife Trade.

Appendix 2 (section 7) summarises the linkages between the EU's current biodiversity agenda and the different African development strategies and visions currently being implemented on the continent.

Given the scale of human growth, the anticipated development projects and extractive industries and the significant challenges of climate change, it is recognised that we expect a considerable further retreat of nature before rates of biodiversity loss are halted. It is not feasible to protect all 2 000+ existing category I-IV protected areas or implement all admirable conservation plans for the continent. A prudent strategy for conservation in sub-Saharan Africa would begin by focusing on a limited number of key landscapes selected to harbour the highest diversity of species and focus on keystone mammalian species.

It should be stressed that EU interventions need to improve strategic approaches to planning and development across the board, and to apply them not only to protected area management and illegal trade, but to tackling key drivers of ecosystem degradation (population growth, conflict, weak governance, etc.). These have a huge impact on the effectiveness of wildlife conservation, and should be a focus for harmonisation of the EU and EU Member States' interventions in Africa. They have to be tackled in parallel with conservation measures and must be designed to be consistent with conservation objectives. Also required, but beyond the scope of this document, are

actions to support ecosystem conservation on oceanic islands, Africa's critical marine environment and Northern Africa (including the hot issue of large-scale trapping of migrant birds). This should be tackled through a separate African marine and oceanic islands strategy.

The proposed entry points for the EU strategic approach for wildlife conservation for Africa are:

1. *in situ* support for conservation of Africa's Key Landscapes for Conservation (KLCs), Transfrontier Conservation Areas (TFCAs) and individual sites of outstanding conservation value including, but not necessarily limited to, those recognised by other approved classification schemes, e.g. IBAs, Ramsar, etc.;
2. strengthening sectoral management and coordination for wildlife conservation;
3. facilitating legal reforms for local ownership and rights to wildlife and natural resources;
4. dismantling wildlife crime networks;
5. tackling the unsustainable natural resource trade (bushmeat, fishing, fuelwood, charcoal);
6. research and monitoring;
7. awareness raising and communication.

5.1 *IN SITU* SUPPORT FOR KEY LANDSCAPES FOR CONSERVATION AND IMPORTANT INDIVIDUAL SITES

In situ conservation of Africa's most important conservation landscapes is placed at the heart of this proposed strategic approach. These are the sites where the best remaining assemblages of flora and fauna remain and it is essential that they be secured for posterity in the face of the inexorable intensification of threats. **The rationale here is that the pace of wildlife loss and ecosystem services loss is so rapid that it will in many cases outpace efforts to tackle the various drivers of threats causing the losses (i.e. population growth, poor governance, conflict and political indifference).** A collective international approach to tackling these threats must therefore be developed alongside this site-based strategy (section 5.4).

Whilst the balance of respective actions varies between regions, the strategic approach prioritises support for large, relatively intact, representative KLCs**,** containing key protected areas, key species and enabling adequate connectivity to allow for migration needs and species range adaptations to changing climate. Since functioning ecosystems and migrating species often span international boundaries, many of the KLCs identified form part of the Transfrontier Conservation Areas (TFCAs). In the case of Western Africa, ecosystems are so fragmented that specific strategic approaches are proposed for the four major ecotypes: desert, savannah, forest and mangrove/coastal areas, and specific measures proposed to promote the landscape approach. The lack of up-to-date information, and the highly fragmented and threatened nature of habitats and species in Western Africa mean that special analyses must be a key component of the *in situ* conservation work.

The priority KLCs are those that met as many as possible of the criteria listed below in Box 3. The process of site selection involved wide consultation with conservation organisations and individuals working in the field, and a particular effort was made to ensure the best possible match with the different priority setting processes referred to in section 1.3.1.

Box 3: Criteria used to identify the most important Key Landscapes for Conservation

- Protects a functioning ecosystem with viable wildlife populations in the face of increasing isolation caused by an expanding rural population.
- Recognised as a World Heritage Site for its global (biodiversity / ecosystem) importance.
- Established as a Transfrontier Conservation Area or in the process of formal development as a TFCA.
- Protects a globally important dry-season concentration area for wildlife populations together with their wet-season dispersal zones.
- Protects a long-distance terrestrial wildlife migration, or the range occupied historically by such a migration, where there is opportunity to recover that migration though barrier removals.
- Protects the most important populations of free-ranging elephants in each region.
- Protects the important populations of the African black rhino or of the southern white rhino.
- Protects a key population (as rated by the appropriate IUCN SSC specialist group) of one or more of the other iconic large African wildlife species, including predators, primates and ungulates, which are categorised as endangered or vulnerable according to the IUCN Red List Criteria. Particular attention is given to species that typically occur at low density and/or occupy large home ranges, and which consequently require large and intact ecosystems for sustaining their free-ranging populations.
- Plays an important role in protecting important wintering grounds for Palearctic bird migrants (e.g. wetlands recognised as Important Bird Areas).
- Protects a regionally important hotspot of endemism and diversity that requires ecosystem-scale (versus microhabitat-scale) protection.
- Contains wildlife landscapes of exceptional scenic interest.
- Protects a watershed or aquifer that has direct conservation benefit through tight linkages with downstream water-dependent ecosystems that are themselves of global importance.
- Plays a vital role in sustaining a key natural resource, such as a fishery or source of freshwater, that has critical national importance through public, commercial, recreational, artisanal or subsistence use.

The proposed strategic approach recognises that even a long list of such supported landscapes will miss a number of important individual smaller sites of outstanding conservation value and fail to protect many endangered species. Using similar criteria, but with a greater focus on species or habitats of special attention rather than large landscapes and functioning ecosystems, the strategic approach also identifies the most important individual PAs from the four regions.

Figure 7 below and Table 5 in Appendix 1 summarise the different KLCs and individual sites identified and proposed for support in the four regions.

At the site level, the elements of support will be dictated by the specificities of the different regions, but should include at least the following:

- *Protected area management*
  This includes management and business planning, capital investment in infrastructures and equipment, law enforcement, surveillance and intelligence, liaison with local communities, and monitoring of species, habitats, threats and internal staff performance. It also includes on-the-job training for field-based PA staff. Where public private partnerships (PPPs) for the management of PAs and technical assistance form NGOs is appropriate these will be encouraged and supported (section 4.1.4).

- *Landscape management for conservation*
  This involves raising capacities of park management for planning and implementing wildlife management at the landscape level, including buffer zones, wildlife corridors and the restoration of animal migration. This involves multi-stakeholder engagement, beyond park authorities, for land-use planning. In regions where the landscape is dominated by industrial extractive industries (logging and mining), opportunities for engaging with the private sector extractive industries to enhance wildlife conservation in concessions should be actively pursued. Furthermore, it will be key to ensure that the extractive industry sector respects international conventions (such as the World Heritage Site convention) and international standards (such as the Organisation for Economic Cooperation and Development/OECD guidelines for multinational companies).

- *Biological management of critically endangered populations*
  In certain cases, a species may be so critically endangered that it requires focused management activities designed to improve its breeding opportunities and bring it back from the verge of extinction. A lost breeding opportunity is not as easy to track as poaching but it is just as important to monitor and understand – a combination of 'security monitoring' (anti-poaching) and 'biological monitoring' is what enabled conservationists to bring the black rhino back from the brink in the early 1990s.

- *Landscape management for livelihoods*
  This element, which is particularly relevant to Southern and Eastern Africa, will assist with establishing and overseeing wildlife and natural resource conservancies on private and communal lands. An important aspect of wildlife conservancies on private land is the removal of internal fences between properties accompanied by a joint management of land and wildlife resources. With communal lands, long-term training in many aspects of CBNRM will include natural resource governance, wildlife conservation, human-wildlife conflict, land-use conflict, livestock disease, ecotourism, safari hunting, business management, administration of community institutions, and legal issues. Given the overriding threat to wildlife and habitats posed by population growth, particular attention should be given to strengthening family planning in KLCs. In Central Africa, where successful options for livelihood activities have proved more difficult to develop, pilot schemes to test sustainable bushmeat and fish harvesting should be developed. Developing PES and REDD+ projects within KLCs should also be supported.

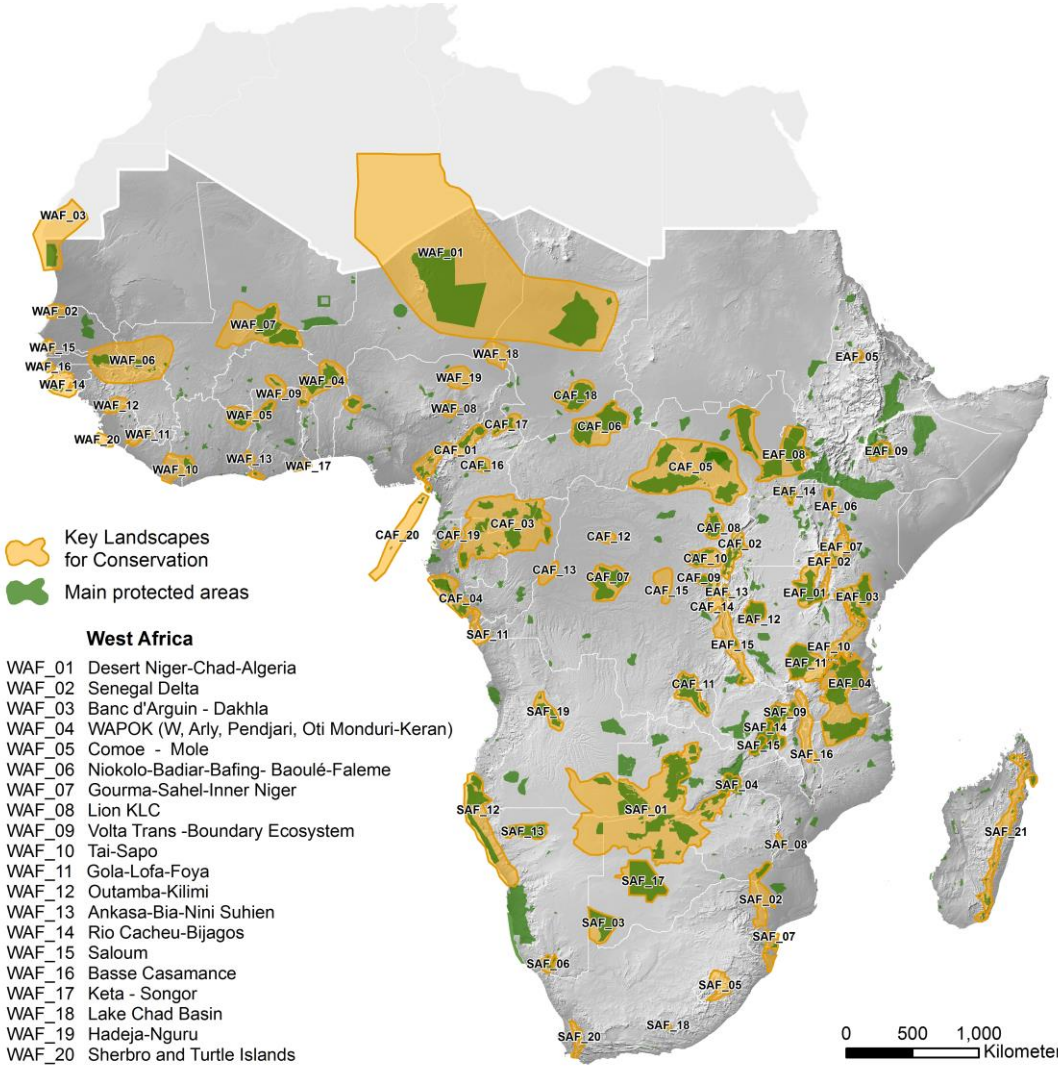
- *TFCA governance*
  This involves supporting cross-country cooperation and policy development for TFCA governance structures. It will also be of assistance to the overall institutional reform processes (section 5.2) and contribute to greater cooperation in the governance of TFCAs and other PAs.

- *Awareness raising and communication*
  This element supports awareness building in the surrounding communities and for the private sector impacting on ecosystems through training, information, materials, publications, communications, visits to the protected areas, etc.

At the national level, support should be aimed primarily at government departments and agencies responsible for wildlife conservation and their liaison with institutions in associated sectors (agriculture, logging, mining, education, etc.). This feeds in to the overall support for strengthening institutions, policy coherence, sectorial coordination and reform processes (section 5.2). Supporting civil society participation in these processes will be an important aspect to ensure good governance.

At the regional level, the TFCA approach in Southern Africa and beyond requires key reforms in national laws to give landholders and rural communities the right to manage wildlife, woodlands and other natural resources for their own benefit. However, it can take many years to achieve individual country reforms. The most effective approach will be to offer the relevant expertise at the regional and pan-African level, the latter possibly through support to NEPAD. In other regions where the TFCA concept is less well developed, support will focus on building political support for TFCAs through the relevant regional institutions (EAC, ECCAS, ECOWAS, COMIFAC, etc.) and developing the necessary legal and institutional frameworks (section 5.2).

