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REPORT

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An Assessment of Poaching and Wildlife Trafficking in the Garamba-Bili-Chinko Transboundary Landscape

Gervais Ondoua Ondoua, Eustache Beodo Moundjim, Jean Claude Mambo Marindo, Rémi Jiagho, Leonard Usongo and Liz Williamson

TRAFFIC REPORT

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Soldiers in Garamba National Park

USAID FROM THE AMERICAN PEOPLE

IUCN

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the wildlife trade monitoring network

Garamba National Park

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ABBREVIATIONS AND ACRONYMS

APN ..... African Parks Network

AU-RTF ..... African Union-Led Regional Task Force

AUC-DREA ..... African Union Commission, Department of Rural Economy and Agriculture

AWF ..... African Wildlife Foundation

CAR ..... Central African Republic

CARPE ..... Central African Regional Program for the Environment

CBD ..... Convention on Biological Diversity

CDJP ..... *Commission Diocésaine pour la Justice et la Paix* (Diocesan Commission for Justice and Peace)

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

COOPI ..... International Cooperation Foundation

CPA ..... Chinko Project Area

CRS ..... Catholic Relief Services

CWC ..... Combating Wildlife Crime

CWT ..... Counter-Wildlife Trafficking

DDR ..... Disarmament, Demobilization and Reintegration

DRC ..... Democratic Republic of the Congo

ESPA ..... Endangered Species Protection Agency

FACA ..... *Forces Armées Centrafricaines* (CAR Armed Forces)

FBO ..... Faith-based organization

FARDC ..... *Forces Armées de la RD Congo* (DRC Armed Forces)

FNEC ..... *Fédération Nationale des Éleveurs Centrafricains* (National Federation of Central African Livestock Producers)

GBC ..... Garamba-Bili-Chinko

GNP ..... Garamba National Park

ICCN ..... *Institut Congolais pour la Conservation de la Nature* (Congolese Institute for Nature Conservation)

IIED ..... International Institute for Environment and Development

IPLCs ..... Indigenous peoples and local communities

IUCN ..... International Union for Conservation of Nature

LRA ..... Lord's Resistance Army

MEFET ..... *Ministère de l'Economie Forestière,* de l'Environnement et du Tourisme (CAR)

MINUSCA ..... *Mission Intégrée Multidimensionnelle de Stabilisation des Nations Unies en République Centrafricaine* (United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic)

MONUSCO ..... *Mission de l'Organisation des Nations Unies pour la Stabilisationen RD Congo* (United Nations Organisation Stabilization Mission in DR Congo)

NGO ..... Non-governmental organization (including both charities and private sector companies)

NP ..... National Park

NTFP ..... Non-timber forest product

OIE ..... *Organisation mondiale de la santé animale* (World Organisation for Animal Health)

PA ..... Protected Area

PAA ..... Protected Area Authority

SAIPED ..... Solidarity and Integrated Assistance to Affected People

SECC ..... Secure, Empowered, Connected Communities

SPLA/SPLA-iO ..... Sudan People's Liberation Army (in Opposition)

SPLM/SPLM-iO ..... Sudan People's Liberation Movement (in Opposition)

SSC ..... Species Survival Commission

SULi ..... IUCN Sustainable Use and Livelihoods Group

UNESCO ..... United Nations Educational, Scientific and Cultural Organization

UNGoE ..... United Nations Group of Experts on the Democratic Republic of the Congo

UNHCR ..... United Nations Refugee Agency

UNODC ..... United Nations Office on Drugs and Crime

UNPoE ..... United Nations Panel of Experts on the Central African Republic

UPC ..... *l'Union pour la Paix en Centrafrique* (Union for Peace in the Central African Republic)

USAID ..... United States Agency for International Development

Wildlife TRAPS Project ..... Wildlife Trafficking Response, Assessment and Priority Setting Project

WISP ..... World Initiative for Sustainable Pastoralism

ALTERNATE NAMES AND SPELLING

First given is the name used in this report, EN is English, FR is French

Baka, Baaka, Aka, Biaka, M'Baka, Tara Baaka – an ethnic group (pygmies)

Bomu (EN), Mbomou (FR) – name of a river and a wildlife reserve in DRC

Fula (EN), Foula (FR) – the Fulani ethnic group

Fulani (EN), Foulani (FR), Fulah, Fallata, Fellata – the Fula ethnic group

Fulɓe, Fulbe, FulBe, Foulbe, Foulbé, Fuulbe – semi-sedentary Fulani; sometimes used to mean all Fulani

Jafun, Jaafun, Djafun, Djafoun – a more urban Mbororo lineage or subgroup or clan

Mbororo, Bororo, Bororo'en – a Fulani lineage or subgroup or clan; sometimes used to mean all nomadic Fulani

Peul, Peulh, Peuhl – French for Fulani, sometimes used in English

Ubangi (EN), Oubangui (FR) – name of a river and a region in CAR

Uda (EN), Ouda (FR), Oudda, Uuda, Uda'en – a Fulani subgroup usually treated as an Mbororo lineage or subgroup or clan

Uélé, Uele, Uéré, Uere – name of a province, a river and a wildlife reserve in DRC

Wodaabe, Wodaa'be, Wodaabé, Woδaaɓe, Wodabe – an Mbororo lineage or subgroup or clan

DEFINITIONS OF TERMS

In the context of pastoralism

Migration is the relatively long-distance movement of individuals, usually on a seasonal basis.

Nomad is an itinerant, a member of a tribe or community that has no permanent abode, but moves from place to place, often seasonally and following a traditional route. **Semi-nomads** are people who migrate seasonally, but cultivate crops during periods of settlement.

Pastoralism is the branch of agriculture concerned with the raising of livestock. It is animal husbandry: the care, tending and use of animals, such as camels, goats, cattle, yaks, llamas, and sheep.

Nomadic pastoralism is when livestock are herded in order to find fresh pastures on which to graze. Strictly speaking, true nomads follow an irregular pattern of movement, in contrast with transhumance where seasonal pastures are fixed.

Transhumance is the action or practice of moving livestock from one grazing ground to another in search of water and food and characterized by regular seasonal movements. The herds generally leave a environment where pasture has become scarce. It differs from nomadism in that only a few individuals accompany the flock or herd, while the largest part of pastoral group remains sedentary. Cross-border or long-distance transhumance involves mainly cattle, is usually north–south, and herds may travel several hundred kilometres annually.

Transhumance corridors are strips of land reserved for the passage of livestock to access pasture, a water source or other infrastructure, such as a livestock market, vaccination area or livestock-holding area. These corridors are usually 50–100 m wide, multidirectional, and should be marked by clear signs (e.g. paint marks on trees, planted vegetation, beacons, plaques). Trails and accommodation are developed to allow animals to pass through farming areas and access to water. Water points, grazing areas, markets, salt licks, fords, resting areas and passage routes are important elements in cross-border transhumance (Alidou 2016).

HUNTING vs. POACHING

The difference between hunting and poaching is the law. Poaching is the illegal killing, trapping or capture of any animal for the express purpose of either personal need or monetary gain. Killing of any species that is legally "integrally" (completely) protected under national legislation is, by definition, illegal—whether the species lives in a protected area or not. There are occasional, limited exceptions, when a government permit is issued allowing a specified number of individuals of a particular species to be hunted. In CAR and DRC, most species that are listed on the IUCN Red List of Threatened Species[1] as "Endangered" are protected by national legislation (for DRC, see Loi n° 14003 and guides available to download at: http://juristrale.org). In addition, hunting of any wildlife species inside a national park is illegal and is therefore defined as poaching. Only hunting of wildlife species that are not listed as protected and that do not live within the boundaries of a protected area is legal.

The laws apply equally to species hunted for bushmeat, which is defined by the Convention on Biodiversity (CBD)'s Liaison Group on Bushmeat as "the harvesting of wild animals in tropical and sub-tropical countries for food and for non-food purposes, including for medicinal use"[2]. It is illegal to trade or consume any animal killed in a national park or any animal that is a protected species. As long as the relevant national laws are followed, the meat of non-protected species killed outside protected areas can be traded and consumed. For example, permits are needed for guns, each animal killed must be declared to the authorities in a "carnet de chasse", and if there are quotas for the numbers of individuals that can be killed during a specified period, these must be adhered to. Wire snares, hunting at night, using lights or fire or poison, and hunting outside a legally-defined hunting season are all illegal, so any method that does not fall within these restrictions renders a "hunt" illegal.

Although some bushmeat hunting is legal, the impact on wildlife populations becomes problematic when hunting is no longer for local consumption only (small scale), but becomes a large-scale commercial activity. Hunting is also extremely deleterious when Endangered species are targeted. Despite most Endangered species receiving full protection under national and international laws in both CAR and DRC, they are often sought out for their rarity value, which draws high prices on competitive and lucrative markets.

1 http://www.iucnredlist.org

2 https://www.cbd.int/doc/meetings/for/lgb-01/official/lgb-01-02-en.pdf

Male waterbuck in Garamba National Park

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To all of the above, we extend our gratitude. Finally, we dedicate this report to the protected area and conservation project staff who have lost their lives in the fight to protect wildlife in this turbulent and neglected region.

EXECUTIVE SUMMARY

African forest elephant herd in Garamba

Highly-threatened Kordofan Giraffe

An assessment of poaching and wildlife trafficking in parts of southeast Central African Republic (CAR) and northeast Democratic Republic of Congo (DRC) was carried out on behalf of the United States Agency for International Development. USAID's Central Africa Regional Program for the Environment (CARPE) seeks to understand better and address the poaching and trafficking of wildlife in the Garamba-Bili-Chinko landscape of CAR and DRC. This landscape includes the Garamba complex (Garamba National Park and three hunting reserves), the Bili complex (Bili-Uéré and Bomu reserves) and the Chinko reserve, and is henceforth referred to as Garamba-Bili-Chinko or GBC. This remote and underdeveloped region is inhabited by agricultural communities and transhumant pastoralists, and lacks income generating opportunities, infrastructure and government services. It is characterized by weak governance and insecurity, the latter perpetuated by the activities of foreign armed groups, notably the Lord's Resistance Army (LRA).

The objectives of this study were to present analyses of: 1) local communities living around the protected areas of the GBC landscape, 2) wildlife trafficking networks operating in the landscape, 3) the Mbororo pastoralists in the landscape, and 4) to make recommendations to USAID for interventions to reduce poaching and wildlife trafficking in this landscape.

"It was clear that organized poaching and trafficking of wildlife by armed non-state actors is severely threatening the survival of some of the most iconic and threatened species in the region, notably Elephants and Giraffes."

Hunting and poaching were considered at three levels: a) small-scale legal hunting by local people, b) small-scale illegal hunting by relatively local individuals, and c) large-scale illegal hunting by armed non-State and State actors. The latter is organized poaching, and the subsequent trafficking of wildlife is often facilitated by political and administrative authorities as well as criminal networks. Wildlife is taken primarily from protected areas in the region, which are the Garamba complex (Garamba National Park, and Azande, Gangala-na-Bodio and Mondo-Missa hunting domains), the Bili complex (Bili-Uéré Hunting Domain, Bomu Wildlife Reserve and Bomu Hunting Domain) and the Chinko Project Area.

Information on the following was gathered through interviews in villages and settlements throughout the landscape: demographic profile (age, ethnicity, gender, religion and social status);

sources and level of income (occupation, income-generating activities, income allocation); access to basic infrastructures (clean water, education, health care, road networks and communications); dynamics of poaching (actors involved, species targeted, trafficking routes); nature of relationships between the various stakeholder groups; and nature of conflicts.

Economic poverty is prevalent in the rural environment and there are few economic opportunities, thus local people are greatly dependent on natural resources. The information collected during this study confirmed that the isolated communities living in this landscape have access to only the most basic social infrastructure. The Bantu communities make their living through, in order of importance: small-scale agriculture, livestock rearing, hunting (both legal and illegal), fishing, harvesting of non-timber forest products (NTFPs), artisanal mining, small trade, temporary employment and handicrafts. However, hunting, both legally and illegally, is the most important source of income for many local people, but they are not militarized.

The study focused particular attention on the Mbororo—a group of nomadic, pastoralist Fulani—their links to wildlife trafficking and some of the challenges being posed by transhumance migration. Ways to regulate the movements of their large cattle herds (by, for example, formal identification of transhumance corridors) are urgently needed.

It was clear that organized poaching and trafficking of wildlife by armed non-State actors (armed groups, militia and highly-militarized poachers) is severely threatening the survival of some of the most iconic and threatened species in the region, notably Elephants and Giraffes. Fortunately, there are dedicated and competent conservation agencies on the ground, and these organizations must be fully supported (financially, logistically and politically) so that they can continue to defend the wildlife and GBC ecosystem against the enormous pressures currently being exerted upon them.

Mbororo pastoralists near Bili Complex

Sunset over the Mbomou river in Bangassou, CAR

RECOMMENDATIONS

Recommendations formulated to reduce or mitigate the threats to wildlife from poaching and trafficking in the GBC landscape.