Figure 7 Map of proposed Key Landscapes for Conservation



West Africa

WAF_01 Desert Niger-Chad-Algeria
WAF_02 Senegal Delta
WAF_03 Banc d'Arguin - Dakhla
WAF_04 WAPOK (W, Arly, Pendjari, Oti Monduri-Keran)
WAF_05 Comoe - Mole
WAF_06 Niokolo-Badiar-Bafing- Baoulé-Faleme
WAF_07 Gourma-Sahel-Inner Niger
WAF_08 Lion KLC
WAF_09 Volta Trans -Boundary Ecosystem
WAF_10 Tai-Sapo
WAF_11 Gola-Lofa-Foya
WAF_12 Outamba-Kilimi
WAF_13 Ankasa-Bia-Nini Suhien
WAF_14 Rio Cacheu-Bijagos
WAF_15 Saloum
WAF_16 Basse Casamance
WAF_17 Keta - Songor
WAF_18 Lake Chad Basin
WAF_19 Hadeja-Nguru
WAF_20 Sherbro and Turtle Islands

Central Africa

CAF_01 Cross River-Takamanda-Mt Cameroon
CAF_02 Greater Virunga
CAF_03 Greater TRIDOM-TNS
CAF_04 Gamba-Myumba-Conkouati
CAF_05 Garamba-Bili Uere-Chinko-Southern
CAF_06 Manovo-Gounda-St Floris -Bamingui
CAF_07 Salonga
CAF_08 Okapi
CAF_09 Kahuzi-Bihega
CAF_10 Maiko-Tayna
CAF_11 Kundelungu-Upemba
CAF_12 Lomako-Yokokala
CAF_13 Tumba-Ledima
CAF_14 Itombwe-Kabobo
CAF_15 Lomami
CAF_16 Mbam Djerem
CAF_17 Bouba Ndjida-Benoue
CAF_18 Zakouma-Siniah
CAF_19 Monts de Cristal-Altos Nsork
CAF_20 Picos and Obo

Southern Africa

SAF_01 Kavango Zambezi
SAF_02 Great Limpopo
SAF_03 Kgalagadi TFNP
SAF_04 Lower Zambezi - Mana Pools
SAF_05 Maloti-Drakensberg
SAF_06 Ais-Ais - Richtersveld
SAF_07 Lubombo
SAF_08 Chimanimani
SAF_09 Malawi-Zambia
SAF_11 Maiombe Forest
SAF_12 Iona-Skeleton Coast
SAF_13 Etosha Pan
SAF_14 North Luangwa NP
SAF_15 South Luangwa NP
SAF_16 Lake Malawi
SAF_17 Central Kalahari GR
SAF_18 Mountain Zebra
SAF_19 Cangandala-Luando
SAF_20 Cape Floral Region
SAF_21 Madagascar Forests

EasternAfrica

EAF_01 Mara-Serengeti-Ngorongoro
EAF_02 Rift Valley Lakes WHS-Natron
EAF_03 Greater Kilimanjaro
EAF_04 Niassa - Selous
EAF_05 Simien Mountains
EAF_06 Lake Turkana
EAF_07 Greater Mt Kenya
EAF_08 Sudd-Badingilu-Boma-Gambella
EAF_09 Bale Mountains
EAF_10 Eastern Arc Forests
EAF_11 Ruaha-Rungwa-Kitulo-Kipengere
EAF_12 Moyowosi-Kigosi
EAF_13 Nyungwe-Kibira
EAF_14 Imatongs-Kidepo
EAF_15 Lake Tanganyika

5.2 INSTITUTION BUILDING – STRENGTHENING SECTORAL MANAGEMENT AND COORDINATION FOR WILDLIFE CONSERVATION

This document has underlined the general weakness of government agencies responsible for PAs and natural resource management. The *in situ* support for KLC therefore has to be accompanied by significant support to strengthen these institutions. Institution building must be tackled at both regional and national levels.

5.2.1 National level

At the national level, programmes supporting sectoral reform (including policy and legal), institutional restructuring and the strengthening of management authorities (including the design or re-design of PA systems, and training) are very cost-effective conservation investments because all PAs, and all wildlife (whether in PAs or not), stand to benefit. Resources should therefore be made available to support national-level institutional and/or PA system reforms on an *ad hoc*, if-and-when requested basis. In some countries, particularly in Western and Central Africa, fundamental overhauls of management authorities will be required and this will take many years. For this reason, PPP arrangements for the management of PAs (section 5.1) is an advantage as it enables sites to be effectively secured while institutional reform is in progress. Furthermore, PPP arrangements contribute directly to improving governance in the wildlife conservation sector, with obvious positive spin-offs for the management agencies. Building stronger coordination between agencies within the regions, particularly in Western Africa, should also be supported.

Improved **training** is required at all levels of seniority in wildlife management and related issues in land-use and environmental governance, but in most African countries there are deficiencies in the training of mid-level officers (wardens and senior site officers). The percentage of wildlife management staff with formal training in wildlife management varies considerably across African countries. Tanzania leads the way with almost 100%, followed by countries in Southern and Eastern Africa (e.g. Botswana with 50%), to less than 5% in Ethiopia, Burundi and the DRC.[30] Furthermore, support should be given to ensuring that training curricula better reflect modern approaches and governance systems for conservation, including greater community participation. This is particularly important for Western and Central Africa. These approaches require new skills, especially for planning, and the implementation of cross-sectoral and participatory management for conservation and the sustainable use of natural resources in order to be able to address livelihood issues.

There are therefore obvious opportunities for (i) supporting middle management officers to attend the various African wildlife training institutes: Garoua Wildlife College (Cameroon), College of African Wildlife Management (Tanzania), Southern African Wildlife College (South Africa), Kitabi College of Conservation and Environmental Management (for the Albertine Rift Region in Rwanda, Burundi and DRC), Kenya Wildlife Service Training Institute (Kenya), Botswana Wildlife Training Institute (Botswana), as well as the various other schools and university departments that offer graduate and masters degrees in aspects of wildlife management in the different regions (see regional volumes), and (ii) modernising the *curricula* to incorporate the latest approaches to wildlife management. However given the large number of potential candidates (it is estimated that more than 5 000 middle management staff, wardens and deputies are needed for Africa's protected areas) the capacities of existing colleges need to be increased, possibly new training structures created, and a much larger number of scholarships made available to them to cater for the greater demand. A stronger emphasis on off-campus training as part of the curricula offered by the colleges is considered important. Building links with universities (both within Africa, and abroad where appropriate) will allow colleges to focus on their specific practical training, drawing on

[30] Scholte, P., F. Manongi, T. Sylvina, M. Batsabang,R. Nasasira, G. Otiang'a-Owiti and F. Tarla (2014). *Fifty years of professional wildlife management education in Africa*, draft report.

larger organisations for more general education and accreditation management, while also offering college graduates more perspectives to pursue further education.

In the short to medium term, the challenge will be to ensure that trained individuals return to their institutes rather than being attracted away by better career opportunities in the private or NGO sectors. The only way to avoid this is through the above-mentioned support for institution building and reform so that NRM agencies provide attractive and stable career opportunities. If training can be delivered in a modular and in-service manner, attainment of specific skills and competence levels can serve as a motivation for career development.

Much of the basic ranger training is currently done on site by specialist training organisations and this should continue to be a strongly supported element of EU support (covered under section 5.1 above for *in situ* support of KLCs). Specific sites in the regions that are particularly suited for field training in terms of ecosystems and facilities should be identified and developed. With the increasing importance of organised networks of armed wildlife criminals, paramilitary techniques and intelligence-gathering operations are increasingly important components of training.

5.2.2 Regional level

Given the importance of the landscape approach and TFCAs for the conservation of African ecosystems, it is evident that concerted efforts at regional level need to be made to continue developing the concept and supporting the development of the necessary regional planning and management structures. While the TFCA concept is firmly entrenched in conservation thinking in Southern Africa, the level of political interest and support is weaker in the other three regions. In Eastern Africa, the East African Community (EAC), its Secretariat and its NRM Protocol provide a sound platform on which TFCAs could be developed but greater impetus could be given to the idea by developing a specific plan for the development of TFCAs in Eastern Africa and having it endorsed by the EAC. It is proposed that this should be modelled on the instruments and institutions developed for TFCAs by SADC. A similar approach could be adopted for the regions in Central and Western Africa. It should be noted that as a member of SADC (as well as ECCAS) the DRC is well placed to benefit from the Southern African leadership and experience in this field. For Western Africa, it is proposed to support the establishment of a special task force for Institutional Support and Coordination under the WAEMU. This task force, supported by the IUCN based in Western Africa, would be responsible for monitoring and planning, communication, research and management-governance training.

5.3 FACILITATING LEGAL REFORMS FOR LOCAL OWNERSHIP AND RIGHTS TO WILDLIFE AND NATURAL RESOURCES

The landscape approach to conservation requires key reforms in national laws to give landholders and rural communities the right to manage wildlife and woodlands for their own benefit. Reforms to policy and law are required in most countries of Africa. Established examples of appropriate enabling legal and policy environments in favour of communities, civil society and the private sector are limited, but include Namibia and Zimbabwe (community enablement) and South Africa (private sector enablement). These countries have enabling legislation that allows for the devolution of rights / ownership over wildlife to local people and to the private sector. Individual country reforms can take many years or decades to achieve. While not ignoring the necessity to work on policy and legal reforms at the national level, it is proposed that an effective approach will be to offer the relevant expertise at the regional and pan-African levels through the various political, economic and development communities (SADC, NEPAD, EAC, ECCAS, WAEMU, COMIFAC, etc.) and their associated technical organs. For example, it is proposed that a SADC TFCA *Joint Programme to Enable Legal Frameworks* be established with SADC for Southern Africa for the purpose of communicating to member states the need for reforms in resource rights and land tenure. It would provide advice and practical assistance in harmonising relevant

legislation, policies and approaches in natural and cultural resource management across international borders within the TFCA context. In addition, a sister programme would be established within NEPAD so that individual African states can be encouraged to adopt TFCAs, and the linked land-reforms, as a way of implementing NEPAD. The harmonisation of policies and legal frameworks is particularly important with respect to wildlife crime in order to avoid the 'migration' of wildlife criminal networks to countries where penalties are weakest. In Central Africa, the harmonisation of forestry and fiscal policies is a key pillar of the COMIFAC Convergence Plan and should continue to be supported.

State level institution building must be complemented by building capacity at a local level. Local institutional capacity for effective site management can be more sustainable in the long term, because it empowers those with most to gain from good natural resource management. For example, at the most local level, BirdLife has successfully built a local conservation group approach to support Important Bird Areas (IBAs), which represents an effective, low-cost approach to ensuring local ownerships of sites[31].

5.4 TACKLING INDIRECT THREATS TO CONSERVATION

By linking the direct threats (section 2.3) and the drivers of threats (section 2.4), there are two significant drivers of habitat loss:

- the expansion of subsistence agriculture (including the corresponding loss of trees in the landscape), which is at least partly driven by expanding populations;
- the development of commercial agriculture and energy infrastructure, including hydroelectric dams, which is driven by states' policies – such as on development, land tenure and foreign investment – as well as the international market for the goods and services these developments provide.

To tackle these threats, a coordinated approach to African conservation must firstly seek to take an inclusive approach, engaging with African states to ensure that poverty alleviation and development strategies, agriculture and forestry policies, and approaches to land use and natural resource planning and development (including policies related to inward investment by foreign companies and states), recognise ecological needs and are complemented by wildlife conservation strategies, policies and aims. This effort should support existing work to mainstream biodiversity conservation under the Convention on Biological Diversity. It is equally essential to ensure that European interventions in Africa are aligned with, and not undermining, wildlife conservation aims. No less importantly, Europe should ensure that European companies are operating by the same environmental standards in Africa that they are compelled to abide by within Europe. The EU should also work with the other major investors in development in Africa, such as China, India and the Gulf countries, to ensure that common environmental safeguards are in place, so that there is a level playing field for development assistance and financial investment.

5.5 WILDLIFE TRAFFICKING: DISMANTLING WILDLIFE CRIME NETWORKS AND CURBING THE DEMAND FOR ILLEGAL WILDLIFE

It is obvious that efforts to curb the illegal trade in wildlife, be it ivory, apes or parrots, will require essentially the same preventative and investigative procedures and involve the same range of enforcement agencies. It follows that any action taken to strengthen the capacity of the wildlife enforcement machinery stands to benefit many species, and would therefore represent money very well spent.

[31] BirdLife International (2010). *A Review of Local Conservation Groups in Africa*, www.birdlife.org/news/review-local-conservation-groups-africa

With so much that needs to be done, and with so many other actors also trying to help, these recommendations represent a conscious attempt to avoid an all-inclusive, over-ambitious programme, and instead identify a realistic selection of interventions that have the potential to generate a very good return on investment in terms of ultimate impact.

The plight of two of Africa's most iconic species, the elephant and the rhino, has focused world attention on the massive scale of the illegal wildlife trade in wildlife products and the ramifications that this has, not only for biodiversity conservation but also for governance and national security (since rebel groups across Africa are deeply involved in it). While there are a number of anti-trafficking measures that are specific to each of these two iconic species, there is a raft of measures that are equally relevant for the wildlife trade in general since what works for rhinos and elephants will likely also be beneficial for other species targeted by the illegal trade. *In situ* conservation measures for rhino and elephant are covered in section 5.1. The special issue of the bushmeat trade is covered in section 5.4.