Recommendations to USAID

Illegal Activities & Law Enforcement

- Species & Enforcement Public Information Campaigns
- Expansion of Early Warning Networks
- Rafaï-Obo Trafficking Investigation
- Restoration of State Authority & Law Enforcement

Local Communities & Livelihoods

- Alternative Economic Activities Assessment
- Alternative Economic Activity Support
- "Beyond Enforcement" Theory of Change Framework Application

Mbororo Pastoralists & Transhumance

- Transhumant Pastoralist Expert Consultation
- Cross-border Cattle Herder Dialogue & Agreement

Transboundary Conservation Collaboration

- NGO & USAID Tri-border Collaboration
- Trafficking Consultative Platforms with CAR, DRC, South Sudan & Sudan
- Diplomatic Relations Building

Recommendations to Regional Governments & Conservation Groups

Illegal Activities & Law Enforcement

- Chimpanzee Urgent Action Campaign
- Wildlife Legislation Standardization
- Amnesty Period for Guns & Ammunition Reliquishement
- Law Enforcement Procedural Support

Local Communities & Livelihoods

- Resource-use Multi-stakeholder Consultative Platforms

Mbororo Pastoralists & Transhumance

- Transhumance Corridors Identification & Legislation
- Livestock Vaccine Kits & Veterinary Supplies

Transboundary Conservation Collaboration

- Cross-border Collaboration with South Sudan & Uganda

A. Recommendations to USAID

Thematic Area 1: Illegal Activities & Law Enforcement

No.	Intervention	Key Partners
1.1	Promote public information campaigns that highlight Endangered and other protected species, legislation, law enforcement and corruption. Many people in this region are not sufficiently aware of the different levels of legal protection afforded to various species of wildlife—that some species are "fully (integrally) protected", others only "partially protected" and some not protected at all. These distinctions should be emphasized and efforts made to clamp down entirely on the killing of Endangered and other protected species. USAID could support such campaign activities through their government and NGO partners.	ICCN, MEFET, NGOs, USAID
1.2	Support deliberate expansion of existing Early Warning Networks to encompass poaching and illegal wildlife trade (see Appendix V).	USAID, NGOs, ICCN, MEFET
1.3	Undertake a detailed investigation of trafficking of wildlife along the Rafaï-Obo axis in CAR, focussing on Zemio, which is acknowledged to be a regional centre of wildlife trade. Commission research to determine species and volumes being traded along these trafficking routes and through the transit hubs.	NGOs, ICCN, MEFET, USAID
1.4	Support the restoration of State authority and law enforcement in CAR and DRC, through for example, funding ongoing disarmament, demobilization and reintegration (DDR) campaigns.	USAID, NGOs, FBOs

Thematic Area 2: Local Communities and Livelihoods

No.	Intervention	Key Partners
2.1	Consult with bushmeat experts and other livelihoods specialists to assess alternative economic activities, and to determine appropriate incentives to reduce poaching.	USAID, NGOs, ICCN, MEFET
2.2	Based on the outcomes of 2.1, support alternative pro-conservation, economic incentives for communities located in the vicinity of protected areas to discourage illegal bushmeat hunting and other poaching and/or trafficking activities.	USAID, NGOs, ICCN, MEFET
2.3	Use a Theory of Change framework and existing models, such as the Beyond Enforcement initiative, to improve evidence-based programming designed at the community or landscape level.	USAID, IUCN, IUCN-SULi, NGOs, ICCN, MEFET

Thematic Area 3: Mbororo Pastoralists and Transhumance

No.	Intervention	Key Partners
3.1	Consult experts on transhumant pastoralism in Central Africa, through for example, the IUCN World Initiative for Sustainable Pastoralism (WISP), to explore the best ways to improve relations with and integrate Mbororo pastoralists into the local communities.	Governments of CAR & DRC, USAID
3.2	Seek agreement on the cross-border migration of cattle herders into CAR and DRC. Facilitate dialogue and negotiations with the governments of Chad and South Sudan.	Governments of CAR & DRC, USAID

Thematic Area 4: Transboundary Collaboration in Support of Wildlife Conservation

No.	Intervention	Key Partners
4.1	Facilitate NGO communications and co-ordination with USAID in South Sudan, along with information sharing between the conservation bodies on the ground in the tri-border area. For example, support the development of an MoU between the agencies responsible for protected areas to facilitate information- and intelligence-sharing, and collaboration on cross-border security and counter-wildlife trafficking efforts.	USAID
4.2	Support broader transboundary collaboration through the establishment of a permanent consultation platform on wildlife protection and counter-wildlife trafficking involving CAR, DRC, South Sudan and Sudan. Such a platform could bring together local administrators from each country, Protect Area (PA) managers (representatives of the States and their partners), local communities, law enforcement agencies and civil society.	Governments of CAR & DRC, ICCN, MEFET, USAID, NGOs, FBOs, AUC-DREA
4.3	Assist in strengthening diplomatic relationships between the countries affected by organized poaching in the GBC landscape (CAR, DRC, South Sudan and Uganda). This could improve border security and biodiversity conservation, as well as ensuring the integrity and security of the landscape. To that end, those countries and their partners could host a meeting with donors and strategic organizations working in the region to review security issues and illegal wildlife trafficking thoroughly, and plan to secure the future of the landscape.	USAID, AUC-DREA, strategic partners and donors

B. Recommendations to governments in the region and the wider conservation community

No.	Intervention	Key Partners
1.5	Support a campaign of urgent action for Chimpanzees *Pan troglodytes*. The importance of these Endangered great apes and of the unique populations in this landscape seems to be completely underestimated—if recognized at all—not only by the local communities, but also some of the institutions and agencies working in the region.	ICCN, MEFET, NGOs
1.6	Reinforce efforts to prosecute perpetrators of environmental crimes, especially poaching and trafficking of Endangered and other protected species. Revise and standardize wildlife legislation at the regional level with harmonized penalties commensurate with the crimes committed.	ICCN, MEFET, Environmental Inspectors, Police, Customs, NGOs
1.7	Review existing amnesty measures and consider implementing a system to reclaim guns, ammunition and other poaching apparatus by instituting an amnesty period during which individuals can relinquish their guns and equipment to local authorities without being questioned about their legal status or penalized for their use.	Governments of CAR & DRC
1.8	Strengthen the capacities of key law enforcement and wildlife crime enforcement officials on legal and procedural matters.	Ecoguards, Police, Armed Forces, Office Congolais de Contrôle (OCC), Customs, Magistrates

Thematic Area 2: Local Communities and Livelihoods

No.	Intervention	Key Partners
2.4	Develop multi-stakeholder consultative platforms on local resource use and benefit sharing to enhance dialogue, communications and collaboration among key stakeholders living in and around protected areas.	ICCN, MEFET, IUCN, IUCN-SULi, NGOs, FBOs

Thematic Area 3: Mbororo Pastoralists and Transhumance

No.	Intervention	Key Partners
3.3	Identify and delineate transhumance corridors that would control the movements of large cattle herds and thus restrict their impacts to narrower areas, avoiding protected areas. A legal framework governing livestock movements would also be needed.	Governments of CAR & DRC, NGOs
3.4	Support provision of vaccine kits and other veterinary supplies for the treatment of livestock belonging to herders who do not transgress the boundaries of protected areas and agree to collaborate with efforts to combat wildlife trafficking. As well as motivating compliance with conservation, treating cattle would reduce the threat that diseased cattle pose to wildlife. In CAR, this could be done through the National Federation of Central African Livestock Producers (*Fédération Nationale des Éleveurs Centrafricains*, FNEC).	Governments of CAR & DRC, USAID

Thematic Area 4: Transboundary Collaboration in Support of Wildlife Conservation

No.	Intervention	Key Partners
4.4	Implement and extend mechanisms for cross-border collaboration to include South Sudan and Uganda. For example, bi-lateral MoUs such as those existing between Uganda and Kenya, or South Africa and Mozambique, could outline specific areas of collaboration and capacity related to illegal wildlife trade to support mutual legal assistance (MLAs) for evidence gathering and international prosecutions.	USAID

Poached Chimpanzees in Bili Complex

INTRODUCTION & BACKGROUND

Rationale and objectives of the study

USAID CARPE seeks to better understand and address the poaching and trafficking of wildlife in the Garamba-Bili-Chinko landscape of southeast CAR and northeast DRC. This remote landscape includes the Garamba complex (Garamba National Park and three hunting reserves), the Bili complex (Bili-Uéré and Bomu reserves) and the Chinko reserve, and is henceforth referred to as Garamba-Bili-Chinko or GBC. Under TRAFFIC's Wildlife Trafficking Response, Assessment and Priority Setting (Wildlife TRAPS) project and the International Union for Conservation of Nature (Cameroon office), a research team undertook fieldwork to gather information on poaching and illicit wildlife trade in southeast CAR and northeast DRC to document the socioeconomic and governance drivers of these illegal activities, and to recommend interventions to address the threats to wildlife in the region.

This study focuses on CAR and DRC, while noting that the people and wildlife in this landscape have been deeply affected by the spillover of a long and complex history of violence and civil war in Sudan and South Sudan.

The principal components of the assessment commissioned were:

1. An analysis of local communities living around the GBC protected areas including:
    - Threats to key wildlife species
    - Local community use of and threats to wildlife, distinguishing between local consumption and commercial sale of key species
    - Current livelihood strategies and sources of income of community members
    - Relations between local communities and the management of protected areas, and also the willingness of communities to support protected area management
2. An analysis of the trafficking networks of wildlife originating from the GBC landscape, including:
    - Major trafficking routes
    - Involvement of armed non-State actors
    - Role of the military
    - Role of local leaders/chiefs
    - Potential for cross-border collaboration
3. An analysis of the Mbororo pastoralists in the GBC landscape including:
    - Resource use in and around protected area landscapes
    - Migratory trends
    - Involvement, if any, in broader wildlife trafficking networks
    - Relations between local communities and Mbororo herders, with special attention to conflict
4. Recommendations to USAID for interventions to reduce poaching and wildlife trafficking, and thereby enhance conservation activities in the GBC landscape.

Forest Buffalo in clearing at Bili Uele

Challenging physical and political features of the region

The GBC landscape straddles parts of southeast CAR and northeast DRC. This region is perhaps the most remote and underdeveloped on the continent—the geographic centre being close to the "African Pole of Inaccessibility", where the borders of CAR, DRC and South Sudan meet (see Fig. 1). Lacking infrastructure and a strong State presence, the region has a limited formal economy. The lack of governance has exposed people and resources to exploitation by various armed groups, and the lack of law enforcement has rendered the wildlife in this landscape an easy target for well-equipped poachers and armed groups. The combined impacts of the activities of armed groups, the illegal trade in wildlife and illicit cross-border movements have resulted in instability that threatens the region (UN Security Council 2014). Civil conflict further increased the isolation of this region, as it became more difficult to circulate and State actors withdrew still further from rural areas (Titeca 2016). Currently, CAR and DRC rank 4th and 7th on the *Fragile States Index* (http://fundforpeace.org/fsi/data/).

Corruption and the flow of arms are two additional major impediments to law enforcement that must be tackled by governments in the region for wildlife conservation efforts to succeed. Corruption facilitates all aspects of the illegal wildlife trade (UNODC 2012). It has also been noted that corruption among government and private sector officials is a key enabling factor in such trade (Weru 2016). Globally, CAR and DRC rank in the bottom end of Transparency International's *Corruption Perceptions Index* (rank 91 and 88 of 100, respectively[3]). Regarding the proliferation of guns, especially semi-automatic firearms, numerous reports have been published on the risks and availability of small arms in CAR and DRC (e.g., Berman & Lombard 2008; Gluck 2015; Alpers *et al*. 2016; Opongo 2016).

3 https://www.transparency.org/news/feature/corruption_perceptions_index_2016#table

Figure 1. Map of the African Pole of Inaccessibility, at 5.65°N 26.17°E and 1,814 km from the coast. A pole of inaccessibility is a geographic location that is challenging to reach owing to its remoteness from geographical features that could provide access, and is often the most distant point from a coastline (Wikipedia 2016), in this case of the African continent. This region is particularly difficult to access due to poor roads and insecurity.
Source: © Map data 2017 Google

Armed groups in the Garamba-Bili-Chinko landscape

The objectives of this study were to assess the role of armed groups in wildlife poaching and trafficking. Background information on the principal armed groups with known links to poaching to wildlife trade operating in this landscape is provided below.

a) From Uganda: The Lord's Resistance Army

The Lord's Resistance Army (LRA) was formed 30 years ago in Uganda to overthrow the Museveni government. The LRA has a savage reputation for murder, mutilation of their victims and abduction of women and children, and their messianic leader, Joseph Kony, is wanted by the International Criminal Court for human rights abuses. Since 2005, the LRA has operated in a vast swath of territory encompassing eastern CAR, northeast DRC, west South Sudan, and parts of South Darfur, and they have killed or abducted thousands of civilians in CAR and DRC (Holmes 2010). In mid-2010, the LRA went into survival mode whereby it was primarily looting to survive and its commanders adopted less conspicuous survival strategies, shifting away from killing or injuring people to employing less violent tactics, such as extorting food and supplies from local people (Titeca 2016). Data on attacks and atrocities committed by the LRA are recorded, verified and diffused through Early Warning Networks, one established by the *Commission Diocésaine Justice et Paix* (CDJP) in partnership with the Washington D.C.-based NGO Invisible Children; another managed by Catholic Relief Services (CRS) in partnership with Caritas (see IBTCI 2015).