It should be underlined that strategies for tackling trafficking and demand reduction have been developed by various international organisations, notably through the International Consortium on Combating Wildlife Crime (ICCWC) which brings together the world's leading agencies involved with this issue (CITES, Interpol, UNODC, WCO and the World Bank). UNODC has also developed its own global programme for combating wildlife and forest crime. These ongoing initiatives are highly pertinent with respect to the present strategic approach for wildlife conservation in Africa.

There are four strategic approaches which need to be pursued simultaneously at international, regional and national levels to combat the illicit trade in wildlife. These are:

- **strengthening policies and laws** – to make wildlife trafficking a serious crime with appropriate penalties);
- **stopping the killing** – by strengthening anti-poaching, law-enforcement monitoring, PPPs and community development;
- **stopping the trafficking** – through international coordination in wildlife trafficking, inter-agency networking at the national and regional levels, Wildlife Enforcement Networks, information management and monitoring systems, and specialised tools such as container control programmes, controlled deliveries, tracking the money, and forensics to determine the origins of wildlife products;
- **stopping the demand** – educate and influence consumers, develop alternatives, destruction of stockpiles, legal moratoria and bans, high profile diplomacy and advocacy.

5.5.1 Actions to strengthen policies and laws

The EU and its Member States should act on all of the many relevant recommendations arising from its own Expert Conference on the EU Approach against Wildlife Trafficking of 10 April 2014, whether domestic or international in nature. However, not all of the suggestions submitted by those consulted in the course of this exercise were adopted. One that should be included is the need for EU countries to close domestic ivory markets and destroy any stockpiles of ivory.

Several of the actions recommended under the other strategic headings will indirectly support the strengthening of wildlife trade-relevant policies and laws, either internationally or nationally.

5.5.2 Actions to stop the killing

Section 5.1 makes the case for the EU to concentrate a greater proportion of its support for wildlife conservation in Africa on a number of carefully selected KLCs. The most effective contribution the EU could make to stop the killing at field level would be to provide the necessary inputs (training, equipment, etc.) as part of its support

packages to KLCs. It should be noted that training is always likely to be more effective when it is 'demand driven' (as in the case of PPPs) rather than 'supply driven' (as in classical technical support projects to PAs). When organisations are held accountable for results, internal training and capacity building becomes a normal part of everyday functioning rather than it being externally imposed.

Rural poverty is a fundamental driver of poaching at the field level, and conservation strategies – both overall and at site level – must recognise and engage with the state authorities responsible for poverty alleviation and state development strategies. Conservation strategies should also seek to engage with and learn from non-state actors in this field.

5.5.3 Actions to stop the trafficking

5.5.3.1 Continue and expand support for international trade regulation

The EU should continue as an important financier of CITES' core functions and mandated actions, and more especially should not only continue, but also expand, its support for all ICCWC operations, especially those of UNODC which is taking the lead in so many relevant fields, ranging from forensics to controlled deliveries to indicators. This overall position with respect to CITES and ICCWC is exactly consistent with that recommended by the recent Expert Conference on the EU Approach against Wildlife Trafficking. UNODC's Global Programme for Combating Wildlife and Forest Crime is considered particularly worthy of support as it elaborates on all these initiatives, and its anti-trafficking components are particularly well thought-out and constructed. Since this is a ready-to-go programme, much needed in a crisis situation, which ticks all the boxes with regard to appropriate action, and is organised regionally, it is strongly recommended that its entire African component is funded.

Consideration should also be given to supporting the following more focused interventions which are anyway consistent with the UNODC's Global Programme:

5.5.3.2 Support the establishment of national Wildlife Enforcement Networks

The Wildlife Enforcement Network (WEN) approach to establishing functional, well-coordinated multi-agency enforcement mechanisms offers a great deal of promise in the anti-trafficking context. While the need for national WENs is clear, the case for establishing formal regional WENs does not have full consensus. It is recommended therefore that priority be given to supporting the establishment of national-level WENs, primarily by funding the application of ICCWC's Wildlife and Forest Crime Analytic Toolkit or other means of capacity self-assessment in any and all countries that would benefit from this, and secondarily by extending support to facilitate implementation of the resultant National Action Plans.

5.5.3.3 Develop a cadre of international wildlife security officers

The structure of the organised groups involved in wildlife trade-related crimes has five different levels, from poacher to the end consumer:

- level 1: Field (protected area, communal and private land): poachers (individuals or groups);
- level 2: Local: receivers / couriers;
- level 3: National: couriers / buyers / facilitators;
- level 4: National: exporters;
- level 5: International: forwarders / importers / traders / consumers.

Investigation complexity differs significantly between levels 1 and 5. Current enforcement activities in source/supply states address criminal syndicate members from levels 1 to 2 relatively effectively (although with varying degrees of success of course). However these individuals are often easily replaced, and the threat will continue to exist for as long as enforcement activities do not address the driving force behind them at levels 3 to

5. Organised crime syndicate members on level 5 are located in transit/consumer countries and beyond the reach of enforcement authorities in supply countries. It is for this reason that increased international cooperation and coordination are vital. Thus the main challenge for national enforcement agencies is at levels 3 and 4. This is because identifying and catching the kingpins or 'big fish' involved needs inter-agency, intelligence-led approaches that are both proactive and reactive, and which can penetrate the layers of secrecy and corruption that protect these people and facilitate their activities. Unfortunately these skills are not well developed, in a wildlife context at least, so it is in this area that national WENs can be expected to add the most value provided they are staffed by people skilled in intelligence analysis methods, including social network analysis.

However, development of these skills is not straightforward. Probably the best way to develop them is for selected WEN officers to work alongside a person already experienced in the relevant methods, i.e. through on-the-job, or experiential, learning. This could be delivered by embedding – for two to three years – suitably qualified technical assistants (TAs), or wildlife security advisers, within national-level WENs or WEN-equivalents. It is recommended therefore that the EU develops an appropriate TA resource that could be supplied on request, and the obvious and ideal partner to lead this initiative is ICCWC. This resource could consist of former police, military, customs and intelligence officers from EU Member States, especially those who have worked on other similar forms of organised crime (drugs, human-trafficking, arms, etc.).

TAs would also help drive many routine aspects of WEN functionality, and optimise links to international agencies such as Interpol, the European Police Office (Europol), the proposed African Police Office (Afropol) and the WCO. Any resultant improvement in dealing with levels 3 and 4 in the criminal hierarchy would bring disproportionately massive returns on the investment in terms of saving wildlife. It follows that the deployment of national wildlife security advisers represents a very promising approach to adopt.

5.5.3.4 Forensic laboratories for Africa

The need for forensic capacities to determine the provenance of rhino horn and ivory is arguably most pressing in Southern and Eastern Africa, these being the regions in which the majority of the continent's elephants and rhinos are found today. Even so, a significant amount of seized ivory originates in Central Africa, meaning a facility is also needed in that region. At present there are two facilities with the potential to provide regional forensic services for ivory and rhino horn: the VGL lab in Pretoria for Southern Africa, and the KWS lab in Nairobi for Eastern Africa. A lab planned in Gabon has regional potential for Central Africa.

Subject to the inputs of other donors, it is recommended that the EU should provide complementary assistance towards the development and sustainable operations of these labs as a matter of priority and for the following reasons. Firstly, a substantial amount of investment has already gone into developing a real collaboration between the VGL and KWS labs, so it makes sense to support and expand the work that has already been done in that regard. Secondly, all such labs have the potential to determine the identity and provenance of very many types of wildlife product, not just ivory and rhino horn, thus contributing to the overall effort to address illicit wildlife trading in general.

5.5.4 Actions to stop the demand

The following two approaches are recommended.

5.5.4.1 Support UNODC and NGO's demand reduction efforts

Adding further weight to the principal recommendation already made in section 5.3.2.1 above to support UNODC's Global Programme is the fact that it will also address the demand side of Wildlife and Forest Crime (WLFC) through awareness raising at global and national levels. UNODC will build on its existing expertise in running effective global awareness campaigns, such as the Blue Heart Campaign against Human Trafficking and

its successful video campaign against transnational organised crime. Dedicated media outreach both on traditional and new forms such as social media will be deployed. To maximise impact, UNODC will learn lessons from other agencies, for instance the anti-trafficking campaign launched by the United Nations World Tourism Organisation (UNWTO), UNODC and UNESCO in March 2014 entitled *Your Actions Count – Be a Responsible Traveller.* NGOs are another actor with great potential and long-standing experience to reach out to consumers and trigger behaviour change in an effective and innovative manner.

5.5.4.2 Deploy wildlife conservation envoys

It is generally agreed that the scale and nature of the illegal wildlife trade calls for an effort to sensitise both supply and consumer governments at the highest possible level, in order to secure the greatest possible chance of influencing them to make a determined and effective response. Given the limited success of events like the African Elephant Summit in actually interacting with Heads of State, there is merit in the idea of the European Commission dispatching official envoys to carry this message to them.

Many other international organisations use instantly recognisable film, music and sports stars to promote their mission. For example, the Kenya-based Save the Elephant has effectively tapped into the huge celebrity status of the Chinese basketball star Yao Ming and the Chinese actress Li Bingbing to sensitise the Chinese ivory-buying public. The EU could follow suit, and there are many celebrities of European nationality who would be suitable. In terms of access to Heads of State (and influential First Ladies) however, the envoy would need appropriate diplomatic credentials. This would not be an issue if the envoy was royalty for example, and it is notable here that certain members of the British royal family are already very concerned and closely involved with wildlife conservation generally, and trade issues particularly.

Irrespective of their identity, an official EU wildlife conservation envoy could not only lobby Heads of State for action against the illicit wildlife trade, but could at the same time publicise and promote the major new funding initiative(s) that it is hoped the European Commission eventually will adopt as a result of the present study.

5.6 TACKLING THE ISSUE OF UNSUSTAINABLE WILD ANIMAL PROTEIN USE

Although there is a tendency to focus on the question of unsustainable bushmeat trade (i.e. meat from terrestrial wildlife), the unsustainable harvesting of freshwater fish is probably of equal importance. The two are anyway closely linked with users switching from one to the other as a function of seasons and availability.

As noted in section 4.7 wild animal protein is often a food security issue in rural environments but rarely in urban environments, which is where a major proportion of it is consumed. Ideally the ultimate goal should be to achieve sustainable harvesting of wild animal protein for local consumption in rural areas and eliminate consumption of bushmeat as a luxury item in urban areas. The following three strategic approaches will be required simultaneously.

1. *Reducing the demand for wild animal protein* by a combination of developing alternative sources of protein (including non-animal protein) at a cost similar to bushmeat for rural consumers, developing alternative livelihoods to make people less economically dependent on selling bushmeat, and strict enforcement of laws for protected species for retailers, urban consumers and transporters.

2. *Improving the sustainability of the supply by better management of the resource* through developing models of wildlife management with local communities, research and extension, and engagement with the extractive industries to integrate conservation measures into their management plans and internal regulations. In wildlife-rich areas (outside the humid forest zone) which are not suitable for crop or

domestic livestock, production of wild animals in extensive ranching systems (game ranching) or in more intensive conditions (game farming) may offer interesting possibilities (see Box 4, below).

3. *Creating a conducive and enabling institutional and policy environment* so that communities have security of user rights, and a clear regulatory framework for **local** marketing of bushmeat and other wildlife products (from permitted species).

However, given the high levels of rural poverty, the relatively low levels of investment needed to hunt and sell bushmeat and fish, and the pervading problem of poor governance, there is a tendency for villagers in subsistence economies to use local wildlife as a cash crop[32]. The unsustainable bushmeat trade will therefore continue to be a particularly intractable problem for many years to come and for which there is, as yet, no 'silver bullet' solution. Establishing the appropriate policy and regulatory framework for sustainable harvest for local consumption will take very many years, particularly in Central and Western Africa, by which time the fear is that many wildlife populations will have been irreversibly impoverished. It is therefore recommended that in the medium term the EU focuses its support on establishing a series of pilot projects working with local communities to test models of sustainable harvest for local consumption. This does not ignore the importance of working at the policy and regulatory level; rather the idea is that the results of the pilot projects should feed into national debates on policy and law.

Ideally pilot projects should comprise as many of the following components as possible:

- be conducted in an area contiguous with a PA that is receiving long-term support from the EU (or other agency). This would be part of the PAs' community conservation/livelihoods programme;
- be conducted in collaboration with a private sector partner (e.g. in Central Africa with an FSC certified logging company) as part of its community development obligations;
- include, or be associated with, a component for developing alternative and sustainable animal protein at a competitive price (e.g. small-scale intensive production of domestic species such as chickens where chickenfeed can be produced locally without involving habitat loss). Reasons for the lack of success of schemes to raise wild animal species as alternative protein sources, particularly forest species, should be clearly understood before attempting further such initiatives;
- include, or be associated with, a scheme to develop sustainable harvesting of freshwater fish (either wild or farmed);
- a strong research and monitoring component, ideally in association with an experienced research organisation; the sustainable harvesting of wildlife, particularly in the forest ecosystem, is still a very inexact science;
- a strong community relations' component for awareness building and local governance structures.

Associating private sector, protected area and research partners with local communities would bring important added value in terms of scientific method, local governance building, law enforcement and awareness building.

The essential law enforcement component of dealing with the bushmeat trade would be covered within the framework of *in situ* support to NRM agencies presented in section 5.1. Squeezing the supply lines for bushmeat to urban areas will be an essential focus of law enforcement activities, but it should be recognised that this will undoubtedly be socially and politically highly sensitive since many powerful/influential people have vested interests all along the supply chain.

[32] Abernethy, K.A., L. Coad, G. Taylor, M.E. Lee, and F. Maisels (2013). Extent and ecological consequences of hunting in Central African rainforests in the twenty-first century, *Phil. Trans. R. Soc. B* 368:20130494 , http://dx.doi.org/10.1098/rstb.2013.0494

Box 4: *Game ranching and game farming*

The ever-increasing human population and high demand for bushmeat, resulting in declines of many species, justifies exploring opportunities for sustainable management options. This is particularly justified in wildlife-rich areas not suitable for crop or domestic livestock production. Animals can be produced in extensive ranching systems (**game ranching**) or in more intensive conditions (**game farming**). Game ranching is defined as the management of game on a sizable area, with minimal human intervention in the form of provision of water, supplementing food during periods of drought, strategic control of parasites and predators, and provision of health care. It includes all forms of wildlife-based land use that can be promoted in a game ranch including sport hunting, live animal sales, sales of animal parts, ecotourism and wild meat production. In sub-Saharan Africa and particularly in Southern and Eastern African countries, a wide range of wild ungulate species is bred in game ranches. In semi-arid lands, wildlife-based multipurpose use is commonly more profitable than livestock, generates foreign currency income, is less susceptible to draught and climate change, and contributes to food security and income generation. The exponential spread of this land use option also has some shortcomings from the conservation and social perspective. The ecosystems in private lands are often unbalanced and biased towards high densities of the most valuable species, the elimination of predators and the introduction of exotic species, which are detrimental to the conservation of natural ecosystems in Southern Africa. In addition, there is a need to seek ways in which game ranching can involve poor rural communities. One possibility that has not been adequately explored is the development of community-owned wildlife ranches.

Game farming is the term used to define animal production in more intensive conditions, and more generally applied to the production of a single or a limited suite of species. The success of production also comes with certain constraints in terms of intensification, disease emergence and the availability of land and capital investment which are not accessible to small-scale farmers.

5.7 RESEARCH AND MONITORING

The research and monitoring activities that are a central component of PA management activities are covered under section 5.1 (*in situ* support for KLCs). This section addresses the broader regional and continental aspects of research and monitoring in relation to wildlife conservation. The special case of elephants is also included in this section.

The following broad areas are considered important and worthy of EU support. It should be noted that they are all areas where many organisations, including the EU itself, are already involved.

5.7.1 Information management

The EU, in collaboration with several international partners, including IUCN, is already heavily implicated in bringing together a wide range of datasets relating to changing land use, PAs, biodiversity, etc. and placing these in the public domain. The Biodiversity and Protected Areas Management (BIOPAMA) project proposes the creation of regional observatories in Africa and then to connect the collected information in a more general system, the Digital Observatory for Protected Areas (DOPA), which is managed jointly with IUCN. Similarly the Observatory of Central African Forests (OFAC) promotes good governance and sustainable forest management by providing Central African stakeholders within the framework of COMIFAC and the Congo Basin Forest Partnership (CBFP) with a powerful tool for data sharing. The remarkable series of reports entitled *The Congo Basin Forests: State of the Forests* is a particularly important output. The EU should continue to support these important initiatives.

BirdLife International has a global Information Management System to support bird and biodiversity conservation, which would be the most efficient method of managing avian information for research and monitoring within the framework of this strategic approach.

In developing information for management decisions, regular monitoring is very important. It is also necessary to synthesise knowledge and experience from other disciplines outside 'traditional' nature conservation, including social geography, ecology, economics and meteorology, as well as local communities' knowledge of drivers of land use change in their area.

5.7.2 Elephants

5.7.2.1 Monitoring of illegal killing and surveys of key elephant populations

From the outset in 2001, the MIKE programme, managed by the CITES Secretariat and implemented in collaboration with IUCN, has been supported by the EU. MIKE and its successor MIKES aim to inform and improve decision-making on elephants by measuring trends in levels of illegal killing of elephants, identifying factors associated with those trends, and by building capacity for elephant management in range states. To date, MIKE operates in a large sample of sites spread across elephant ranges in 30 countries in Africa and 13 countries in Asia. There are some 60 designated MIKE sites in Africa which, when taken together, represent 30 to 40% of the continental elephant population. Long-term support for this initiative is absolutely vital as the information it provides is critical for informed debate within CITES, including the complicated and contentious issue of a legal ivory trade. However, there are many other sites apart from MIKE sites that need to be surveyed, especially forest sites in Central Africa. The need to support objective and repeatable enumerations of forest populations is really critical, because without the live elephant numbers the strength of MIKES information will be greatly reduced.

Therefore in order to secure full value for the money already invested in or committed to the overall MIKE programme it is recommended that the EU secures additional and indefinite funding to this end in line with African Elephant Summit Urgent Measure 5. Similarly the EU should also sustain its support indefinitely for the closely related ETIS programme. Without continual monitoring, the objective basis on which to decide what trade-related actions are needed, where and how urgently will be lost.

5.7.2.2 Elephant movements

While powerful arguments can be put forward for ecological research on a very wide range of iconic African species, the case of the elephant is particularly compelling because of the very large areas over which they have to range. These movements, very often far outside the boundaries of PAs, bring them into greater contact not only with elephant poaching gangs but also with rural farmers. Human-elephant conflict is an issue that alienates local populations and leads to the further killing of elephants. Much effort is spent trying to address the problem of elephant movements outside PAs, including the concept of secure elephant corridors. Care needs to be taken that potential corridors are not just drawn on maps without taking wildlife's natural movement and habits into account. It follows that money on research to identify real travel routes would be well spent before millions are invested in corridor developments that may fail.

5.7.3 Natural resource use in the informal sector

Recent research coordinated by CIFOR has highlighted the hitherto underappreciated fact that the informal sector exploiting fuelwood, charcoal, timber and other non-timber forest products (NTFP) (including bushmeat) greatly exceeds that of the formal sector, both in quantity and value. Not only is this a 'lost resource' in economic terms but it also hides the full scale of natural resource loss and the impact that this ultimately will have on livelihoods. Research and monitoring in relation to bushmeat harvesting has been alluded to in section 5.4 above. CIFOR has

identified a number of knowledge gaps and research priorities for bushmeat[33] which fall under three general headings:

- livelihoods: better understanding of the many socio-economic and cultural factors that influence patterns of bushmeat consumption;
- game populations (bushmeat species): better understanding of the basic ecology and demographics of hunted species, particularly understanding the difference between forest specialists and forest-fringe species and the capacity of secondary forest, fallows and other non-primary habitats to sustain bushmeat species;
- ecosystem function: understanding the long-term effects of defaunation on ecosystem functions.

5.7.4 Birds

Many bird species are becoming endangered in parallel to other wildlife taxa as habitat is degraded and fragmented, but some species face specific threats such as poisoning of vultures, and pollution and loss of vital wetlands. Of particular concern to the European public – and peoples all along the flyway – is the decline of many species that migrate to Africa for the winter months. Such species are dependent not only on the suitability of winter habitat but also on the many stopover and replenishment areas along the migration flyways, especially in the Sahel. Many waterbirds are threatened by the decline in African wetlands

Tackling these issues requires considerable research and monitoring. Additionally, since birds are mostly diurnal, quite easily recognised at a moderate distance without capture and with large numbers of avid birdwatchers available to record data, birds are an ideal taxon for monitoring the overall health of wetlands and other wildlife ecosystems.

Such assistance could be extended to the existing international initiatives that support bird conservation in Africa, such as some Millennium Ecosystem Assessments (MEAs) (Convention on the Conservation of Migratory Species of Wild Animals/CMS and African-Eurasian Migratory Waterbird Agreement/AEWA, Ramsar) and international NGOs (BirdLife International, Wetlands International, etc.).

Key activities to be undertaken under this programme include:

- improved monitoring and tracking of Afro-Palaearctic migrant birds;
- identification of mortality factors and causes;
- identification and protection of key wintering and stopover sites;
- ensuring that reforestation efforts in the Sahel under the Great Green Wall for the Sahara and the Sahel Initiative and forest zones are designed to be bird-friendly/bio-friendly;
- strengthen protection of key wetland sites used by migrant waterbirds under the Ramsar Convention and AEWA African initiatives[34] and African-Eurasian Migratory Landbirds Action Plan (AEMLAP) initiatives;
- in key non-breeding areas for migratory birds, seek and promote land-use policies and practices that benefit birds as well as people, which also fulfil anti-desertification and anti-climate change objectives where possible.

[33] Swamy, V. and M. Pinedo-Vasquez (2014). *Bushmeat harvest in tropical forests. Knowledge base, gaps and research priorities*, Occasional paper 114, CIFOR.

[34] The AEWA Plan of Action for Africa 2012-2017 (http://www.unep-aewa.org/sites/default/files/basic_page_documents/aewa_poa_for_africa_final.pdf) was developed through a highly consultative process involving a broad array of stakeholders, including the AEWA African Range States, CMS, Ramsar, BirdLife International and Wetlands International.

5.8 AWARENESS RAISING AND COMMUNICATION

High importance is attached to this activity because of the overriding need to evolve a conservation policy that is embedded in African society. Awareness raising, interpretation of conservation, information and communication require a substantially greater investment than they have typically received in the past. An important part of achieving this goal is to provide up-to-date and accurate information on conservation issues, including natural resources management, biodiversity, African cultural traditions that are related to natural heritage, eco-tourism, protected areas and the TFCA approach.

Awareness raising and communication will be integral parts of all *in situ* conservation efforts (section 5.1). In this section communication at the regional and international levels is addressed. Broadly speaking the EU should be looking to give added value to existing and demonstrably effective awareness building and communication activities. For example, in addition to the kind of information made available through the initiatives described in section 5.7.1 (information management), it is recommended that the EU renews its support for the important work done by the African Elephant Specialist Group (AfESG) and the African Rhino Specialist Group (AfRSG) which have for years, on limited budgets, provided invaluable services and inputs in terms of: (i) general coordination; (ii) technical guidance and advice given to CITES, managers across the African elephant range states, donors, interested parties and the general public; (iii) maintenance of the African Elephant Database and periodic publication of the status reports and the journal *Pachyderm*. The EU's previous core support grant to the AfESG was highly successful and its evaluation showed a high level of delivery against objectives. We therefore recommend not only that the EU should provide fully comprehensive core funding to the AfESG and AfRSG, but also to all other specialist groups with a remit in Africa. A suitably well-endowed programme should be negotiated with IUCN's Species Survival Commission.

Other regional / international communication / awareness building activities need to be facilitated. Networked approaches can be particularly effective. There are, for example, a number of disparate networked approaches to wildlife conservation in Southern Africa, including the Cape Action for People and the Environment (CAPE) partnership for conservation of the Cape Floristic Region, and the Namibian Association of CBNRM Support Organisations (NASCO).

5.9 FUNDING

It is difficult to give a precise calculation of the level of funding required to have significant impact on the success of wildlife conservation over this large area. Several sources give guidance and all show that the funding requirements are very high and considerably greater than what is currently being mobilised.

In the period 1980-1984, Leader-Williams and Albon[35] showed that a minimum annual expenditure on protected area conservation of USD 230 per km^2 was required to prevent a decline in rhino numbers from poaching and a minimum expenditure of USD 215 per km^2 to prevent a decline in elephant. In today's money the rhino figure would be about USD 529 per km^2 (EUR 425 per km^2). The 70 KLCs identified in the current document cover approximately 2.5 million km^2 of which PAs make up about half the territory, so the overall minimum cost of protecting those parks would be approximately **EUR 531 million per year.**

[35] Leader-Williams, N. and S.D. Albon (1988). Allocation of resources for conservation, *Nature* 336, 1988, pp. 533-535.

Martin (2003)[36] used information from Zimbabwe's National Parks in 1997 to show that protection and management needs for small protected areas required higher investment per unit area than larger areas; e.g. 1 000 km^2 needed USD 0.3 million per year for operating costs, 10 000 km^2 needed USD 1.07 million per year and 100 000 km^2 needed USD 6.6 million per year. The operating costs included salaries, field allowances, equipment, fuel for transport and maintenance costs, and included provisions for senior field and research staff. Allowing for variations in salaries and fuel costs from country to country in Southern Africa, the operational costs were estimated by the following formula:

Annual recurrent expenditure/km^2 in USD, $C_R = 50\left(1 + \frac{2}{A} + \frac{3}{\sqrt{A}}\right)$

For new parks there was a substantial additional cost of capital requirements which was estimated by the formula:

Total capital expenditure/km^2 to set up a new park in USD, $C_C = 500\left(1 + \frac{1}{A} + \frac{1}{\sqrt{A}}\right)$

(where area A is expressed in thousands of square kilometres for both formulae).