When the Bozizé government of CAR was overthrown in 2013, an explosion of sectarian violence created more space for the LRA to operate. The LRA-affected areas of CAR are now governed by a patchwork of State, non-State and international armed groups. Troops from the UN peacekeeping mission in CAR (MINUSCA) control several major towns in Mbomou and Haute-Kotto prefectures, but the LRA has been able to exploit gaps in this security patchwork (Ronan 2016).

"In DRC, the LRA poaches African Elephants to procure ivory, which they trade to acquire supplies and fund their activities"

In DRC, the LRA poaches African Elephants *Loxodonta africana* to procure ivory (UN Security Council 2014), which they trade to acquire supplies and fund their activities (Agger & Hutson 2013; Cakaj 2015; Ronan 2016). While the LRA's killing of Elephants and other wildlife in Garamba has been highly publicized (e.g., UNESCO 2009; Christy 2015), individuals formerly affiliated with the LRA have also been active in the Bili complex. In 2014, a group of LRA deserters established a camp near the town of Gwane in Bas-Uélé Province—less than 100 km line from the headquarters of the conservation services. During 2015, this group looted nearby civilian towns, including Bili, and ambushed a unit of Congolese soldiers (FARDC) and stole their guns and uniforms (Ronan 2016). Although only a handful of rebels operate in this part of DRC, they terrorize a large area.

Recently, LRA fighters have dispersed in smaller groups, which reduces the likelihood of detection by the African Union-Led Regional Task Force for the elimination of the LRA (AU-RTF) and UN peacekeeping missions (Ronan 2016). They operate in small, decentralized groups, with a regular rotation of personnel between units in DRC, CAR and the Kafia Kingi enclave—a disputed area bordering Darfur between Sudan and South Sudan, where it is believed that Kony is headquartered (Ronan & Poffenberger 2013; UNGoE 2016a). Although the LRA's fighting capacity has been greatly reduced, the unpredictability and viciousness of attacks continues to have a strong psychological impact throughout the region, which includes the GBC landscape (see *LRA Crisis Tracker* website: https://www.lracrisistracker.com[4]). Attacks can be so brutal that a community may be paralysed by fear for months afterwards.

4 The *LRA Crisis Tracker* is a crisis-mapping social web platform that broadcasts attacks and other activities perpetrated by the LRA and other armed groups operating in the same region in near real time.

b) From South Sudan and Sudan

The **Janjaweed** are a Sudanese Arab militia, first recognized in the 1980s. Historically, the name was used for bandits and criminal groups, and translates as "man with a gun on a horse", akin to a highwayman (Kumar & Ismail 2014). Since the 1980s, the Janjaweed have been heavily involved in Elephant poaching in CAR (e.g. Afrol News 2001; Somerville 2016), expanding into DRC in the 1990s. In 2003, the Sudanese government recruited the Janjaweed as ground forces for their counterinsurgency campaign in Darfur (Maitre 2009). Today, the Janjaweed threaten peace and stability across the Sahel and Central Africa (Kumar & Ismail 2014). They are in conflict with rebel groups such as the Sudan People's Liberation Movement, and it is generally accepted that they are supported by the government of Sudan. There are strong indications that the Janjaweed are still benefiting from illegal ivory transiting through Kenya (Weru 2016).

"Since the 1980s, the Janjaweed have been heavily involved in elephant poaching in CAR.... There are strong indications that the Janjaweed are still benefiting from illegal ivory transiting through Kenya."

SPLM, & SPLM-iO, SPLA & SPLA-iO
Founded in 1983, the Sudan People's Liberation Movement (SPLM) with its army, the Sudan People's Liberation Army (SPLA) factionalized during the 2013–2014 South Sudanese Civil War into the SPLM-Juba, led by President Salva Kiir and the SPLM-iO (in Opposition), led by former Vice President Riek Machar. The SPLA has become the national army of South Sudan, while the SPLA-iO is a rebel army that is armed by Khartoum (Conflict Armament Research 2015). Over 900 SPLA-iO fighters camped out in Garamba for several weeks in 2016 (Sengenya 2016).

c) Central African militia

The main warring factions in CAR are the anti-balaka and Séléka (now ex-Séléka).

The **Séléka** emerged as a coalition of rebel militia in 2012 and overthrew the Bozizé government in 2013. This predominantly Muslim alliance was bolstered by heavily-armed mercenaries and poachers from Chad and Sudan, including members of the Janjaweed (Agger 2014). The group was infamous for the mass slaughter of Elephants at Dzanga Bai in southwest CAR in 2013 (e.g. Fuh Neba & Greer 2014; Crayne & Haenlein 2016). Rebel factions that formed following dissolution of the coalition in 2013 are generally referred to as **ex-Séléka.**

The **anti-balaka** are a loosely organized self-defence militia made up of Christians and animists opposed to Séléka rule. They formed after the rise to power of the Séléka in 2013, and subsequently became the main perpetrators of violence in western CAR (Amnesty International 2014).

The information above was current as of September 2017; however, the situation in this stricken region is evolving rapidly as factions, old and new, split from or continue to emerge among the militia and rebel groups in CAR and the Sudans. There are now more than 14 armed factions, and a multitude of local militia and regional mercenaries battling for control of CAR's resources (Dukhan 2017). Violence is escalating in the east, where ex-Seleka forces and anti-balaka killed hundreds of civilians in Bangassou and Bria during the first six months of 2017, while LRA combatants began a new spree of abductions (Invisible Children 2017, UN Secretary-General 2017). In August, the UN reported the early warning signs of genocide in CAR (Lederer 2017).

Pastoralist groups in southeast CAR and northeast DRC

The numerous pastoralist groups in CAR and DRC generally come from two broad groups: Arab tribes (from Chad and Sudan) and Fulani. The Fulani or Fula are the ethnic group with the largest nomadic pastoral community in the world (Levinson 1996). All Fulani are classed as marginalized, minority peoples by the Office of the United Nations High Commissioner for Refugees (UNHCR) and the United Nations Development Programme (MRG 2014). Three types of Fulani are generally recognized, based on their settlement patterns: the settled or "town" Fulani, the semi-nomadic, and the nomads. This study highlighted the Mbororo peoples, nomadic communities of Fulani cattle herders. Mbororo or "Bororo" translates as "cattle Fulani", meaning "those who dwell in cattle camps"—they do not live in fixed abodes or practice agriculture, but spend most of the time travelling in search of new pasture for their cattle. Although the Mbororo are a particular subgroup of nomadic Fulani, the name is sometimes applied in a broad sense for all nomadic Fulani (Schlee 2013).

In CAR, the main Fulani groups are the Adamawa, Bagirmi and Mbororo. Most Mbororo now living in CAR arrived in the 1920s from Cameroon and Nigeria, some via Chad (ICG 2014a; Tenebaye 2015). According to Mendiguren (2012), the Mbororo in CAR are subgrouped into the following lineages: Aku, Jafun and Wodaabe, each distinguished by the breed of cattle they keep (Seignobos 2011). The Mbororo have been persecuted during several periods of civil conflict in CAR, culminating in the ongoing ethnic cleansing by anti-balaka rebels (e.g., HRW 2017).

"The numerous pastoralist groups in CAR and DRC generally come from two broad groups: Arab tribes (from Chad and Sudan) and Fulani. The Fulani or Fula are the ethnic group with the largest nomadic pastoral community in the world"

Many of the Mbororo in DRC have come from CAR. In the 1980s, their initial attempts to settle were repelled by Mobutu's armed forces; however, when they moved southwards during the severe droughts that affected the region in the early 2000s, the permeability of borders and the delinquency of State structures enabled them to enter DRC (ICG 2014b). From 2004 onward, Mbororo groups began to settle, facilitated by Jean-Pierre Bemba's Movement for the Liberation of the Congo (Conciliation Resources 2012). In 2010 and again in 2012, the DRC government decided to expel the Mbororo using the Congolese army (FARDC), who reportedly used violence to force the herders out. Those that remained settled into a *de facto* coexistence with local populations (IOM 2014), herding their cattle between Bas-Uélé and Haut-Uélé. However, tensions around their presence have become acute as successive waves of Mbororo fleeing civil war in CAR and South Sudan have sought refuge to the poor and marginalized Uélé provinces.

The Uda are a highly distinctive minority subgroup among the Mbororo (Seignobos 2011; Conciliation Resources 2014; UN Security Council 2014). Most are based outside CAR and DRC—many coming from Sudan, but originating from Chad and Libya (Ankogui-Mpoko *et al.* 2010; Tenebaye 2015; UNGoE 2016b). They speak both Arabic and Fulfulde, travel with camels or donkeys, are usually heavily armed, have been involved with criminal gangs, especially the Zaraguina (*"coupeurs" de routes* or highwaymen), and are said to be involved in poaching (Seignobos 2011). Before the civil war in CAR, some Uda were residing in the southeastern towns of Mboki, Obo and Zemio, where they were feared not only by the local population, but also by other Mbororo (Conciliation Resources 2012).

Paintings on home in Obo, DRC

Main institutions and principal actors in the GBC landscape

In partnership with the governments of CAR and DRC, the conservation leaders in the GBC landscape are African Parks and the African Wildlife Foundation.

African Parks (Chinko & Garamba) takes on direct responsibility for the rehabilitation and long-term management of national parks in public-private partnerships with governments and local communities. By adopting a business approach to conservation, supported by donor funding, African Parks aims to make each park sustainable in the long-term, thereby contributing to the economic development of the region. The main governing body, **African Parks Network** (APN), is the strategic and decision-making entity which is responsible for the business plan for each park, determining capital investments, operating budgets, standard operating procedures and appointing skilled park management. Each park managed by APN is established as a separate legal entity, and is directly accountable to government for the professional management of the park. https://www.african-parks.org/

African Wildlife Foundation (Bili) is an international conservation organization that focuses on critically important landscapes in Africa. Since its inception in 1961, AWF has protected endangered species and land, promoted conservation enterprises that benefit local African communities, and trained hundreds of African nationals in conservation. http://www.awf.org/

Several groups are involved in training and capacity building of protected area (PA) staff. These include the Endangered Species Protection Agency (ESPA) (http://www.speciesprotection.com) and Maisha Consulting (http://maisha-consulting.com). Maisha specializes in the prevention of environmental and wildlife crime, providing strategic anti-poaching and security solutions using state-of-the-art technology and intelligence practices. The NGO Invisible Children (https://invisiblechildren.com/), which was founded in 2004 to increase awareness of the activities of the LRA in Central Africa, is expanding its Early Warning Network to incorporate information related to wildlife poaching and trafficking (see Appendix V).

In addition to the government institutions, a number of national and international non-governmental organizations (NGOs) and faith-based organizations (FBOs, mainly churches and community groups) are working to ameliorate the human rights, security and development challenges in this landscape. The main stakeholders active in and around Garamba, Bili and Chinko are listed in Table 1.

Table 1. Institutions and organizations operating in the Garamba-Bili-Chinko landscape

Institutions and actors	Roles (intended and observed)
Natural resource management: ministries in charge of water and forests, protected area authorities (ICCN), land use, mining, national armies (FACA, FARDC), African Parks	Implementation of national environmental policies Habitat and wildlife protection Law enforcement Capacity building
International organizations and private or consulting companies of relevance to conservation: AWF, ESPA, Maisha Consulting	Contribute to and support implementation of conservation policies and wildlife management Anti-poaching efforts Training, education/awareness of communities
Devolved administration of ministries in charge of agriculture, defence, education, forestry, health, law enforcement, mining	Economic development and implementation of government policies on agriculture, defence, education, forestry, health, law enforcement, mining Border security, surveillance and organizing security meetings
Decentralized administration (townships): transfer of responsibilities between central and local administration is gradually take shape, increasingly placing townships at the core of local development	Economic development and implementation of government policies on agriculture, defence, education, forestry, health, law enforcement, mining
Humanitarian agencies: UNHCR; international NGOs: Caritas, Coopi, CRS, Intersos, Invisible Children, Samaritan's Purse; local NGOs: CDJP, SAIPED	Advocacy and protection of human rights Documenting LRA activities and abductions Enhancing of social cohesion Information-sharing Mediation and peaceful resolution of conflicts Reconciliation
Peacekeeping forces AU-RTF, MINUSCA, MONUSCO	Conflict resolution Consultation and dialogue Peace and security
Religious entities: mosques, numerous and diverse churches, including Catholic and Protestant, but mostly revivalist	Local development Mass awareness/education
Local radio stations have been collaborating with conservation services for over a decade	Awareness and education on wildlife protection and sustainable management; Programmes and debates on protection and sustainable management of natural resources

Protected areas of the Garamba-Bili-Chinko landscape

This section provides an overview of the PA complexes in the landscape and baseline information on conservation activities and infrastructure in the PAs. Most of this information was gathered through interviews with the conservation services and from documentation in the projects' offices during fieldwork. Appendix I provides sources of online GIS data and maps.

The major vegetation types in the landscape are semi-equatorial, including dense, moist and evergreen forests, woodlands, gallery forests, savannas, and aquatic and semi-aquatic ecosystems.

The 755 km-long Bomu River forms the international border between CAR and DRC. Its tributaries include the Chinko, Mbari, Moï, Ouara and Vovodo. The Bili, Bomu and Uélé rivers merge to become the Ubangi, which flows westwards and then south to join the Congo River.

Soil erosion from overgrazing seen from above Chinko Project Area

Figure 2. Map of the Garamba complex, showing Garamba National Park and three hunting domains. Credit: ICCN-APN

a) The Garamba complex

The Garamba complex consists of Garamba National Park (GNP, 5,112 km²) and three hunting domains: Azande (4,058 km²), Gangala-na-Bodio (3,738 km²) and Mondo-Missa (1,827 km²) (see Fig. 2). The eastern, western and southern park boundaries are delineated by rivers; in the north, markers were placed along the border with South Sudan. The complex straddles two administrative territories (Dungu and Faradje), with the Aru territory on its outskirts.

GNP is one of the oldest national parks in Africa, created in 1938, and has been the focus of conservation and research activities for decades (e.g. Phillips 1955; Hillman Smith *et al*. 2014). GNP is on the United Nation Educational, Scientific and Cultural Organization (UNESCO)'s list of World Heritage in Danger (1984–1993, 1996–present), due to dramatic levels of poaching, first of rhinoceros (Northern White Rhinoceros *Ceratotherium simum cottoni*; Hillman-Smith *et al*. 1986) for their horns, and later of Elephants for their tusks. The last sighting of rhinoceros in Garamba was in 2006 (Emslie 2012), but the park is still home to one of the most significant viable Elephant populations remaining in DRC (1,100–1,400 individuals; APN 2016, down from about 20,000 in the 1980s). Garamba also harbours a highly-threatened population of about 40 Kordofan Giraffes *Giraffa camelopardalis antiquorum,* which are unfortunately also a target of highly-armed poachers and are killed for their tails (Actman 2016). Poaching has intensified to extreme levels in recent years due to the activities of rogue armies and rebel groups (e.g. Canby 2016).

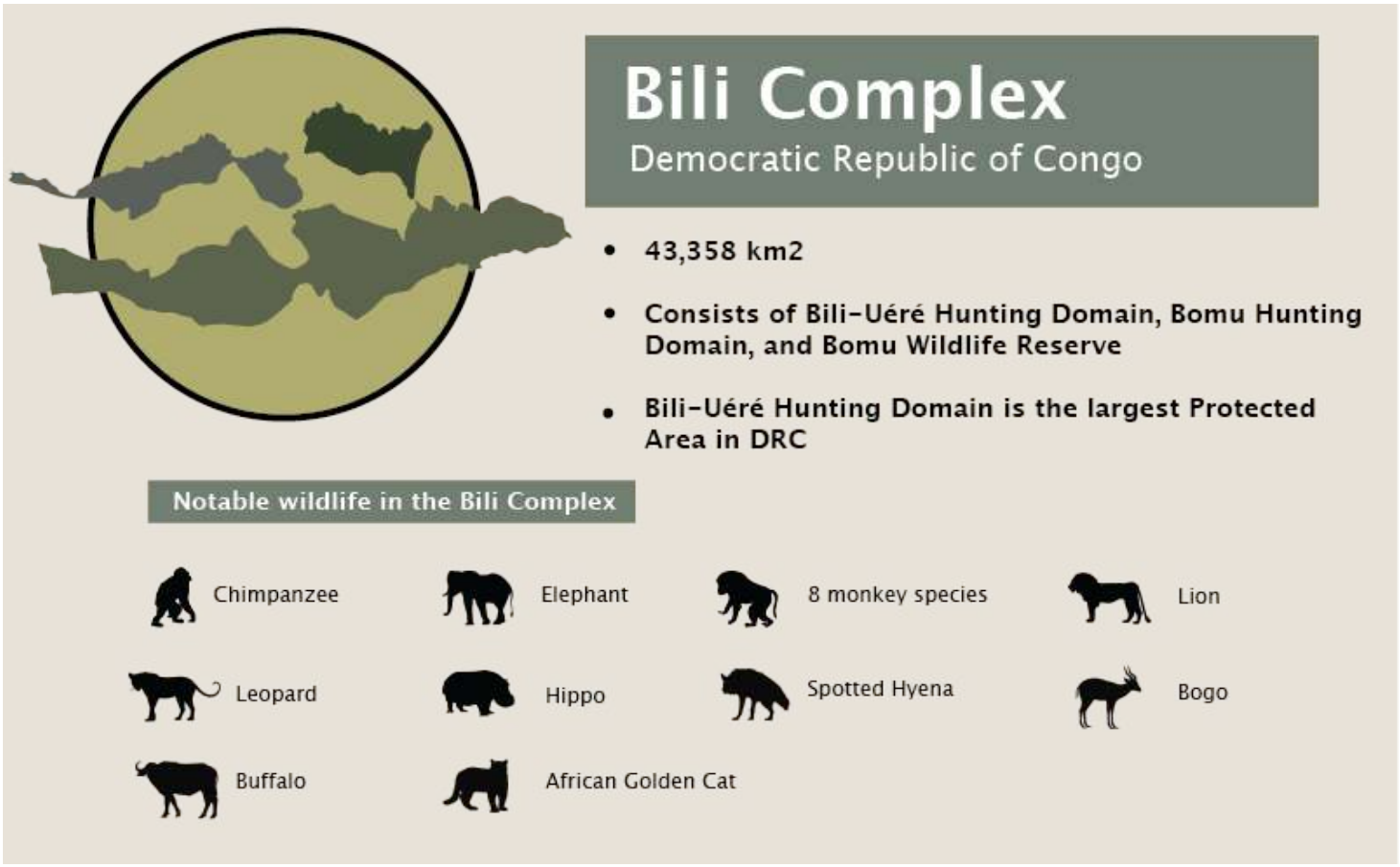
"GNP is one of the oldest national parks in Africa, created in 1938, and has been the focus of conservation and research activities for decades"

In 2011, camera-traps provided confirmation that 25–30 Eastern Chimpanzee *Pan troglodytes schweinfurthii* still exist in GNP (APN 2016). Other large mammal species found in the complex include African Lion *Panthera leo*, Bongo *Tragelaphus eurycerus*, Giant Forest Hog *Hylochoerus meinertzhageni*, Hippopotamus *Hippopotamus amphibius*, *Alcelaphus buselaphus* lelwel, Leopard *Panthera pardus*, Roan Antelope *Hippotragus equinus*, Sitatunga *Tragelaphus spekii,* Spotted Hyena *Crocuta crocuta* and Uganda Kob *Kobus kob thomasi*.

Institutional framework and management of Garamba

Besides the deed that created the park, the management of Garamba is covered by a MoU between African Parks and the government of DRC. The specific legislation relating to hunting is Act No. 82.008 of 28 May 1982 and Law No. 011/2002 of 28 May 2002, which established the Forestry Code. In 2005, the DRC government gave African Parks (governed by the APN) a 10-year mandate to manage the Garamba complex in partnership with the Congolese Institute for Conservation of Nature (ICCN). This mandate was renewed in 2016 for another 10 years. The EU is funding APN to work with the communities living around the Garamba complex.

Garamba has a 5-year management plan, which is updated annually, a mechanism for monitoring and evaluation, and holds weekly meetings to plan and evaluate activities. Existing infrastructure includes offices built in 2009, staff housing, three guard camps, a camp for senior agents and a guesthouse. The park has an airstrip near to park headquarters and others at key patrol posts within the park, and a 680-km network of dirt roads. APN carries out regular aerial surveillance across the entire complex.



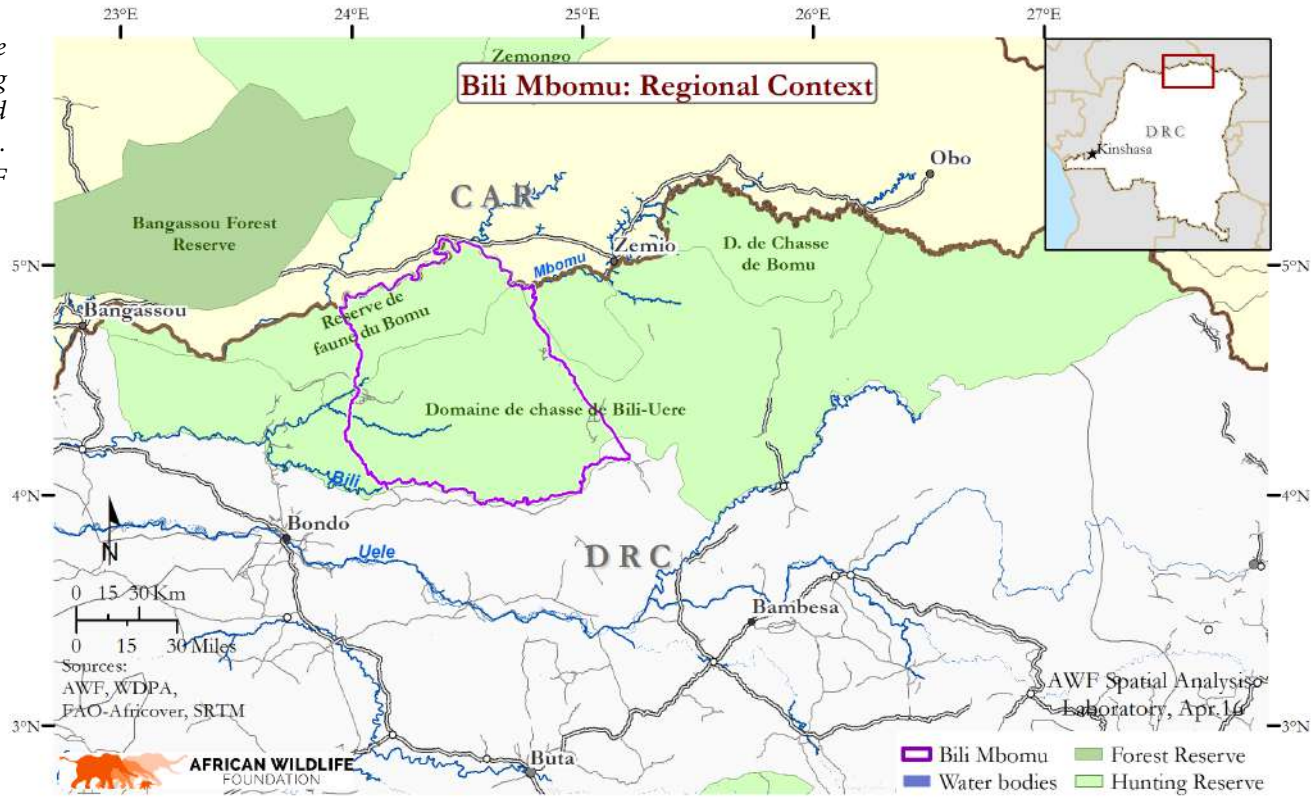


Figure 3. Map of the Bili complex, showing the Bili-Uéré and Bomu reserves. Credit: AWF

b) The Bili complex

The Bili-Uéré Hunting Domain is the largest PA in the DRC and was created in 1974 by Ministerial Decree No. 00023 of 03/12/1974, which established hunting rules and quotas. The Bili complex includes Bili-Uéré Hunting Domain (32,690 km²), Bomu Hunting Domain (4,126 km²) and Bomu Wildlife Reserve (6,542 km²) (Fig. 3). As there are several iterations of the name (Bili-Uele, Bili-Uélé, Bili-Uere, Bili-Uéré, with sections also known as Bili Gangu and Bili Mbomu), we use the Bili complex[5] or simply Bili in this report.

Biological surveys were carried out between 2004 and 2015 by the Lukuru Foundation, Wasmoeth Wildlife Foundation and Wildlife Conservation Society (e.g. Hicks 2010; Hicks *et al*. 2014; Elkan *et al*. 2013) and most recently by AWF (AWF 2016). Some of the notable species found in Bili are the African Golden Cat *Caracal aurata*, African Elephant, African Lion, Bongo, Buffalo *Syncerus caffer*, Giant Eland *Tragelaphus derbianus*, Hippopotamus, Leopard, Spotted Hyena, Water Chevrotain *Hyemoschus aquaticus* and eight species of monkey (AWF 2016). Bili is a very important site for Eastern Chimpanzee (see #Status of chimpanzee populations in Bili and Chinko).

A detailed description of the landscape with a comprehensive synthesis of mammal survey results has been produced by AWF (2016) and is included with this report as Appendix II.