The 70 KLCs identified in the current document cover approximately 2.5 million km^2 and contain about 300 protected areas. Given that PAs occupy only 50% of this KLC area, they average about 4 200 km² each. Using Martin's formulaic method, with costs updated to 2015, the total operational costs for a park of 4 200 km^2 is EUR 136 per km^2; for 300 PAs of this size the cost would be EUR 171 million per year.

If all the PAs required their entire infrastructure to be rebuilt during a ten-year period then there would be an additional one-off capital cost of EUR 1 080 million or EUR 108 million per year, bringing the total expenditure for operational and capital expenditure to **EUR 279 million per year**.

In 2004, Blom[37] calculated that the PA needs (capital and recurrent costs) for the Congo Basin and the Niger Delta alone was in the order of USD 1.3 billion over ten years, i.e. USD 130 million (EUR 104 million) per year for an area roughly equivalent to the Central African region. Extrapolating up to all of sub-Saharan Africa gives a rough total of **EUR 416 million per year**.

Taken together, these three methods of estimating required expenditure indicate that the KLC network would require **from between EUR 279 million and EUR 531 million per year** for effective management (in 2015), assuming that interventions were restricted to conventional park management and law enforcement techniques alone. Community programmes in the areas outside the parks are likely to increase costs by at least 50%, which would bring the estimated costing range to between EUR 418 million and EUR 796 million. Taking the median value of **EUR 607 million per year, around EUR 6 billion will be required over ten years**.

If we now look at the actual expenditure on PAs we can see that it is considerably less than what is required. In 2002, Cumming estimated that Southern African states (excluding KwaZulu-Natal province) were allocating less than USD 50 per km^2 per year to their parks which works out at no more than 25% of the expenditure considered necessary according to Martin's (2003) estimation of about EUR 194 per km^2 per year for the total annual

[36] Martin, R.B. *Conditions for effective, stable and equitable conservation at the national level in southern Africa*, a paper prepared for Theme 4 at a workshop entitled 'Local Communities, equity and protected areas' as part of the preparations for the Fifth World Parks Congress of the IUCN held in Durban, South Africa, 8-17 September 2003.

[37] Blom, A. (2004). An estimate of the costs of an effective system of protected areas in the Niger Delta – Congo Basin Forest Region, *Biodiversity and Conservation* 13 pp. 2661-2678.

requirement (calculated as EUR 136 per km^2 for operational costs and approximately EUR 58 per km^2 for capital expenditure, assuming complete re-investment in infrastructure every ten years).

In 2005, BirdLife International reported that approximately USD 300 million per year was spent managing around 1 250 protected areas (covering approximately 9% of the continent) and that this was considerably less than the USD 800 million per year considered necessary for an expanded and comprehensively managed protected areas system.[38]

While recognising the approximate nature of these estimations, and the fact that there are certainly significant differences in costs depending on the countries/regions and the habitat types, they nevertheless suggest that funding requirements for the proposed strategic approach which centres on 70 KLCs is likely to be at least **EUR 400 million to EUR 500 million per year**. At this level EU inputs would have a major impact over the most significant areas and species on the continent, more than doubling the total global investment in African PA conservation but still only reaching 60% of estimates for conserving the total PA system of the continent.

Table 4 below provides a very general overview of costs for the proposed strategic approach. Precise cost estimations will require time-consuming detailed site-by-site analyses, taking into account the specificities of the different sites such as levels of local salaries, the contribution of other donors, the state of development of the sites, etc. This level of detailed analysis is beyond the scope of this document.

The high-level panel under the CBD has recently made cost estimates for implementing the Strategic Plan for Biodiversity 2011-2020. A first report in 2012, entitled *Resourcing the Aichi biodiversity targets, a first assessment of the resources required for implementing the Strategic Plan for Biodiversity 2011-2020*, estimates an average annual expenditure of between USD 9 200 million and USD 85 000 million for protected areas (target 11) for the 2013-2020 period.[39] However, the policy on protected areas is not the only one that requires financing. A global assessment of the costs of meeting all Aichi Biodiversity Targets by 2020 estimated that between USD 150 billion and USD 440 billion per year would be required. A second report was published in 2014 and provides further policy messages relating to resource mobilisation.[40] Africa's share in these amounts is not specified in these reports, but can be assumed to be significant.

[38] BirdLife (2008). State of the World's Birds. Indicators for our changing world.
[39] http://www.cbd.int/doc/meetings/cop/cop-11/information/cop-11-inf-20-en.pdf, in particular p. 67-70.
[40] http://www.cbd.int/doc/meetings/cop/cop-12/information/cop-12-inf-04-en.pdf

Table 4 Indicative funding levels for the proposed strategic approach (million EUR over ten years)

Strategic component	Where	Type of intervention	Indicative funding levels (million EUR)
1. *In situ* support for KLCs and other important sites			
	All regions	• Long-term integrated support agreements for KLC management, closely coordinated with other agencies, partners and local communities, covering: - PA management - landscape management for conservation - landscape management for livelihoods • PPP agreements • Collaborative agreements with NRM agencies • Grants for species actions by local and international NGOs • Support for implementation of action plans of respective IUCN SSC groups • Special site-based elephant and rhino actions (surveys, monitoring, law enforcement)	6 000
2. Sectoral strengthening, reform and coordination			
	All regions	• Reform of NRM agencies • Training (support to training schools, grants to students, on-the-job training) • Governance structures for TFCAs • Mainstreaming conservation into national planning processes • Regional coordination of conservation actions in Western Africa	300
3. Facilitating legal reforms for local ownership and rights to natural resources			
		• Supporting individual national policy and legal reforms • Support at regional and pan-African level for policy reform	100
4. Dismantling wildlife crime networks			
	Africa, Europe, Asia	• Support core functions of CITES • Support actions of ICCWC and UNODC • Establishment of national WENs • Forensic labs • Wildlife security officers • Site-based actions (covered under 1 above) • Policy and law reform (covered under 3 above)	400
5. Tackling unsustainable animal protein trade			
	All regions	• Demand reduction – law enforcement, alternative livelihoods and protein sources (covered under 1 above) • Pilot projects to develop sustainable models for harvesting wild protein for local consumption • Creating enabling environment (covered under 3 above)	200
6. Research and monitoring			
	All regions, Europe, Asia	• Information management (BIOPAMA, forest observatories, remote sensing, TRAFFIC, ETIS, etc.) • Support for MIKES programme • Understanding ecological impacts of natural resource harvesting in informal sector (bushmeat, fishing, fuelwood, charcoal etc.) • Understanding trade in informal sector • Other specific research topics (birds, migrations, invasive species, diseases, etc.)	300
7. Awareness raising and communication			
	All regions, Europe, Asia	• Support demand reduction initiatives in Africa and Asia • Wildlife conservation envoys • Diplomatic leverage and dialogue with African and Asian partners • UNODC demand reduction actions • IUCN SSC specialist groups • Site-based conservation education and awareness (covered under 1 above)	400
TOTAL			**7 700**

6 APPENDIX 1 LIST OF PROPOSED KEY LANDSCAPES FOR CONSERVATION

Table 5 List of proposed KLCs

Key Landscapes for Conservation (KLCs) identified as priorities under the current review

Name of proposed KLC	Countries (ISO2 code)	Size (km²)	Ecotype/biome	Protected areas	Special features/significance
SOUTHERN AFRICA					
Kavango Zambezi TFCA	AO, NA, BW, ZM, ZW	400 000	• Miombo woodland • Zambezian flooded grasslands • Savannah	• Liuwa Plains NP (ZM) • Kafue NP (ZM) • Matusadona NP (ZM) • Chizarira NP (ZM) • Hwange NP (ZW) • Naxai Pan NP (BW) • Chobe NP (BW) • Moremi GR (BW) • Okavango Delta WHS (BW) • 30 additional reserves	• Unique Okavango delta wetlands • Wildlife migrations • Large elephant population • Other large mammals • Peace Park
Great Limpopo TP	MZ, ZA, ZW	87 000	Miombo woodlands	• Limpopo NP (MZ) • Kruger NP (ZA) • Gonarezhou NP (ZW) • + 2 additional sanctuaries and further PAs in phase 2	• Riverine woodlands • Regional endemism
Kgalagadi TFNP	BW, ZA	37 256	Desert	• Gemsbok NP (BW) • Kalahari Gemsbok NP (ZA) • + 1 additional reserve	• Unique Kalahari • Gemsbok, etc.
Lower Zambezi-Mana Pools TFCA	ZM, ZW	25 000	Miombo woodlands	• Mana Pools NP (WHS), • Sapi and Chewore Safari Areas (ZW) • Lower Zambezi NP (ZM) • 6 additional reserves	• Zambezi River • Floodplain • Escarpment • Large mammal populations
Maloti-Drakensberg TFCA	LS, ZA	13 000	Montane	• Maloti Drakensberg Transboundary World Heritage Site which comprises Sehlabathebe National Park (LS) and uKhahlamba Drakensberg Park (ZA)	• Southern mountains • Escarpments • Rich endemic flora • Wetlands

Name of proposed KLC	Countries (ISO2 code)	Size (km²)	Ecotype/biome	Protected areas	Special features/significance
					• San culture
Ais-Ais-Richtersveld TP	NA, ZA	6 681	Desert, riverine	• Ais-Ais Hot Spring Game Park (NA) • Richtersveld NP (ZA)	• Fish River canyon
Lubombo TFCA	MZ, ZA, SZ	4 195	Coastal plain	• Links 5 TFCA projects • Hlana Royal NP (SZ) • Tembe Elephant Park (ZA) • Maputo Special Reserve (MZ) • +12 state PAs and other reserves and private land	• High biodiversity • 5 Ramsar sites • Wetlands, woodlands
Chimanimani	MZ, ZW	2 056	Mountains and miombo woodlands	• Chimanimani NP (ZW) • Chimanimani NR (MZ)	• Forest, scenery, wildlife and culture
Malawi / Zambia TFCAs	MW, ZM	4 134	Montane grassland and wetlands	• 3 PAs including Nyika National Park Vwaza and Marsh Wildlife Reserve	• Montane grassland and flora • Wetlands • Restocking programme
Luambe-Lukusizi-Kusungu TFCA	MW, ZM	5 430	Miombo, Zambezian and Mopane woodlands Riverine forest	• Luambe NP • Lukusizi NP • Kusungu NP	• Luangwa River and floodplain • Woodlands, escarpment • Large mammal populations (elephant, hippo, buffalo, sable and wild dog). Will become increasingly important for elephant with climate change
Maiombe Forest TFCA†	AO, CG, CD	To be defined	Tropical rainforest	• Dimonika Biosphere Reserve (CG) • Luki Forest Biosphere Reserve (CD) • + 6 other reserves with little protection in practice	• South-western part of Congo • Basin rainforest; • Chimpanzees and lowland gorillas
Niassa-Selous TFCA	MZ, TZ	See Eastern Africa	Dry forest	• See under Eastern Africa • Selous Game Reserve (WHS) (TZ) • Mikumi NP (TZ) • Niassa Game Reserve (MZ)	• Wide variety of wildlife habitats • Large mammal populations important for elephant, hippo, buffalo, sable and wild dog • Migration corridor with village wildlife management areas
Etosha Pan NP	NA	22 750	Desert, salt pans	• Etosha Pan NP	• Unique salt pans, waterholes, • black rhino, elephant, springbok, gemsbok, etc.
North Luangwa NP	ZM	4 636	Miombo and Mopane woodlands Riverine forest	• North Luangwa NP	• Luangwa River and floodplain • Woodlands, escarpment • Large mammal populations including black rhino
South Luangwa NP	ZM	9 050	Miombo, Zambezian and Mopane woodlands	• South Luangwa NP	• Luangwa River and floodplain • Woodlands, escarpment

Name of proposed KLC	Countries (ISO2 code)	Size (km²)	Ecotype/biome	Protected areas	Special features/significance
			Riverine forest		• Large mammal populations
Bangweulu wetlands	ZM	8 000	Miombo woodlands Wetlands	• Ramsar site	• Vast wetlands (lakes, floodplains, swamps) • Black lechwe • Shoebills • Important fisheries for local communities
Nsumbu-Mweru Wantipa	ZM	5 154	Itigi-Sumbu thicket, Miombo woodland, Wetland	• Nsumbu NP • Mweru • Wantipa NP	• Endangered Itigi-Sumbu thicket • Woodlands, escarpment • Scenery, wildlife – will become increasingly important for elephant with climate change • Lake Tanganyika – second largest freshwater lake in world by volume, and the second deepest
Central Kalahari GR	BW	52 800	Bushland Grassland	• Central Kalahari GR	• Bushland and grassland over Kalahari Sands; • Large mammal populations • Traditional home of Bushmen, or San
Mountain Zebra NP	ZA	284	Grassland Dry shrubland	• Mountain Zebra NP	• Cape mountain zebra (endangered) • Other large mammals
Cangandala-Luando	AO	9 366	Miombo	• Cangandala NP • Luando Strict Nature reserve	• Last refuge of Giant Sable; • Other large mammals of miombo woodlands
Cape Floral Region Protected Areas	ZA	c. 2 000	Fynbos	8+ PAs including Cape Peninsula NP and De Hoop NR. A process is underway for inscription of 'Cape Floral Region PAs' as a World Heritage Site)	• Cape Floral Region is one of the world's 18 biodiversity hotspots • 69% of the estimated 9 000 plant species in the region are endemic • 1 435 species identified as threatened
Madagascar forests	MG	c. 2 000	Humid to dry forests	16 (2 World Heritage Sites)	• Lemurs and other endemic fauna and flora, World Heritage
Southern Africa sub-totals		**673 810**		**121 (6)**	