Institutional framework and management of Bili

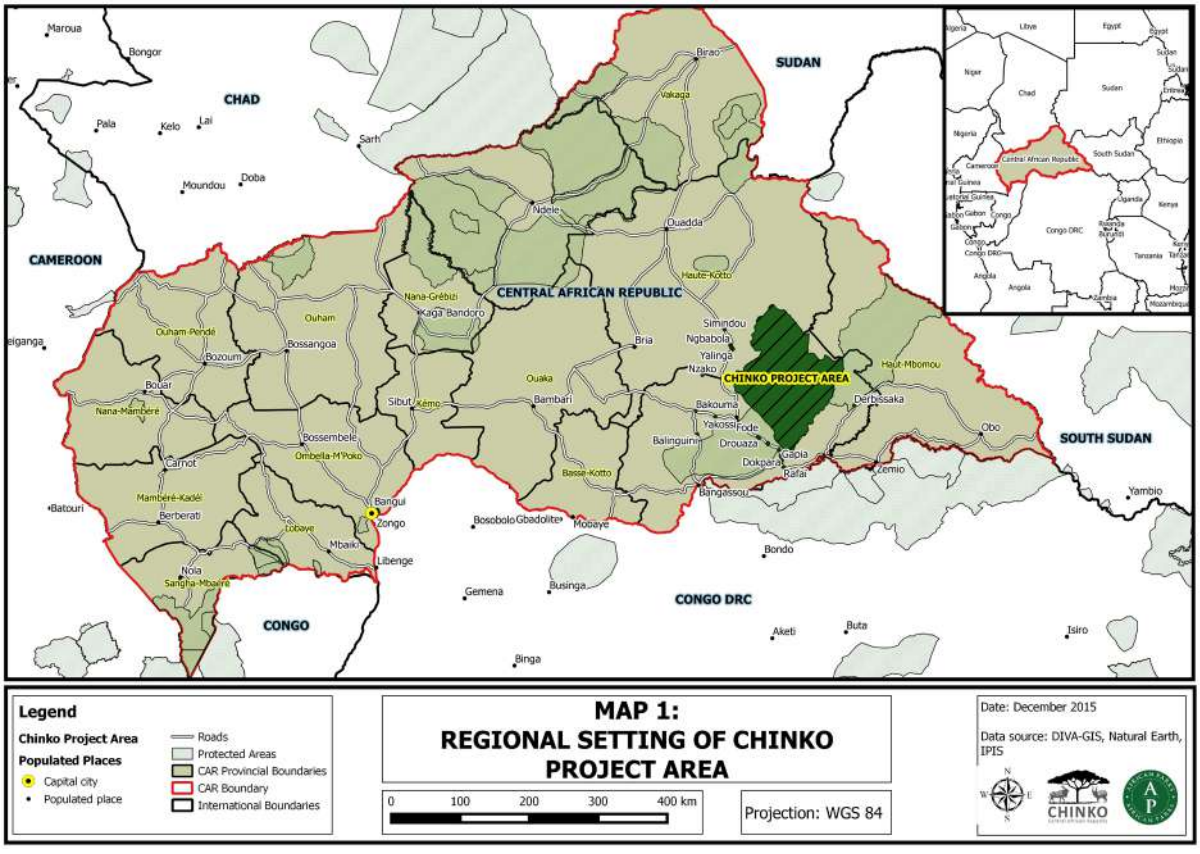
The texts that created the reserves set out hunting regulations and quotas. Article 15 stipulates that the provisions of Ordinance-Law #69041 of August 22, 1969 and Ordinance-Law #72-012 of February 21, 1972 on the surveillance of strict reserves and penalization of violations are applicable in the areas delineated under Article 2 of the decree.

In 2016, ICCN signed a five-year agreement with AWF for co-management of the "*Domaine de chasse et reserve de Bili-Uere*". Currently activities are focussed on a core area of 11,000 km², which AWF refers to as Bili Mbomu (see Fig. 3). This core is judged to have the highest diversity and most conservation potential and includes the Gangu forest (AWF 2016). There are no roads in the Bili complex. ICCN's main office in Bas-Uélé Province is in Digba, so AWF has established a station in the town of Bili to facilitate conservation activities in the core area. AWF is planning to undertake socioeconomic assessments around Bili.

5 AWF refers to the "Bili-Uele Protected Area Complex", which encompasses parts of the three reserves

Town of Bili, DRC next to the Bili Complex

Figure 4a. Map of Chinko showing regional context. Credit: Chinko Project



Illegal mining in Chinko Project Area seen from above

b) Chinko

The Chinko Project Area (CPA) was established in 2014 and covers an area of 17,600 km² (see Fig. 4a). It encompasses four hunting zones (*zones d'intérêt cynégétique*), which were created in 1972 (Bas Chinko, Chinko, Mbari and Vovodo Chinko—see Appendix I). The CPA falls mainly within three administrative districts (Bakouma, Bangassou and Rafaï subprefectures). Chinko is uninhabited, has only limited road access and minor infrastructure development. It is surrounded by countryside choked by Central African militia, poachers from DRC and South Sudan, and transhumant pastoralists who come mainly from Chad and Sudan. Biological surveys were conducted between 2005 and 2012 (e.g. Aebischer *et al*. 2013; Hickisch & Aebischer 2013) and the Chinko Project has so far documented more than 75 species of mammal, including: African Golden Cat, African Elephant, African Lion, African Wild Dog *Lycaon pictus*, Bongo, Eastern Chimpanzee, Giant Eland, Giant Forest Hog, Hippopotamus and Lelwel Hartebeest (see Appendix III). Hereafter, Chinko refers to the CPA.

Institutional framework and management of Chinko

The Chinko Project became part of APN in March 2014. In June 2014, APN then entered into a 50-year partnership for the management of Chinko with the CAR government, and has initiated the legal process of formally classifying Chinko as a Reserve. The project has built its headquarters 256 km from Bakouma, the nearest local authority with a population of 800–1,200 inhabitants, and 370 km from Bangassou, the regional capital. Staff housing and offices have been built with storage for rations and equipment, a mechanics workshop, and a solar-powered central control room, from where ranger movements and poaching incidents are continuously monitored. A 1.7 km-long and 90 m-wide airstrip accommodates the project's aircraft, which are used for surveillance flights averaging 5–7 hours per day from December to May, when poaching is highest (more than 45,000 km of aerial surveillance were flown during 2016).

The Chinko Project has established three zones with different management regimes along the lines of a biosphere reserve, and is working towards gradual expansion of a 2,000 km2 protected core to 5,000 km2 by 2021 (Fig. 4b). There is also a 6,000 km2 buffer, where activities are limited and managed to protect the core, and a 6,600 km2 transition zone surrounding the buffer, which will be developed for tourism. The Chinko Project is implementing a programme with pastoralist groups.

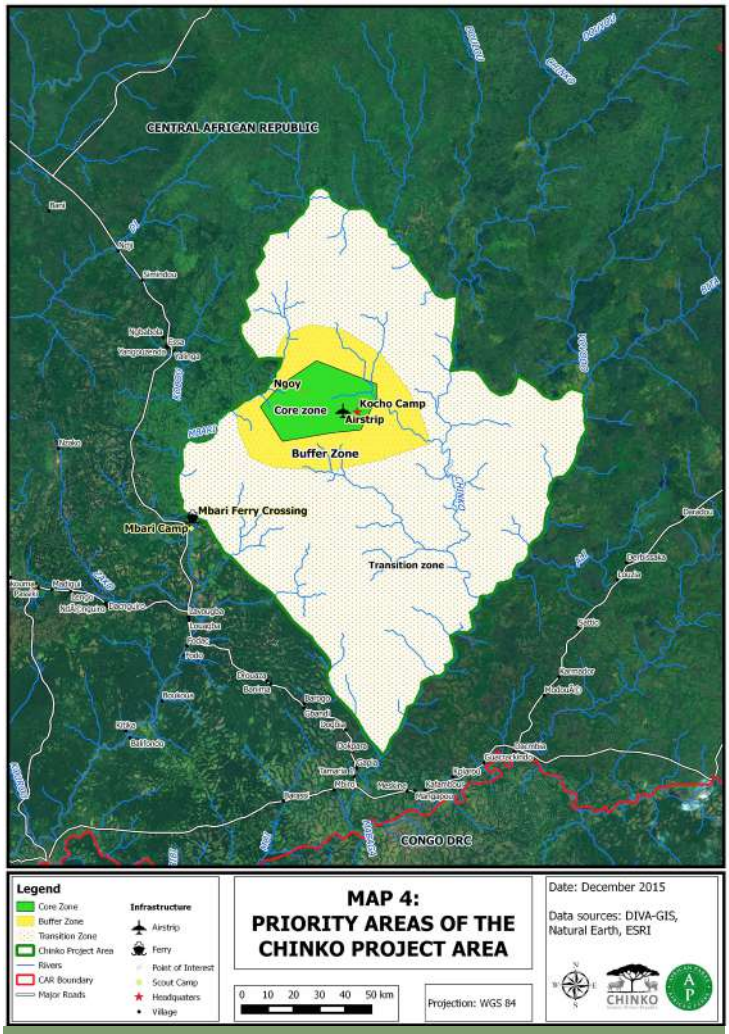


Figure 4b: Chinko priority zoning areas © Chinko Project/ African Parks Network

Giant Forest Hog in Chinko Project Area

African Wild Dog in Chinko Project Area

Lowland Bongo Antelope in Chinko Project Area

Eastern Chimpanzees in Chinko Project Area

Status of chimpanzee populations in Bili and Chinko

The Bili and Chinko landscapes are key sites for the Endangered eastern subspecies of Chimpanzee *Pan troglodytes schweinfurthii*[6]. Little was known about these populations until Hicks began a research project on Chimpanzees in northeastern DRC in 2004 (e.g. Hicks 2010). At that time, it was already clear that Chimpanzees were being poached for the illegal bushmeat trade and as food for artisanal miners (Hicks *et al.* 2010), and major increases in poaching north of the Uélé River followed an influx of gold and diamond miners (Hicks & van Boxel 2010). Further surveys carried out by Hicks and colleagues then demonstrated that the Central Uélé landscape and neighbouring forests harbour what is believed to be not only the largest remaining contiguous population of Eastern Chimpanzees, but also a population that occurs in areas formerly considered to be outside the subspecies' geographic range (Hicks *et al.* 2014). Their study concluded that thousands of chimpanzees live in this landscape, but that they were under escalating pressure from habitat destruction, mining and the bushmeat trade.

Even less was known about the Chimpanzees remaining in eastern CAR. In 2004, surveys of the Bangassou forest neighbouring Chinko found no evidence of Chimpanzees (Williamson *et al.* 2004); however, in 2015, camera-trap images confirmed that they were persisting in the CPA. A new study estimates that 910 chimpanzees live in the project area, and predicts that a further 2,700 individuals may inhabit adjacent hunting zones, confirming that Chinko is the most important site in CAR for Eastern Chimpanzees, as well as for other species, such as Bongo and Elephants (Aebischer *et al.* 2017).

Despite the fact that all killing, capture or consumption of chimpanzees is illegal, poaching represents the greatest threat to their survival (Plumptre *et al.* 2016). A recent assessment of Eastern Chimpanzees in eastern DRC found that key populations had declined by 80–98%, principally because of poaching for bushmeat (Plumptre *et al.* 2015), and hunting is particularly intense around artisanal mining and logging camps, where bushmeat is usually the main source of protein. Although trade in live Chimpanzees is also illegal, a clandestine trade persists (Plumptre *et al.* 2016). The visible tip of this illegal trade iceberg is the orphaned Chimpanzees on sale in villages and at regional markets (e.g. Hicks *et al.* 2010). Thus, these Chimpanzee populations are under intense pressure from poachers supplying the commercial bushmeat trade.

Recommendations to reduce poaching and illegal wildlife trade, and to mitigate their negative impacts on protected species, are presented at the end of this report.

6 Chimpanzees still occur in Garamba; however, their small population is estimated to number only 25–30 individuals (APN unpublished data).

Arm of wild chimpanzee

Garamba National Park

METHODS

Data collection

This report is the product of seven weeks of fieldwork carried out in CAR and DRC, during which reports and regulatory documents pertaining to conservation were reviewed by the two francophone team leaders at each project headquarters. Fieldwork was supplemented by desk-based research, during which reports produced by various organizations (e.g. United Nations, NGOs), academic publications, media and internet sources were consulted. Documents in both English and French were reviewed.

The field mission followed several stages: introductions to administrative and traditional authorities to the law enforcement authorities, presenting the objectives of the mission, followed by initial discussions and exchanges. In the territories of Aru, Faradje and Dungu for Garamba, Bondo and Ango for Bili, and Bakouma, Bangassou and Rafaï for Chinko, the field team leaders presented the objectives of the study to the administrators of the conservation services and various representatives of their technical partners, and then asked the conservation services to designate investigators to participate in data collection. Given the sensitivities in the region, the team felt it was important to be transparent about the purpose of the study and about the uses the information gathered. They therefore explained that the study was being carried out by TRAFFIC and IUCN and that the results would be reported to USAID for project planning purposes.

"The field mission followed several stages: introductions to administrative and traditional authorities to the law enforcement authorities, presenting the objectives of the mission, followed by initial discussions and exchanges."

The team leaders trained 18 investigators *in situ* to collect interview data, before data collection teams were deployed to interview both local communities (Bantu and Fulani), and NGOs (national and international) operating around Garamba, Bili and Chinko. Interviews and data collection took place during October and November 2016 (in CAR from 2 to 30 October, and in DRC from 2 October to 22 November).

Data were collected in collaboration with the conservation partners leading activities in the landscape: ICCN, African Parks and AWF. Qualitative data were recorded during focus group discussions and semi-structured interviews with local communities (Bantu and Fulani), chiefs, local authorities, locally-elected officials, representatives of the various religious faiths, and representatives of international and local humanitarian NGOs active in the region. Quantitative data were collected amongst focus groups. Structured interviews, using questionnaires, were carried out with individuals. Interviews and focus group discussions took place in various local languages, and responses were recorded by hand. The data collection sheets and guide used for structured interviews form Appendix IV of this report. No statistical analyses of the data were carried out beyond calculations of percentages.

Data were collected in 87 villages and settlements throughout the landscape: 22 in CAR and 65 in DRC (see Table 2). The locations of the villages surveyed are shown in Figures 5a and 5b. Following a rapid assessment of the interview data at the end of fieldwork, the teams carried out a debriefing in each of the administrative districts where communities had been interviewed.

Indicators used in the study

Data collection was based on a number of indicators pertaining to the socioeconomic situation of communities living around the PAs, as well as information on poaching and trafficking in the landscape, namely:

- demographic profile (age, ethnicity, gender, religion and social status);
- level and sources of income (occupation, income-generating activities undertaken, income allocation, savings);
- access to basic infrastructures (clean water, education, health care, immovable assets, movable assets, communications, road networks);
- poaching (actors involved, species targeted, trafficking routes);
- nature of relationships between the various stakeholder groups;
- nature of conflicts and methods of conflict resolution.

No information was gathered on threats to non-mammalian fauna or to plants.

Cooking in Bili, one of the villages that was visited during the survey

GBC landscape	Garamba	Bili	Chinko
Villages sampled	Aba	Adama	Agoumar
	Aiwara	Agu	Balinguini
	Akuwa	Ango	Banabongo
	Alimoko	Api	Barama
	Aola	Bamela	Bengba
	Aru	Bambilo	Fadama
	Awago	Basokpio	Gbabi
	Bamokandi	Baye	Gbolo
	Bagale	Bika	Guerekindo
	Britichayi	Bili-Centre	Idjama
	Buru	Boli in Bili	Katambour
	Doro	Bondo	Kono
	Drandu	Bulumasi	Kpiarou
	Dungu-Centre	Dengu	Mourou
	Faradje	Digba	Madabazouma
	Gbhere	Gumbu	Ndambissoua
	Ingbokolo	Gwane	Ndanda
	Inoï	Libaki	Ngombi
	Jabiri	Magbangui	Ngongo
	Kakalika	Masabe	Selim
	Kiliwa	Mayangu	Weigbo
	Kpaïka	Munganzi	Zabe
	Kpodho	Sukadi	
	Kurukwata	Yakpa	
	Lenvo		
	Limayi		
	Makakaro		
	Manda		
	Mupaka		
	Nanguakaza		
	Nzopi		
	Ondoleiya		
	Ramadala		
	Sadi		
	Sambia		
	Tadu		
	Tekadje		
	Tomati		
	Vorani		
	Wolowoli		
	Yuku		
No. villages surveyed in each PA	41	24	22

Table 2. List of 87 villages surveyed in proximity to each protected area complex

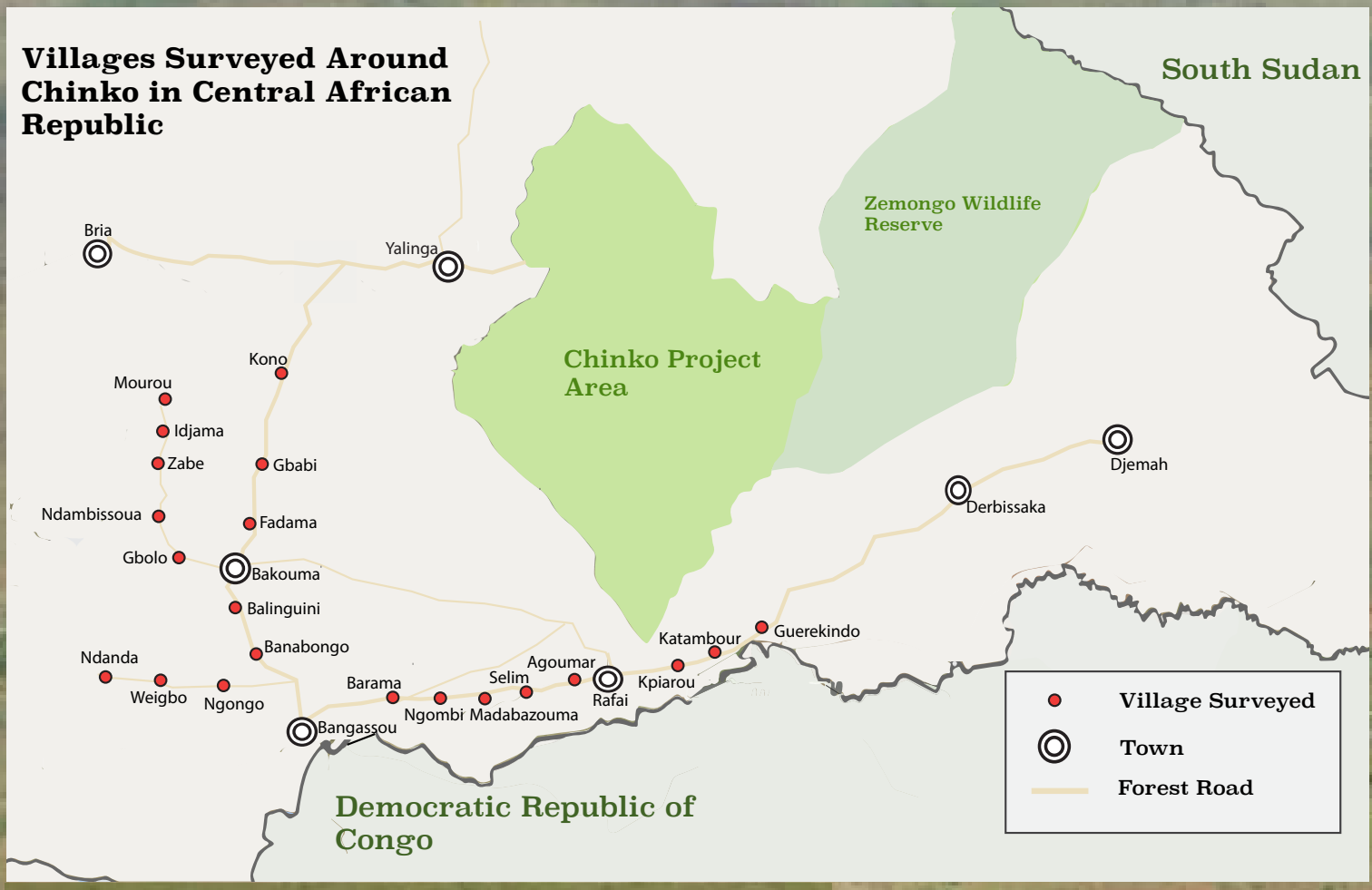


Figure 5a. Map of villages in CAR where interviews took place © TRAFFIC

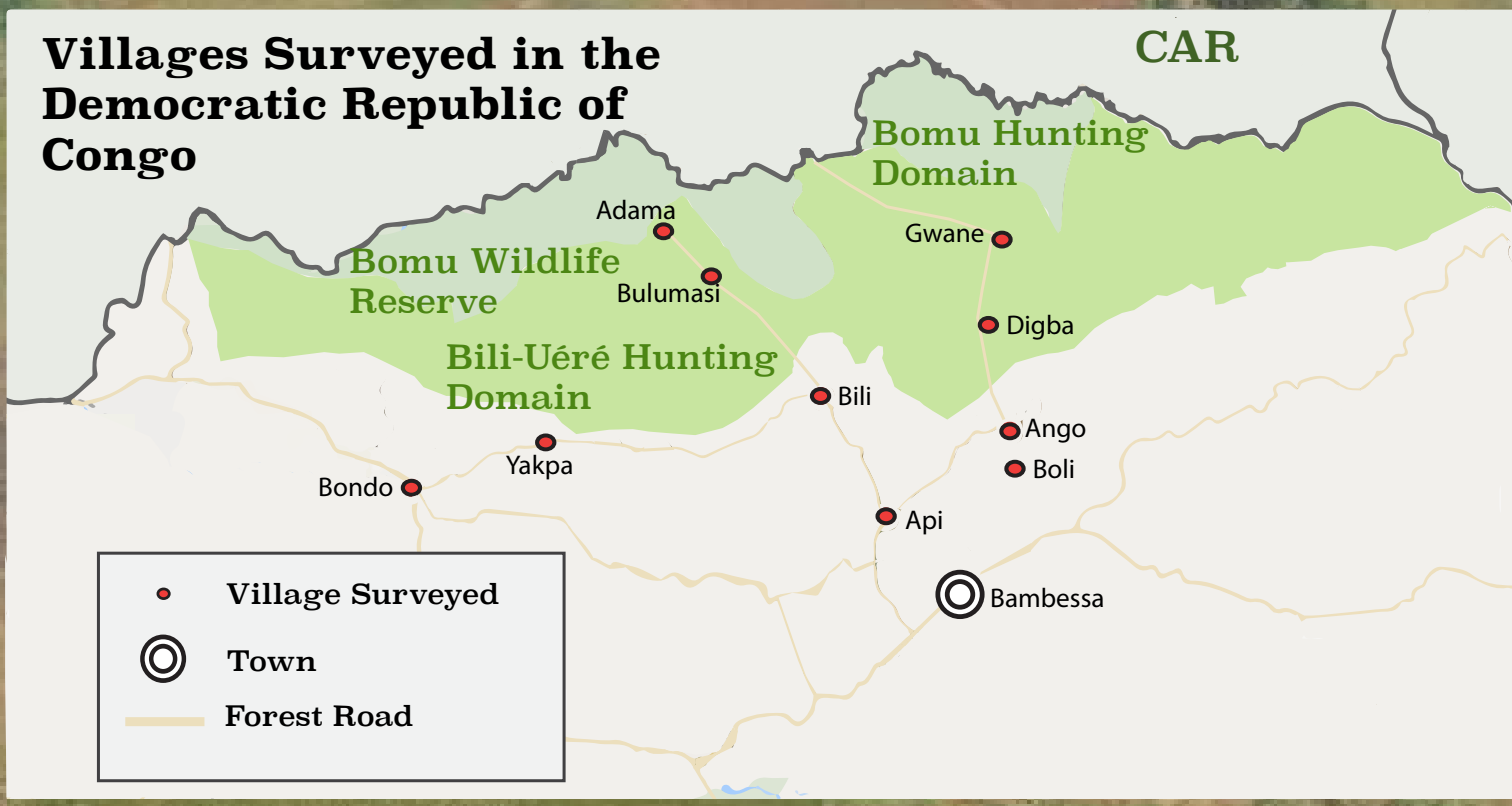


Figure 5b. Map of villages around Bili where interviews took place © TRAFFIC

Surveys

Chinko
22 Villages

Bili
24 Villages

Garamba
41 Villages

Figure 5b. Map of villages around Garamba where interviews took place © TRAFFIC

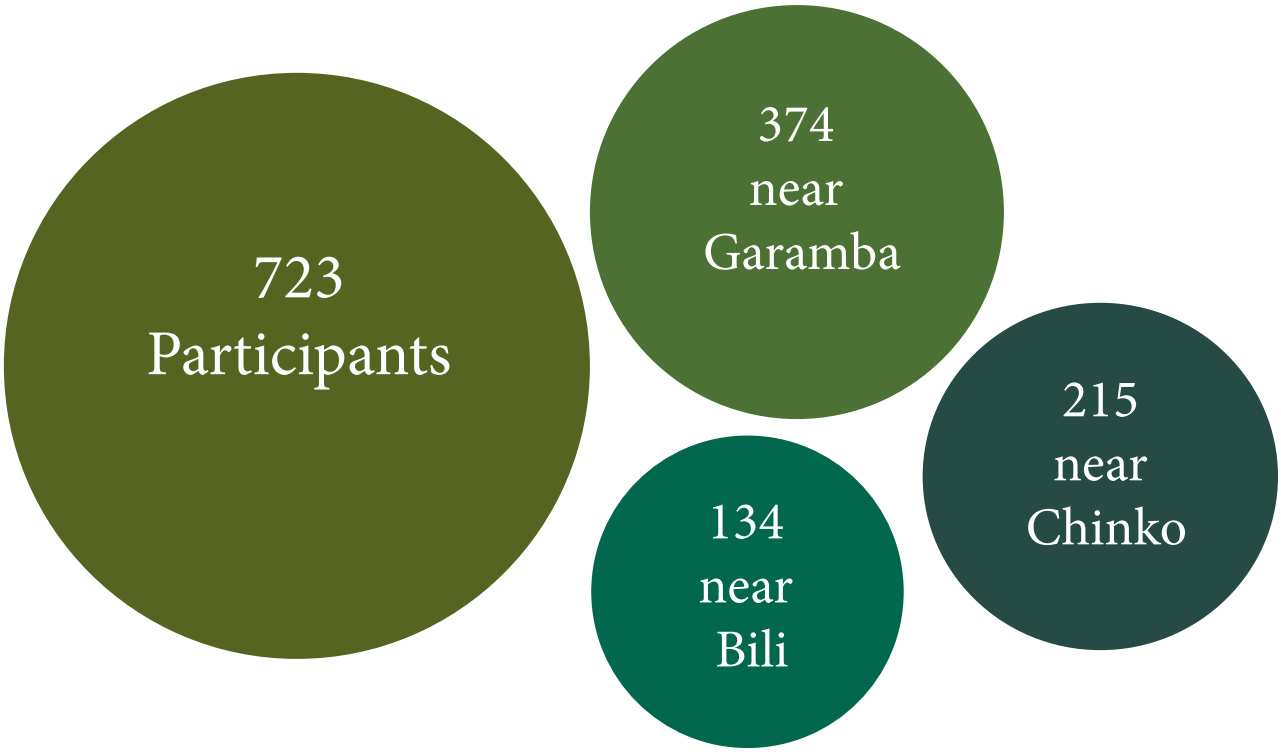
Arial shot over Nagero, DRC, where the headquarters of Garamba National Park is based.