Name of proposed KLC	Countries (ISO2 code)	Size (km2)	Ecotype/biome	Protected areas	Special features/significance
EASTERN AFRICA					
Mara-Serengeti-Ngorongoro	KE, TZ	25 000	Savannah	• Maasai Mara NR (KE) • Serengeti WHS/NP (TZ) • Maswa GR (TZ) • Grumeti GR (TZ) • Ikorongo GCA (TZ) • Loliondo GCA (TZ) • Ngorongoro WHS/CA (TZ) • + Conservancies • + whole Mara Catchment (mostly KE)	• Major plains game migration • Large carnivores • Elephant, rhino • Unique crater
Greater Virunga†	CD, RW, UG	15 000	Albertine Rift mid altitude and Montane forest East Sudanese savannah Wetlands	• Virunga WHS/NP (CD) • Volcans NP (RW) • Mgahinga NP (UG) • Queen Elizabeth NP (UG) • Bwindi WHS/NP (UG) • Semuliki NP (UG) • Ruwenzori WHS/NP (UG) • Kibale NP (UG) • Kasyoha-Kitomi FR (UG) • Kalinzu-Maramgambo FR (UG) • Kayumbura WR (UG)	• Albertine Rift Ecoregion • 3 WHSs • Entire mountain gorilla population and important chimpanzee populations • Majority of Albertine endemics • Exceptional tourism potential • Protection of vital freshwater fish stocks • Watershed protection
Rift Valley Lakes WHS – Natron	KE, TZ	c. 320	Soda lakes	• Lake Bogoria NR (KE) • Lake Nakuru NP (KE) • Lake Elementeita NWS (KE) • Soysambu Conservancy (KE) • Lake Natron (TZ) • + catchment areas	• Serial World Heritage Site • Flamingos, water birds • Rhino
Greater Kilimanjaro*	KE, TZ	c. 40 000	Montane, forest, savannah	• Kilimanjaro WHS/NP (TZ) • Chyulu NP (KE) • Amboseli NP (KE) • Tsavo West NP (KE) • Tsavo East NP (KE) • South Kitui NR (KE)	• Glaciated mountain • Montane endemics • Carnivores • Very important elephant area, rhinos

Name of proposed KLC	Countries (ISO2 code)	Size (km2)	Ecotype/biome	Protected areas	Special features/significance
				• Taita Hills FRs (KE) • Mkomazi NP (TZ) • + conservancies and WMAs	
Selous-Niassa†	TZ, MZ	96 200	Miombo woodland Wetlands Savannah	• Selous WHS/GR (TZ) • Niassa NR (MZ) • Mikumi NP (TZ) • Udzungwa NP (TZ) • Kilombero GCA (TZ) • + WMAs, conservancies and hunting blocks	• Migration corridor • Very important elephant area • Buffalo, hippo, possibly rhino and many other animals
Simien Mountains	ET	c. 5 000	Montane	• Simien NP	• Montane endemics, gelada baboon, wolf, ibex
Lake Turkana National Parks WHS	KE	1 615	Lake, desert	• Sibiloi NP • Central Island NP • South Island NP • Turkana GR	• Fossil sites • Desert species
Greater Mt Kenya	KE	c. 25 000	Montane Forest Savannah	• Mt Kenya-Lewa Downs WHS/NP/FR • Samburu NR • Buffalo Springs NR • Shaba NR • Aberdare NP • + NRT Conservancies	• Glaciated mountain • Alpine flora • Forests to arid savannah • Very important elephant area, rhino, Grevy's zebra and other game
Sudd-Badingilu-Boma-Gambella	ET, SS	250 000	Savannah Wetland	• Zeraf GR (SS) • Shambe NP (SS) • Badingilu NP (SS) • Boma NP (SS) • Gambella NP (ET) • + other satellite PAs	• Major plains game migration
Bale Mountains	ET	c. 5 000	Montane, forest	• Bale Mountains NP • Mena-Angetu FR • + other PAs	• Alpine flora, montane endemics
Lakes Tanganyika and Malawi†	TZ, BI, CD, TZ, ZM, MW, MZ	63 000	Freshwater lakes, forests	• Mahale Mountains NP (TZ) • Gombe Stream NP (TZ) • Sumbu NP (ZM) • Lake Malawi WHS/NP (MW)	• Endemic fish fauna, • Chimpanzees

Name of proposed KLC	Countries (ISO2 code)	Size (km2)	Ecotype/biome	Protected areas	Special features/significance
Eastern Arc forests	KE, TZ	c. 10 000	Highland forest	• Udzungwa NP (TZ) • Usambara Mts FRs (TZ) • Pare Mts FRs (TZ) • Taita Hills FRs (KE)	• Endemics. • Primates
Ruaha-Rungwa-Kitulo-Kipengere	TZ	c. 25 000	Miombo woodland Southern highland forest	• Ruaha NP • Muhezi GR • Kizigo GR • Rungwa GR • Mbomipa WMA • Umemarua WMA • Kitulo NP • Mpanga Kipengere GR • Mt Rungwe NR	• Very important elephant area and other game • Forest, montane grassland and endemics
Moyowosi-Kigosi-Burigi-Akagera	TZ	c. 41 000	Miombo woodland Wetlands	• Moyowosi GR • Kigosi GR • Burigi GR • Akagera NP	• Very important elephant area and other game. • Malagarasi and Akagera rivers and extensive swamps, lakes
Nyungwe-Kibira	RW, BI	1 400	Mid-altitude forest	• Nyungwa NP (RW) • Kibira (BI)	• Forest and endemics
Imatongs-Kidepo	SS, UG		Highland forest and savannah	• Imatong Central FR (SS) • Agora FR (UG) • Kidepo GR (SS) • Kidepo NP (UG)	• Forest and endemics • Savannah
Lantoto-Garamba†	SS, CD	15 000	Northern Congolian forest Savannah mosaic	• Garamba WHS/NP (CD) • Lantoto NP (SS) • + contiguous Domaines de Chasses	• Very important elephant area, buffalo, hippo and many other important species
Eastern Africa sub-totals		**c. 677 000**		**54 (excluding Greater Virunga – counted in Central Africa Region)**	

Name of proposed KLC	Countries (ISO2 code)	Size (km²)	Ecotype/biome	Protected areas	Special features/significance
WESTERN AFRICA					
Desert Niger-Chad-Algeria	NE, TD, DZ	c. 700 000	Deserts and xeric shrubland and tropical/subtropical grasslands Savannah Shrublands	• Termit & Tin Toumma NNR • Aïr and Ténéré NP • Addax Sanctuary NNR • Ouadi Rimé-Ouad NP • Fada Archei NP • Tassili-n-Ajjer NP • Ahaggar NP	• Rare Saharan large mammals: Scimitar oryx, Dama gazelle, Addax, Dorcas gazelle and Saharan cheetah
Senegal Delta (SN Delta/ Diawling – Djoudj)	SN, MR	c. 2 465	Wetlands	• Diawling NP • Djoudj NP – Senegal Delta • Saint-Louis MPA • Ndiael Wildlife Reserve • Keur Momar Sarr Forest Reserve	• Coastal wetlands for migratory and water birds
Banc d'Arguin NP Réserve Intégrale de Cap Blanc NNR and Dakhla NP	MR, EH	c. 33 850	Coastal wetlands, coastline and coastal waters Desert	• Banc d'Arguin NP • Réserve Intégrale de Cap Blanc NNR • Dakhla NP	• Coastal wetlands for migratory and water birds • Coastline and coastal waters for critically endangered Mediterranean monk seal • Desert sector
WAPOK (W, Arly, Pendjari, Oti Monduri-Keran	BJ, BF, NE, TG	35 000	Sahel and subtropical grasslands, savannahs, and shrublands	22 PAs, of which the more important are: • W transborder park • Pendjari NP • Arly Faunal Reserve • Oti Monduri Faunal Reserve • Keran NP	• Lion, wild dog, cheetah, leopard, elephant, giraffe, manatee, roan antelope, buffalo
Comoé – Mole	CI, GH	16 500	Tropical and subtropical grasslands, savannahs and shrublands	• Comoé NP • Mole NP	• Leopard, elephant, roan antelope, buffalo
Niokolo-Badiar-Bafing-Boucle du Baoulé - Falémé et Fouta Djallon region	GN, ML, SN	c. 25 000	Tropical and subtropical grasslands, savannahs and shrublands	9 PAs, of which the more important are: • Niokolo Koba NP • Badiar NP • Bafing NP • Boucle du Baoulé NP • Falémé area NC • Fouta Djalon area NC	• Lion, giant eland, roan antelope, buffalo, chimpanzee, elephant
Gourma Elephant-Sahel	BF, ML	23 900	Tropical and subtropical	• Gourma Elephant NP	• Elephant

Name of proposed KLC	Countries (ISO2 code)	Size (km²)	Ecotype/biome	Protected areas	Special features/significance
Faunal Reserve and Inner Niger IBA			grasslands, savannahs, and shrublands	• Sahel Faunal Reserve • Inner Niger Delta (WL2)	• Wetlands of critical importance to the migrating waterbirds
LION KCAs	NG	8 200	Tropical and subtropical grasslands, savannahs, and shrublands West Sudanian savannah	• Kainii Lake NP • Yankari NP	• Lion, elephant
Volta Trans -Boundary Ecosystem Wildlife trans-boundary corridor	BF, GH	c. 3 000	Tropical/subtropical grassland, savannahs and shrublands	• Ranch de Gibier and 'Forêt classée de Nazinga' • Hunting zones surrounding Nazinga	• Elephant, roan antelope, buffalo
Cross River NP; Korup NP; Mont Cameroon; Tamakanda NP; Gashaka-Gumti NP; Tchabel Mbabo Wildlife Reserve and Faro NP†	CM, NG	c. 19 100	Mount Cameroon Afro montane	• Cross River NP • Korup NP • Mont Cameroon • Tamakanda NP • Gashaka-Gumti NP • Tchabel Mbabo Wildlife Reserve • Faro NP	• Afro-montane endemics • Cross river sub species of gorilla
Taï NP; Nzo Faunal Reserve; Grebo National Forest; Sapo NP	LR, CI	16 500	Tropical and subtropical moist broadleaf forests	10 PAs, of which the more important are: • Taï NP • Nzo Faunal Reserve • Grebo National Forest • Sapo NP	• Endemic species (pygmy hippo, chimpanzee, Jentink's and zebra duikers) • More than 1 300 vascular plant species recorded • 12 endemic birds
Nimba / Nimba Nature WH	GN, CI, LR	3 800	Tropical and subtropical moist broadleaf forests	3 PAs including: • Nimba Mountains Strict Nature Reserve in Guinea and Côte d'Ivoire • East and West Nimba Nature Reserve in Liberia	• Water tower and unique biodiversity • Rich flora • 317 vertebrate species (duikers, big cats, civets, chimpanzees and several types of viviparous toads) • Many inverts.
Gola-Lofa-Foya Forest Reserves Trans-border Park; Mano NF, Wologizi NF; Wonegizi NF and Ziama MAB	SL, LR, GN	6 700	Tropical and subtropical moist broadleaf forests	9 PAs, of which the more important are: • Gola-Lofa-Foya Forest Reserves Trans-border Park • Mano NF • Wologizi NF • Wonegizi NF • Ziama MAB	• Forest elephant, pygmy hippo Jentink's duiker, water chevrotain, leopard and 13 species of primate, one of the highest densities of chimpanzees in Western and Central Africa (Loma Mountains) • More than 300 forest-dependent birds; more than 25 are threatened or restricted-range species
Outamba-Kilimi NP;	SL, GN	7 500	Tropical and subtropical	6 PAs, of which the more important are:	• Forest elephant, pygmy hippo, leopard

Name of proposed KLC	Countries (ISO2 code)	Size (km²)	Ecotype/biome	Protected areas	Special features/significance
Forest Reserves Kuru Hill (in Sierra Leone) and Pinselli and Soya			Moist broadleaf forests	• Outamba-Kilimi NP • Forest Reserves Kuru Hill • Pinselli and Soya NC	• Nine species of primates • More than 250 species of birds
Forest KCAs: Ankasa-Bia Conservation Areas	GH	1 800	Tropical and subtropical moist broadleaf forests	5 PAs, of which the more important are: • Ankasa NP • Bia NP	• Endangered monkeys, amphibians and birds • Manatee
Rio Cacheu Mangroves NC; Lagoas de Cufada NC; Rio Grande de Buba NC; Cantanhez Forest NC and Iles Tristao NC	GW, GN	4 800	Mangroves	• Rio Cacheu Mangroves NC • Lagoas de Cufada NC • Rio Grande de Buba NC • Cantanhez Forest NC • Iles Tristao NC	• Best developed mangroves in Western Africa with migratory and water birds and endangered species (manatee and pygmy hippo). • Success story of forest governance
Mangroves KCAs	SL, SN, GH	c. 3 100	Mangroves and coastal	• Sherbro et Turtles Islands NC (SL) • Saloum Delta NP (SN) • Basse Casamance NP (SN0 • Keta Lagoon Ramsar site (GH) • Songor Lagoon NC (GH)	• Mosaic of delta rivers, rivers, sandy coast and islands and islets with mangroves, savannahs, forests and marine areas • Breeding ground for turtles and wetlands of critical importance to the migrating waterbirds
Western Africa sub-totals		**c. 832 940**		**115**	