African Leopard in Chinko Project Area

RESULTS

I. Socioeconomic Assessment

In Part 1, we present a socioeconomic assessment of the Bantu and Fulani communities living around the PAs of the GBC landscape. The field team organized 149 focus group discussions, in which 723 people participated (374 individuals around Garamba, 134 in the vicinity of Bili and 215 near Chinko).



a) Demographic profiles of the communities

The field researchers gathered information on demographics, access to basic infrastructure, livelihood activities and levels of income, relations between the various stakeholders in the landscape, and the nature of conflicts and their resolution. Most people interviewed were 18–50 years old (range 14–90). Table 3 shows the distribution of interviewees around each PA complex. The average size of households surveyed was four individuals (1–17).

The demographic profile presented for the Chinko area is that of communities living in Mbomou Prefecture. In a 2006 census, Mbomou had a population of 180,300 inhabitants, with slightly more women (91,550) than men (88,750). Human population density in the prefecture is 2.9 inhabitants/km2, falling below the average of around 4 inhabitants/km2 for the landscape. The Chinko region is characterized by the presence of large numbers of transhumant pastoralists; the human population is close to 50% Bantu and 50% Fulani. In Garamba, the breakdown is 70% Bantu and 30% Fulani, and the Bili landscape it is roughly 80% Bantu and 20% Fulani. Around Chinko, Bantu farmers and Fulani pastoralists live in the same towns and villages. There is no cohabitation between farming communities and pastoralist immigrants in Bili.

Throughout the landscape, the majority of the Bantu are Azande (aka Zandé). Peoples of the following ethnic groups are also resident in DRC: around Garamba – Avukaya, Logo, Mondo and Padjulu; and around Bili – Abandia, Ambula, Avungura (aka Avungara), Avukaya, Kasongo, Mokango, Ngindo and Pangwalimo; there are also a small number of Kakwa people of Nilotic origin. In CAR, the people living in the vicinity of Chinko are Banda (subgroups Langba, Langbassi, Yakpa), Mbangui, Ngbugu (Ngbougou), Nzakara, Sango and Yakoma.

Garamba			Bili			Chinko		
Territory	**Ethnic group**	**No. gps**	**Territory**	**Ethnic group**	**No. gps**	**Territory**	**Ethnic group**	**No. gps**
Dungu	Bantu	30	Bondo	Bantu	17	Bakouma	Bantu	9
	Fulani	3		Fulani	2		Fulani	3
Faradje	Bantu	42	Ango	Bantu	13	Bangassou	Bantu	13
	Fulani	0		Fulani	1	Rafaï	Bantu	8
Aru	Bantu	6					Fulani	2
Total		81	Total		33	Total		35
Totals								
No. of Bantu focus groups			138		No. of Fulani focus groups			11
Number of individuals in focus groups (men and women)								
Garamba			374					
Bili			134					
Chinko			215					
Total			**723**					

Table 3. Numbers of focus groups and individuals interviewed in each protected area complex

b) Access to basic social infrastructure

Information on access to social infrastructure (clean water supplies, schools, hospitals, equipment in health centres, hospital staff, pharmacies, equipment in schools) is given below.

i) Housing

In Garamba and Bili, most housing is simple and built from local materials. The walls are usually made of mud, as cement is costly, but some houses constructed with cement blocks can also be found. Round houses made entirely of raffia mats are still seen in some villages.

In the villages adjacent to Chinko, traditional houses are made of clay or fired brick, with mud floors and roofs of straw or palm leaves. Some houses have corrugated iron sheeting roofs. The Fulani live in small mud-floored huts made of straw.

ii) Improved water points

Access to clean water is a problem in villages throughout the landscape. Around Garamba, most people only have access to unmanaged water resources, although drinking water supplies exist in some villages thanks to the efforts of the conservation services. For example, APN funded a series of boreholes and springs for communities living in the vicinity of Garamba.

Drinking water supplies around Bili were provided by the government, through development organizations who funded the drilling and construction of water points. However, most people in Bas-Uélé Province still have to use unmanaged water sources, such as the rivers.

In CAR, the Chinko Project restored the water points in the Bakouma Township, while the Rafaï Township has several water points that are maintained by the communities themselves. Nonetheless, the total number of water points is inadequate. Also, some water points were built with galvanized pipes that have rusted with age, making the water unfit for human consumption.

iii) Healthcare

Healthcare in the Garamba complex is good, as there is a health centre equipped and supplied with medicines and run by a general practitioner at the park headquarters in Nagero. This centre serves the park's employees and people from the village of Nagero. A mobile clinic is also run from Nagero to take healthcare further afield. Serious cases are admitted or are evacuated to better equipped hospitals in Dungu, Faradje, Aru, or Nyakunde near Bunia. The park also provides support to various other health centres and pharmacies, as well as materials (medicines, furniture) to ensure better health coverage among the communities.

The village of Bili has a health facility (a referral hospital) where medical consultations and treatment are free. It has an operating theatre, radiology equipment, ultrasound and an air-conditioned ambulance with four beds. Two doctors are permanently on call.

Around Chinko, most people requiring treatment attend clinics in Bakouma, Bangassou or Rafaï; however, the persisting civil conflict impacts the hospitals of Bakouma and Rafaï, reflected by an absence of doctors and senior medical staff in these towns. The Bakouma clinic has 15 staff and surgeries are performed regularly, but serious cases are transferred to Bangassou, 130 km from Bakouma and 150 km from Rafaï. *Médecins sans Frontières* also provides some healthcare.

"Most children belonging to the semi-nomadic communities do not attend formal schools. In Mbororo communities, education is limited to the elementary level."

iv) Education

There are both public and private schools in the vicinity of Garamba; however, the school system suffers from a chronic lack of teachers and educational material. While there are around 20 elementary schools in about 43 villages, most of them are not operational due to the lack of qualified personnel. Although the State covers teachers' salaries, parents sometimes get together to fund a "stand-in" teacher (someone who has completed secondary education), because of the lack of teachers assigned to remote areas. There is a glaring lack of furniture and educational material. In addition, the walking distance to reach the schools from many of the villages is a discouraging factor for school-age children.

There are more than 20 elementary schools in the villages around Bili, but they also lack teachers and equipment. Secondary institutions (middle and high schools) are found in Ango, Buta and Bondo territories, but face problems similar to those in the elementary system.

There are few schools at the periphery of Chinko: the Bakouma Township has two (one in the centre of Bakouma and one in Fadama); there is one in Zemio and one in Lengo. The Rafaï Township has 11 schools with five permanent teachers, but some teachers have over 150 students per class. The middle schools in Rafaï and Bakouma are managed by the Catholic church and therefore private and not free of charge. To address the lack of teachers, informal teachers (schoolmasters or parents) are employed. Many classrooms have unfinished walls, floorings in poor condition, leaking roofs and no blackboards. Schools are faced with a persistent lack of educational materials, and the books available have to be shared amongst dozens of pupils. The closest secondary school is in Bangassou. While most interviewees expressed an intention to send their children to secondary school, in reality, only about 20% of primary students enrol in the secondary system, and an even smaller portion of them complete secondary education.

Most children belonging to the semi-nomadic communities do not attend formal schools. In Mbororo communities, education is limited to the elementary level and specifically to the Koranic school.

v) Communications and road networks

Garamba has a telephone network and community radio stations exist in Aba, Dungu, Faradje, Nagero and Tadu. The dirt road network is generally difficult to navigate and is almost impassable during the rainy season, although the section between Dungu and Faradje is good compared to other areas. Bicycles are the primary mode of transport in the area, and men and women cycle long distances, exposed to the risks of encountering bandits or members of armed groups. Airstrips are maintained in Aba, Dungu, Duru, Faradje, Gangala-na-Bodio and Nagero.

The town of Bili has mobile network coverage, which was repaired by AWF, and community radio stations exist in Ango, Buta and Bondo. The few roads that exist in this region are in an advanced state of decay and become almost impassable during the rainy season, which is a hindrance to movement and a major constraint to economic development in the region (the Pro-Routes Project has not reached this far north; however, rehabilitation of the Dulia–Bondo road section is due for completion by 2018; World Bank 2017). The airstrip is not serviced.

In the Chinko locality, the Bakouma and Rafaï townships have a phone network, but currently this is non-operational, and there is no local or community radio station. The towns of Bakouma are linked by a deteriorated dirt road. Few people in this region own a vehicle, therefore traffic is mainly 4x4 vehicles belonging to international NGOs and heavy goods trucks. Motorcycles are a more common means of transport, but fuel costs are high. Most local inhabitants walk or use a bicycle to go to their fields or visit neighbouring villages[7]. There are several airstrips in Mbomou Prefecture, including a landing strip at the Chinko Project's headquarters.

c) Subsistence strategies and sources of income

Cattle rearing was the only declared livelihood of the Fulani interviewed. Bantu interviewees responded that they engage in the following income-generating activities, presented in order of importance: small-scale agriculture, livestock rearing, hunting, fishing, harvesting NTFPs, artisanal mining, small trade, temporary work and making handicrafts.

i) Small-scale agriculture

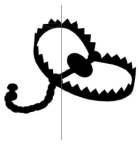
Growing crops is a major livelihood activity of most Bantu, so land is of quintessential importance. More than 75% of respondents said they cultivate one or two fields each year, each with an average area of 0.6 ha. Most fields are cultivated by the owners, who grow mainly food. Rice is the number one cash crop, with an average production of 147 kg per household per growing season, followed by cassava, peanuts, corn, beans, tomatoes,

7 Bicycles were also used on these roads to transport bushmeat from Bangassou Forest (neighbouring Chinko) to mining camps and the central market in Bangassou city (Williamson *et al.* 2004).

potatoes, vegetables and coffee. These are sold locally; any surpluses are sent to periodic markets at other locations. Interviewees ranked agriculture as their most important livelihood activity, but it ranked second in terms of income generated (see pg. 31).

ii) Livestock

Some Bantu families keep free-ranging animals including cattle, pigs, small ruminants (goats and sheep) and poultry (chickens and ducks). The settled Fulani rear large ruminants, mostly cattle and donkeys. Cattle herds range between 150 and 300 animals per herder. The problem of space management between herders and farmers is already pressing (see pg. 57). The Fulani keep cattle as a means of financial investment and although meat and dairy products are used to receive visitors, to celebrate at festivals and weddings and as gifts, these products are rarely treated as commodities. They are sold only occasionally, to address specific needs.



iii) Hunting (and small-scale poaching)

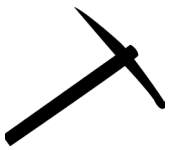
Hunting (small scale, both legal and illegal) is an important activity for local communities, especially around Chinko (see pg. 37). Local people hunt in the savannas throughout the year, but most intensively during the rainy season. They hunt with home-made shot guns, wire snares, dogs and sometimes with bows and arrows. Smoking is the usual means of preserving bushmeat, which is either consumed within the household, or sold at village markets and then often sold on at bigger regional markets. The price of bushmeat varies between CDF2,000 and 3,000 (approx. USD2–3) for a leg or a whole animal if it is small (e.g. Brush-tailed Porcupines *Atherurus africanus*, Cane Rats *Thryonomys swinderianus*)[8]. Wildlife "by-products", such as horns and skins, are sold or used for ceremonial purposes. For more information on hunting and poaching, see pg. 36.

iv) Fishing

Fishing is essential to local communities around Chinko, providing an alternative to meat as a source of protein. Many local people fish in the riverheads during the long dry season, when fish are most abundant, and much of the catch is consumed by the family. However, a significant proportion of annual income (9.7%) comes from the sale of fish (only 2.0% in Bili and Garamba; see pg. 31). Catching fish inside PAs is prohibited, but is unregulated elsewhere. The techniques used are quite rudimentary.

v) Harvesting of Non-Timber Forest Products

The collection of NTFPs provides relatively small quantities of diverse food items and commodities. People collect bark (for traditional medicine), caterpillars, Gnetum *Gnetum africanum* (koko) leaves, honey, Marantaceae leaves, mushrooms and seeds. NTFPs were ranked seventh in terms of income (averaging only 4.6% of annual household income), but fifth in terms of livelihoods, as NTFPs are used in the home as well as to bring in cash.



vi) Artisanal mining of gold and diamonds

On average, households gain 11.6% of their annual income from gold and diamonds, and mining is most important to households in Bili[9]. A study in Garamba found that 82% of miners were satisfied with the income they earned from this activity, which covered the costs of healthcare, school fees and other basic needs. The other 18% said that income from mining did not meet their needs. Although the average price of gold in the area is USD25–35 per gramme, an individual's yield from small-scale artisanal mining often does not reach the marketing units of whole grammes.