Name of proposed KLC	Countries (ISO2 code)	Size (km²)	Ecotype/biome	Protected areas	Special features/significance
CENTRAL AFRICA					
Cross River-Takamanda-Mt Cameroon-Korup† (overlaps with West Africa Region)	CM, NG	See Western Africa	• Mount Cameroon Afro montane	• Cross River NP • Korup NP • Mont Cameroon • Tamakanda NP • Gashaka-Gumti NP • Tchabel Mbabo Wildlife Reserve • Faro NP	• Afro-montane endemics • Cross river sub species of gorilla
Greater Virunga† (overlaps with Eastern Africa Region)	CD, RW, UG	15 000	• Albertine Rift Montane and mid altitude forest • East Sudanese savannah • Wetlands	• Virunga NP (CD) (WHS) • Volcans NP (RW) • Mhahinga NP (UG) • Queen Elizabeth NP (UG) • Bwindi NP (UG) • Semiliki NP (UG) • Ruwenzori NP (UG) • Kibale NP (UG) • Kasyoha-Kitomi FR(UG) • Kalinzu-Maramgambo FR (UG) • Kyumbura WR (UG)	• 3 WHSs • Entire mountain gorilla population and important chimpanzee populations • Majority of Albertine endemics • Exceptional tourism potential • Protection of vital freshwater fish stocks • Watershed protection
Greater TRIDOM-TNS	CM, CF, GA, CG, CF	250 000	• Northwest Congolian Forest • Northeast Congolian Forest • Sangha Aquatic ecoregion • Atlantic Equatorial Coastal Forest	• Minkébé NP (GA) • Ivindo NP (GA) • Mwagne NP (GA) • Lopé NP (GA) • Dja WR (CM) • Nki NP (CM) • Boumba Bek NP (CM) • Lac Lobeke NP (CM) • Odzala NP (CG) • Nouabalé-Ndoki NP (CG) • Ntokou-Pikounda NP (CG) • Dzanga-Ndoki NP (CF) • Dzanga SR (CF) • Lac Tele Community Reserve (CG)	• Vast contiguous block of mainly intact moist forest • WHS x 4;(3 x natural, 1 x cultural and natural) • Majority of Central Africa's remaining forest elephants • Majority of Central Africa's lowland gorillas and chimpanzees • Endemic sun tailed monkey (Lopé) • Ancient rock art (Lopé) • Major portion of Congo basin flora • Good potential for PPPs with logging and mining sector and with protected area management specialists

Name of proposed KLC	Countries (ISO2 code)	Size (km²)	Ecotype/biome	Protected areas	Special features/significance
Gamba-Myumba-Conkouati	GA, CG	12 600	• Atlantic Equatorial Forest • Southern Congolian savannah forest mosaic • Equatorial coastal aquatic ecoregion	• Loango NP (GA) • Moukalaba-Doudu NP (GA) • Mayumba NP (GA) • Conkouati NP (CG)	• Inland wetlands • Endangered manatee population • Forest elephant and apes • Globally important for marine turtles (4 species), whales and dolphins (17 species) • High tourist potential • Protects regionally important marine fish stocks • Potential for PPPs with logging and oil sectors.
Garamba-Bili Uere-Chinko-Zemongo-Southern†	CD, SS, CF	150 000	• Northern Congolian forest – savannah mosaic • Sudanian savannah	• Garamba NP (WHS) • Bili-Uere Hunting Domains • Zemongo Faunal Reserve • Southern NP	• Largest CD elephant population • Hippos, giraffe, lion, savannah ungulates • Bongo, giant eland, giant forest hog
Gounda-St Floris-Bamingui-Bangoran and surrounding hunting blocks	CF	50 000	• Sudanian savannah	• Gounda-St Floris NP (WHS in danger) • Bamingui-Bangoran NP • Zone Pilote de Sangba	• WHS • Until recent conflict good CBNRM results from safari hunting in Zone Pilote de Sangba buffer zone
Salonga	CD	33 350	• Eastern Congolian swamp forests • Central Congolian lowland forest	• Salonga NP (WHS)	• WHS • Bonobos, endemic small primates
Okapi	CD	13 750	• North-eastern Congolian lowland forest	• Okapi WR (WHS)	• Okapi, forest elephant, chimpanzee, forest buffalo, Congo peacock, Aquatic genet
Kahuzi Biega	CD	6 000	• North-eastern Congolian lowland forest • Albertine Rift Afro montane forests	• Kahuzi Biega NP (WHS)	• Grauer's gorilla, forest elephant, small primates, forest buffalo
Maiko-Tayna	CD	11 000	• North-eastern Congolian lowal forest	• Maiko NP • Tayina Community Reserves	• Grauer's gorilla (important site for this species given its very heterogeneous distribution in Eastern DR Congo) and other endemics including okapi, aquatic genet, Congo peacock
Kundelungu-Upemba	CD	34 000	• Miombo woodland • Wetlands (Lake	• Upemba NP • Kundelungi NP	• Endemic Congo zebra and other plains mammals • Spectacular landscapes

Name of proposed KLC	Countries (ISO2 code)	Size (km²)	Ecotype/biome	Protected areas	Special features/significance
			Upemba, Zone Annexe)	• Zones Annexe (buffer zone)	• Tourism potential • Very important watershed protection
Lomako-Yokokala	CD	3 625	• Central Congolian lowland forests • Eastern Congolian swamp forests	• Lomako-Yokokala WR	• Bonobo, elephant, sitatunga, etc.
Tumba-Lediima	CD	7 500	• Central Congolian lowland forest • Congolian swamp forest	• Tumba-Lediima NR	• Bonobo • Together with Lac Tele in Congo this is the largest area of protected Congolian swamp forest • Protection of vital freshwater fish stocks
Itombwe-Kabobo	CD	10 000	• Albertine Rift mid-altitude forest • Forest savannah transition	• Itombwe proposed PA • Mitsotshi-Kabobo proposed PA • Luama Hunting Domain	• Chimpanzees – one of the few viable chimp populations in the Albertine Rift • Endemic subspecies of Angolan colobus and red colobus • Albertine bird endemics
Lomami	CD	10 000	• Central Congolian lowland forests	• Lomami (in process of being gazetted as a NP)	• Bonobo, okapi, Congo peacock, two newly described species of small primate
Mbam and Djerem	CM	4 500	• Forest savannah transition	• Mbam and Djerem NP	• One of largest remaining savannah elephant populations in Central Africa; • Gorillas, chimps, forest savannah ecotone species,
Buba Ndjida-Benoue	CM	4 000	• Northern Congolian forest savannah mosaic, • East Sudanian savannah	• Buba Ndjida NP • Benoue NP	• Savannah elephants • Savannah ungulates (23 antelope species) including giant eland
Mt Oku-Ijim Ridge	CM	200	• Afromontane forest	• Oku Floral Sanctuary	• Largest extent of, and highest, Afromontane forest in Western Africa, the only Alpine bamboo forest and the only Podocarpus forest in Western Africa • Exceptional floral, herpetological, and bird endemicity
Zakouma-Siniaka Minia	TD	23 600	• Sahelian acacia savannah	• Zakouma NP • Siniaka Minia GR	• Savannah elephant, savannah ungulates • High tourism potential
Monts de Cristal-Altos Nsork	EG, GA	2 500	• Atlantic forests	• Monts de Cristal NP • Altos-Nsork NP	• Pleistocene refuge, with the highest species richness and diversity of any site in western Central Africa • Mandrills • Vital water catchment area

Name of proposed KLC	Countries (ISO2 code)	Size (km²)	Ecotype/biome	Protected areas	Special features/significance
					• On WHS tentative list
Pico Grande and Pico Basile	EG	850	• Gulf of Guinea lowland and montane forest	• Pico Grande NP • Pico Basile NP	• Spectacular forest covered volcanic landscapes with a large altitudinal range (0-3 000 m) • 5 endemic sub-species of primate • Globally important beaches for marine turtles • On the WHS tentative list
Obo-Zona Ecologica Príncipe	ST	300	• Gulf of Guinea lowland and montane moist forest	• Obo NP (São Tome) • Zona Ecologica (Príncipe)	• Plant and bird endemics • Vital for watershed protection • Landscapes of outstanding scenic interest with high tourist potential • On the WHS tentative list
Central Africa sub-totals (km²)		**c. 650 000**		**62**	
GRAND TOTALS (km²)		**c. 2 800 000**		**350**	

† Denotes a TFCA shared by two regions

7 APPENDIX 2 LINKAGES BETWEEN THE EU'S BIODIVERSITY AGENDA AND AFRICAN DEVELOPMENT STRATEGIES AND VISIONS.

Table 6 Linkages between the EU's biodiversity agenda and priority strategies being implemented in Africa

Strategy document	Links to the European Union's biodiversity agenda
AU Agenda 2063	The priorities and investments outlined in B4Life should be incorporated into the AU's vision and agenda for a *global strategy to optimise use of Africa's resources for the benefits of all Africans.* Agenda 2063 is supported by an implementation mechanism that ensures cutting edge research, innovation and the promotion of African best practices and experiences. In this regard, the agenda delineates the roles for stakeholders such as Regional Economic Communities, Member States, Civil Society and the private sector in its formulation and implementation. The core of Agenda 2063 is a vision of Africa attaining prosperity based on inclusive growth and sustainable development, which maintains healthy ecosystems. The vision holds that by 2063, Africa will have been transformed such that natural resources will be sustainably managed and African societies will consume and produce goods and services in a sustainable manner. National income accounts will be reformed to fully reflect changes in renewable and non-renewable natural resources wealth. Key milestones that the EU's biodiversity agenda contributes to include: • by 2063, Africa's biodiversity, including its forests, rivers and lakes, genetic resources, land, as well as degraded fish stocks and coastal and marine ecosystems would be fully conserved and used sustainably; • forest and vegetation cover would be restored to 1963 levels; land degradation and desertification would have been stopped and then reversed; • African countries would have reduced and conserved the loss of biodiversity and all natural habitats by at least 90%; • Africa would be a fully water secure continent by 2030. Practices and new technologies would be in place to ensure efficient use of water resources and develop new sources; • about 90% of domestic waste-water would be recycled to supplement water for agricultural and industrial use; • by 2063, climate-resilient low-carbon production systems would be in place, thus significantly minimising vulnerability to climate risk and related natural disasters. This would, among others, lead to reductions in per capita deaths from climate change-induced natural disasters by at least 75%; • all agricultural and industrial activities would be climate smart and sustainability certified; • an African climate fund (ACF) to address the continent's climate adaptation and mitigation concerns, including technology development, would be fully operational and regional/continental sustainability certification schemes would be established; • the share of renewable energy to total energy production would have exceeded the 50% threshold. Regional power pools would have been in place a few decades earlier, while continental power pools (e.g. Inga Dam) would be fully functional before 2063 thus making the continent well lit and fully powered; • functioning institutions, regulations, systems and processes would be in place to govern the management and exploitation of trans-boundary natural resources, including water, forests, fisheries, biodiversity, genetic resources, energy and renewable and non-renewable resources.
AU, AfDB and UNECA African Water Vision 2025	Water is increasingly recognised worldwide as a critical factor of social and economic development and has been addressed in Africa through several key political Declarations that are aimed at creating political awareness and securing commitment among all with regard to water issues. Water governance frameworks should include provisioning for wildlife. Efforts to manage water catchments should also invest in ecosystem conservation and restoration plans that support wildlife and wild lands. The Africa Water Vision 2025 calls for *An Africa, where there is an equitable and sustainable use and management of water resources for poverty alleviation, socio-economic development, regional cooperation and environmental protection*. The Africa Water Vision 2015 is built on seven pillars (including *Pillar 3: Availability of water resources for environment and ecosystems*) that recognise that water has become a primary factor for sustainable socio-economic development, eradication of poverty and the ultimate protection of ecosystems. It is also vital to recognise that all key stakeholders can contribute to cooperation and peace through water via 'hydro-diplomacy'. Proponents of the vision identify several challenges to achieving the vision including the under-utilisation of water for growth and development, the lack of human access to clean water and sanitation, the sparse coverage of irrigation, hydropower and water infrastructure, and the lack of financing for water initiatives. EU biodiversity initiatives will have to make the case for allocations of water resources to wildlife and for the management of the ecosystems that support water-provisioning services in the context of the Africa Water Vision 2025.

Strategy document	Links to the European Union's biodiversity agenda
AU/NEPAD Comprehensive African Agricultural Development Programme (CAADP)	Agriculture developments should incorporate principles and practices of landscape planning to ensure that agriculture is promoted in areas outside of wildlife core habitat, dispersal areas and migratory corridors, and that investments should be made in ecosystem management to sustain ecological functions important for wildlife and people. The 2003 AU decision on CAADP (Maputo, 2003) remains the most resolute expression of commitment by Africa to agriculture-led development. The decision shows clear resolve and determination to put agriculture at the centre of efforts to address food insecurity, poverty and stagnation in socio-economic growth. The CAADP decision underlined the fact that Africa has to commit its own resources, and strengthen and align systemic capacity if such a vision was to be attained and sustained. As AU/NEPAD moves on to the next ten years of CAADP (2013 being the tenth anniversary) under *Sustaining CAADP momentum*, investments will be made in innovative thinking and implementation with an aim to highlight the key themes, bold strategies and action areas on opportunities to catalyse transformation and expand investments, as well as strengthen and align Africa's own capacity for increased, sustainable and competitive agriculture performance. As it moves forward, CAADP has been challenged to demonstrate clear value and impact on wealth creation, employment and incomes, poverty alleviation, sustainable development and food security. Under CAADP, national and regional policies must be informed by a more comprehensive understanding of the multiple values of drylands and pastoralism, beyond the narrow focus on commercial products. These policies need also to appreciate the profound socio-economic and cultural transformations, which many pastoral communities are undergoing, with varying degree of success. The regional nature of many pastoralist ecosystems in Africa also requires that support and policies be harmonised across countries and regions. All the country CAADP investment plans have raised and prioritised the growing need to improve the sustainable use of land, water, marine ecosystems and fish stocks, forests and biodiversity. There is growing consensus that climate change and extreme weather events will only increase in the foreseen future.
The Lusaka Agreement	The Lusaka Agreement on Co-operative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora emerged out of deliberations of the Wildlife Law Enforcement Officers from eight Eastern and Southern African countries meeting in Lusaka, Zambia in December 1992. This was followed up with working group meetings involving CITES, Interpol and US Fish & Wildlife Service special agents, as well as London University lawyers of the Foundation for International Environment Law Development (FIELD). The Agreement came into force on 10 December 1996 with the ratification by four signatories. Currently, there are seven parties to the Agreement: The Republics of Congo (Brazzaville), Kenya, Liberia, Tanzania, Uganda and Zambia and the Kingdom of Lesotho. The Republics of South Africa and Ethiopia and the Kingdom of Swaziland are signatories. The Agreement provides for setting up a permanent Task Force that would implement its objectives. Consequently, the Lusaka Agreement Task Force (LATF) was launched on 1 June 1999, with its headquarters located in Nairobi, Kenya. The LATF is an inter-governmental organisation with the main function of facilitating cooperative activities in/among the Party states to the Lusaka Agreement, in carrying out investigations on violations of national laws pertaining to illegal trade in wild fauna and flora. Since its inception, the LATF with the support of partners has successfully carried out law enforcement activities and capacity building programmes which include: • gathering and sharing information/alerts on wildlife and forestry crime with Parties and relevant Partners for necessary decision-making and law-enforcement action; • facilitating cooperative law-enforcement operations that have led to crime prevention, arrest of over 700 wildlife crime suspects including kingpins locally and internationally, disruption of wildlife crime syndicates and seizure of assorted wildlife contraband, including elephant ivory, rhino horns, pangolins, live primates, lion teeth, hippo ivory, tortoises and snakes among others, as well as firearms and motor vehicles used in perpetrating the crime; • coordinating inter-regional synchronised law enforcement operations such as Operation COBRA I and II which have yielded tremendous results, including arrest of suspects, seizure of assorted wildlife contraband and adoption of best practices in collaborative law enforcement; • LATF has received CITES Certificates of Commendation for its integral role in these two inter-regional law enforcement operations; • supporting countries in law enforcement, including training during which over 600 law enforcement officers have been imparted with skills on intelligence and investigations; • provision of specialised equipment and tools as well as sensitisation programmes on national and regional implementation of environmental objectives; • supporting prosecution of wildlife cases; development and management of a criminal database to monitor wildlife and forestry crime, and currently spearheading implementation of the Wildlife Enforcement Monitoring System (WEMS) in Africa; • coordinating efforts and fostering cooperation among law enforcement agencies and between member states and their neighbouring countries towards curtailing trans-boundary wildlife and

Strategy document	Links to the European Union's biodiversity agenda
	forestry crime; working in close collaboration with national wildlife authorities and enforcement agencies, and partnering with UNEP, other UN bodies, and law enforcement and conservation organisations; • collaborating with scientific laboratories on ivory deoxyribonucleic acid (DNA) profiling to establish affected elephant ranges or poaching hotspots for informed law enforcement action; • developing cooperation with the Association of Southeast Asian Nations Wildlife Enforcement Network (ASEAN-WEN), China-NICECG and Wildlife Crime Control Bureau (WCCB) of India under the South-South cooperation framework to bridge Africa and Asia, which are the main source and destination of wildlife contraband respectively; • developing partnerships with other relevant multilateral and international organisations to enhance global and regional environmental cooperation. LATF is currently implementing Memoranda of Understanding/Agreement signed with partners such as CITES, Interpol, WCO, COMIFAC, OCFSA, United Nations University (Japan), University of Twente (The Netherlands), as well as IFAW.
AU UNECA Africa Mining Vision	Plans for the Africa Mining Vision (AMV) to drive Africa's development should include respect for commitments for conserving Africa's natural heritage by ensuring that mining does not take place in protected areas and areas of importance for biodiversity. Where there are residual impacts of mining operations on biodiversity (after mitigation measures have been fully implemented, including avoidance of impact), offsets should be used to secure resources from mining activities to invest in restoring and conserving wildlife and natural habitat.
AU/AfDB Programme for Infrastructure Development in Africa	The vision to *harness all African energy resources to ensure access to modern energy for all African households, businesses and industries by developing efficient, reliable, cost-effective and environmentally friendly infrastructure resulting in poverty eradication and vigorous sustainable development of the continent* should incorporate measures to safeguard the landscapes and wildlife priorities outlined in B4Life by ensuring that planned developments and investments in energy infrastructure are subject to rigorous assessment and due processes before approval, have minimal impact on wildlife and that any residual impacts are offset.
Regional Economic Community Visions and Plans including: • SADC's Regional Indicative Strategic Development Plan • EAC's Development Strategy • ECOWAS' Vision 2020 • COMIFAC's Strategic Vision	Visions to create regional harmonisation in order to ensure economic well-being and improved living standards, quality of life, social justice and peace should incorporate measures to sustain the biodiversity and ecological systems that people depend upon. Road maps for implementations of the Visions should incorporate investments in biodiversity and create enabling policies that ensure wildlife and wild lands are protected in perpetuity for the benefit of the people of Africa today and in the future.
Common African Position (Sustainable Development Goals) NEPAD led/driven	The post-2015 Development Agenda provides a unique opportunity for Africa to reach consensus on common challenges, priorities and aspirations, to actively participate in the global debate on how to provide a fresh impetus to the MDGs, and to examine and devise strategies to address key emerging development issues on the continent in the coming years. The post-2015 Development Agenda should also reaffirm the Rio Principles, especially the principle of common but differentiated responsibilities, the right to development and equity, and mutual accountability and responsibility, as well as ensure policy space for nationally tailored policies and programmes on the continent. The Common African Position (CAP) acknowledges the rising trends such as population growth, the youth bulge, urbanisation, climate change and inequalities, and therefore reiterates the importance of prioritising structural transformation for inclusive and people-centred development in Africa. Priorities include: development of adequate policy space and productive capacities, notably through infrastructure development; science, technology development, transfer and innovation; value addition to primary commodities; youth development; women's empowerment. It also requires addressing the challenges posed by climate change, desertification and land degradation, drought, loss of biodiversity and sustainable natural resource management; and promoting responsive and accountable global governance architecture, including through the full and equitable representation of African countries in international financial and economic institutions.
National development plans	Currently most African countries are undergoing managed adjustment processes with many African nations developing and/or planning their own sustainable development plans. For example, Kenya has a Vision 2030. These plans need to adopt and implement sustainable development action plans that address ALL sustainable development challenges. Key topics include; integrated water resources management; integrated coastal area management; environmental impact assessments; community-based natural resources management programmes; the promotion of the sustainable management of forest and biodiversity resources. Many of these are derivatives of the AU 2063 plan and most reflect the regional economic plans, i.e. EAC,

Strategy document	Links to the European Union's biodiversity agenda
	COMESA, etc. It is imperative that these plans at both national and regional levels are monitored, and that technical assistance is offered to ensure fruition/implementation.
EU biodiversity strategy to 2020	In May 2011, the European Union adopted a new strategy by 2020, to halt biodiversity loss in the EU, restore ecosystems where possible, and step up efforts to avert global biodiversity loss. The strategy is in line with the commitments made by EU leaders in March 2010 and the international commitments adopted by 193 countries, including the EU and all its Member States, in the conference of the Parties to the Convention on Biological Diversity in Nagoya, Japan, in 2010. The EU biodiversity strategy to 2020[1] contains six mutually supportive and inter-dependent targets which address the main drivers of biodiversity loss and aim to reduce the key pressures on nature and ecosystem services in the EU. Each target is further translated into a set of time-bound actions and other accompanying measures. The strategy will be implemented through a Common Implementation Framework involving the European Commission and Member States in partnership with key stakeholders and civil society. It is underpinned by a solid EU baseline on the state of biodiversity and ecosystems in Europe which will be used as a basis for monitoring progress. Target 6 of the Strategy, in particular, relates to helping avert global biodiversity loss, and requires that by 2020, the EU has stepped up its contribution to averting global biodiversity loss. The continuing loss of biodiversity around the world demands concerted international action. As a strong supporter of the Convention on Biological Diversity (CBD), the EU is fully committed to helping combat biodiversity loss across the globe and to fulfilling its global commitments under the Convention. As the world's biggest trader, Europe must also address the impact that its increasingly high consumption patterns are having on the rest of the planet. Europeans rely heavily on the import of a wide range of goods and resources from outside the EU: coffee, tea, bananas, vegetable oils, timber and fish etc. This increasing demand for imports can however encourage exporting countries to over-exploit their resources and deplete their biodiversity. Target 6 of the EU Biodiversity strategy, as the other targets, is accompanied by a set of focused actions to ensure that its ambitions are fully realized: • Action 17 focuses on the reduction of indirect drivers of biodiversity loss. Under the EU initiative on resource efficiency, the EU will take measures to reduce the impacts of EU consumption patterns on biodiversity. The EC will enhance the contribution of trade policy to conserving biodiversity and address potentially negative impacts by systematically including it as part of trade negotiations and dialogues with third countries and seek to include in all new trade agreements a chapter on sustainable development. Furthermore the EC will work with MS and stakeholders to provide the right market signals for biodiversity conservation addressing harmful subsidies and providing positive incentives for biodiversity conservation and sustainable use. • Action 18 concentrates on the mobilisation of additional resources for global biodiversity conservation. • Action 19 aims at "biodiversity proofing" EU development cooperation to minimise any negative impact on biodiversity, and undertake Strategic Environmental Assessments and/or Environmental Impact Assessments for actions likely to have significant effects on biodiversity. • Action 20 targets the regulation of access to genetic resources and their fair and equitable sharing of benefits arising from their use proposing a legislation to implement the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation in the EU in order to ratify the protocol at the latest by 2015.
EU Biodiversity for Livelihoods flagship (B4Life)	The B4Life flagship initiative, which was announced on the International Day of Biodiversity, 22 May 2014 , is an umbrella framework bringing together all EU cooperation activities, from both thematic and geographical financing instruments, which target biodiversity as principal objective, with the aim of ensuring better coherence, coordination and effectiveness in this field. The aim of B4Life is to contribute to halting biodiversity loss and to react promptly to biodiversity and ecosystem crises, such as deforestation, wildlife poaching and ecosystem function collapse, by fully integrating biodiversity and ecosystem conservation with socio-economic development and poverty eradication through a comprehensive and cross-cutting approach. In particular, B4Life will focus on the contribution of ecosystem functions and services to people's livelihoods and to eradicating poverty. It will do so through actions both under the EU's Global Public Goods and Challenges (GPGC) thematic programme, but also bilateral and regional programmes. B4Life will increase the visibility of EU support for biodiversity in developing countries by providing an easy to recognise identity and creating synergies between ongoing and future projects implemented at a global, regional and national level. In line with the Agenda for Change, B4Life will concentrate its operations in three priority areas: (1) Good governance for a sustainable management of natural capital; (2) Ecosystem conservation for food security and sustainable rural development; (3) Ecosystem-based solutions towards a green economy. B4Life will also offer a special "window" of action to address the wildlife crisis caused by the dramatic increase in poaching and illegal trafficking in recent years, especially in Africa, which merits special attention. Geographically, B4Life will focus on developing countries that are most in need, by paying particular

Strategy document	Links to the European Union's biodiversity agenda
	attention to least developed countries and those countries that contain or are located within "biodiversity hotspots", where ecosystems and their services are the richest but frequently also the most threatened. Besides mobilising funding, an important dimension of B4Life is to provide a platform for networking, cross-fertilising and the sharing of experiences between different partners and sectors (public, private, environment, rural development and governance). B4Life will also seek to contribute to a more assertive integration of biodiversity in the policy dialogues of the EU with its partner countries.

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