8 By comparison, domestic meat is more expensive: the price of chicken in village markets is CDF5,000–6,000 (USD4–5), boneless beef is CDF5,000 per kg; CDF4,000 with bones. Freshwater fish sells by the rope: a bunch of 8–10 young fish costs CDF2,000–3,000; larger whole fish cost CDF8,000–12,000 (USD7–10 at time of study in 2016).

9 For a map of artisanal mining sites in Bili Gangu, see Lukuru Foundation (2011).

None of the people interviewed in CAR said that they gain income in mining; however, some illegal gold and diamond mining does take place inside Chinko. Thus far, the Chinko Project has not been able to expel miners from the project area, as they are often armed and connected to armed groups or powerful local personalities.

vii) Small trade

Small trade appears to be a marginal activity for most local people, averaging 4.7% of annual household income. The products they sell come from hunting and poaching (bushmeat), farming, livestock rearing and fishing (fresh and smoked fish), and include cassava flour, fresh cassava, honey, koko leaves, mushrooms, peppers, plantain, taro leaves and wild yams. These commodities are often sold at gold and diamond mines. Small traders also sell necessities such as cooking salt, matches, paraffin, soap and sugar. Foods found for sale on local markets include avocados, corn, eggs, peanuts, rice, tomatoes and occasionally cows' milk.

viii) Temporary employment

Several types of temporary employment are available in this region: short-term jobs in PAs as porters and/or guides to take part in surveys, research and monitoring, or demarcation and zoning missions. Other temporary work opportunities involve the clearing of fields, digging sand, loading and unloading of vehicles, and assisting with river transportation between towns. Across the landscape, temporary employment brings in around 6.0% of annual income.

ix) Handicrafts

Local people make baskets, crossbows, fishing traps, furniture (such as chairs and shelves in bamboo, cane and wood), raffia mats (used as roof lining) and satchels (made of cane and lianas used to carry food). Handicrafts rank lowest in terms of livelihood activities, generating less than 2.0% of average household income.

Villagers from Ango, DRC outside of the Bili Complex

d) Annual household income

Livestock rearing was the only declared significant source of revenue for the Fulani (100%), compared with an average of 9.5% of annual income in Bantu households (although considerably less around Bili at 4.1%). Household expenses appear to be similar across the landscape, with the main expenditures being food, healthcare, schooling, lighting (paraffin lamps) and fuel for cooking (wood[10], charcoal).

The average income that Bantu households derive from the livelihood activities described above is presented in Table 4 as percentages and ranks. Around Garamba, the top three sources of household income are small-scale agriculture (27.4%), hunting/poaching (26.2%) and mining (13.2%). Around Bili, hunting/poaching is the biggest source of annual income (31.3%), followed by small-scale agriculture (22.0%) and mining (18.9%). Around Chinko, hunting/poaching is by far the most important source of income for households (59.5%), four times that generated by agriculture (15.1%) and six times the money earned from fishing (9.7%).

Activity	Garamba	Bili	Chinko	Landscape	Income rank	Livelihood rank
Hunting [11]	26.2	31.3	59.5	34.6	1	3
Agriculture	27.4	22.0	15.1	23.6	2	1
Mining	13.2	18.9	0.0	11.6	3	6
Livestock	11.7	4.1	9.1	9.5	4	2
Temp. work	6.6	6.7	5.8	6.5	5	8
Small trade	5.9	5.8	0.4	4.7	6	7
NTFPs	5.1	7.2	0.3	4.6	7	5
Fishing	2.0	2.0	9.7	3.7	8	4
Handicrafts	1.8	2.0	0.1	1.5	9	9
Total	**100**	**100**	**100**	**100**		

Table 4. Percentage of average annual income per household derived from different activities by Bantu communities living around Garamba, Bili and Chinko, including weighted averages for the landscape, and ranks

The relative contribution of each of these livelihoods activities as ranked by interviewees is also given in Table 4. This ranking took into account both income generated and the importance of each commodity for use or consumption within the household. A simple interpretation of the ranks is that most agricultural produce, domestic meat and fish is consumed within the household, while most bushmeat and minerals are sold—presumably because they are relatively high value commodities, sources of ready cash and are easily sold. Hunting (legal and illegal) was ranked third by interviewees, after agriculture and livestock rearing, but is the biggest source of income. Especially striking is that around Chinko, hunting and poaching contribute almost 60% to household income. How many of these sales were legal and how many illegal is unknown; however, it is unlikely that such high income comes from legal sales alone.

10 Purchased by townsfolk; villagers collect their firewood.
11 It was not possible to differentiate income from legal hunting and from poaching.

School in Dungu, DRC near Garamba Complex

Anti-balaka members in CAR

Camp for Internally Displaced in Bangassou, CAR

Mbororo pastoralists in Obo, DRC

e) Conflict between Mbororo and resident communities

The recent civil conflicts in the region have caused political instability and increasing competition for resources. In DRC, immigration by the Mbororo has created severe tensions with resident communities and the Congolese authorities. According to some people questioned during the survey, the Mbororo's presence is "an attack on the social security and territorial integrity of the DRC", adding, "their presence is illegal and in defiance of immigration regulations". The reasons given by interviewees for conflicts between the Mbororo and resident communities included: competition for access to resources (especially water), illegal grazing, trampling of crops by livestock, and cattle herds causing wildlife to flee. The difficulties of co-habitation were explained in terms of differences of culture, religion and lifestyle, and the feeling of being invaded by foreigners. Compounding these issues are judgments that the Mbororo are taking over "their" land and may eventually outnumber local residents.

About 60% of Mbororo interviewed admitted to being in violation of immigration laws, but were determined to stay in DRC because they found the environmental conditions to be favourable. Those interviewed also said they were willing to comply with the law, and claimed to have representatives ready to present the case for their settlement to the Congolese authorities, but said that the government had not yet responded to their requests.

It is also widely believed by local communities that some Mbororo collaborate with armed groups, supplying them with information and food either voluntarily or as the result of intimidation and violence. This perception may be due partly to the fact that some herders use the same areas and trails as the LRA (or *vice versa*) and, increasingly, carry firearms. However, the suspicion was corroborated by an interview with an Mbororo source who had shared food and "logistics" with LRA groups "although most likely not from ideological reasons, but pure bush survival and nomadic tradition" (N. Kalron, Maisha Consulting, *in litt*. to authors, March 2017).

According to Kristof Titeca, a specialist on conflict in DRC, the weak State presence and lack of resources in this region limit both the means of conflict resolution and the availability of conflict mediators (Titeca 2016). Several NGOs and religious organizations that have been active in this region for a number of years attempt to calm latent tensions and alleviate conflicts. They often form understanding or dialogue committees, whose principal functions are mediation, conflict prevention and resolution, social cohesion, and community healing from trauma such as child abduction. CRS's USAID-funded "Secure, Empowered, Connected Communities" (SECC) started as a counter-LRA and community-based protection programme, and has expanded to try to restore grassroots social cohesion and break the cycles of violence in both CAR and DRC. The NGOs Caritas, CDJP, Coopi, Invisible Children, Intersos and Search for Common Ground also have projects in the Uélé provinces. In addition, MONUSCO has been involved in addressing tensions (Titeca 2016).

In CAR, damage caused by livestock used to be solved amicably. Historically, if an issue persisted, the intervention of a village chief or town mayor was needed to resolve the conflict. In the past, this role has also been fulfilled by the National Federation of Central African Livestock Producers (IOM 2014), but mediation has become more difficult in the wake of the civil war. The collapse of the State has deprived local authorities of financial means, direction and legitimacy (Conciliation Resources 2014). The effectiveness of dialogue committees depends upon the legitimacy of committee members, the engagement of religious leaders and integration in the community. In some of these committees, pastoralists are represented by traders or sedentary herders, but the transhumant groups have been poorly represented (ICG 2014b). Recently, the situation has deteriorated drastically. Interviewees described the situation as catastrophic, with some Mbororo being accused of atrocities towards Christians, whilst the Fulani in general have suffered ethnic cleansing at the hands of the anti-balaka. For more on these issues, see section *Transhumant pastoralism* (pg. 57) of the Discussion.

Fish traps set in Uele river near Dungu, DRC

II. People and Wildlife

a) Hunting rights and access

In CAR, regulations regarding rights of access to inhabitable areas, farmland, hunting zones, and fishing and harvesting zones are defined by customary law, which used to be relatively well respected. Under the prevailing tradition of hospitality, most non-native hunters ("Janjaweed" excepted) request permission to hunt in local grounds, based on agreements that can be traced back several decades and passed on from generation to generation. However, competition over resource use is increasing and local people no longer know or respect the boundaries of the traditional hunting zones. In DRC, indigenous peoples and local communities (IPLCs) share traditional hunting zones with non-natives, and these IPLCs have also observed the weakening of respect for customary laws.

Local communities are expected to respect legislation (e.g. determining which species can or cannot be hunted, when and how) that is sometimes contradictory and of which they have only superficial knowledge. Many people admit that they do not respect these laws, and that they find this legislation constraining, as they rely heavily on exploiting wildlife for food and as a source of income. With high unemployment in the region, village hunters admit to poaching in the PAs.

b) Hunting and poaching

This section presents information provided by Bantu interviewees. The Mbororo who participated in discussions stated that according to their customs, they consume only halal meat (but see pg. 40 on poaching and pg. 43 on wildlife trafficking).

Hunting is a physically demanding activity, as the distances hunters and poachers have to travel on foot is often up to 30–40 km, while finding rare species requires several days walk, over distances of up to 70 km. Typically, men between the ages of 18 and 45 are involved in this activity, which may also require camping for up to a week. Most of the hunters interviewed in CAR (80%) and DRC (90%) stated that the distances they must cover for a successful hunt are increasing as wildlife has become scarcer in the vicinity of their villages.

i) Methods of hunting and trapping

Trapping with snares[12]
Snares are set throughout the areas peripheral to the PAs (on fallow land, in mature and secondary forest, and in savannas), usually from January to February and from May to July. Small- and medium-sized mammals are targeted, most commonly: Blue Duiker P*hilantomba aequatorialis*, other duiker species, Brush-tailed Porcupine, Bushpig P*otamochoerus larvatus*, Giant Pangolin *Smutsia gigantea*, Water Chevrotain and monkeys (species not identified). Several of these species are protected by national legislation, and such unselective hunting catches both pregnant females and immatures, thus reducing rates of reproduction and hindering recovery of wildlife populations.

Hunting with nets
Barriers less than one metre high are erected in the forest or around fields. There are small holes in the nets used, each leading to a snare or other form of trap. This method is a common form of crop protection. The present study did not attempt to assess crop-raiding; however, in a socioeconomic study of communities bordering Garamba,

12 Other methods of trapping, such as poisoning, pit traps, electrocution, glue sticks or nets for birds and bats, were not mentioned during interviews.

Hunting with guns
Guns are used in forests and savannas, day and night, in parallel with snares. Although shooting is a more selective form of hunting, it is difficult to recognize an animal encountered at night. The small- and medium-sized mammals commonly targeted by local hunters include monkeys, bushpig, Brush-tailed Porcupine, Water Chevrotain, Blue Duiker and Yellow-Backed Duiker *Cephalophus silvicultor.* Large mammals, such as Bongo, Buffalo and Kob, are not often taken, presumably because they are encountered less frequently. Interviewees did not openly admit to killing protected species; however, artefacts seen in some homes were evidence of poaching.

Some hunters use homemade rifles, some have manufactured small (12 bore) shotguns or large calibre (.458) rifles with permits, while others have semi-automatic firearms and ammunition obtained from armed groups. According to humanitarian NGOs working in the region, light semi-automatic firearms are used by some local people, as well as by armed groups. Poachers are often armed with assault rifles, including AK-47s, M16s and G3s (Gossmann 2009).

ii) Scale of hunting and poaching

Hunting may be (a) small-scale legal hunting for mostly local consumption, (b) small-scale illegal hunting (poaching) by relatively local actors or (c) large-scale poaching for commercial purposes. The techniques used for (a) and (b) are almost the same, but the species and numbers taken differ. The distinction between small- and large-scale poaching encompasses the number of animals killed and the size of the operation. When small animals are sought for commercial gain, they will be slaughtered in much greater numbers than would be the case for local consumption only. Large-scale also reflects the size of the animals targeted, and of the weapons needed to bring them down. The bigger the animal, the more likely it is to be threatened and, therefore, a protected species. It is also likely to be more dangerous, so the stakes are higher. Those willing and able to take the risk of being injured by the animal or caught by law-enforcement officers will be the best equipped poachers—that is, the most heavily armed.

"According to the conservation services, about 20% of local men in northeast DRC engage in small-scale illegal hunting."

Small-scale hunting is a high priority activity for local communities living in the GBC landscape Around Chinko in particular, hunting is the main income-generating activity, and is unlikely to all be legal. Interviewees from the communities of Bakouma, Bangassou, Derbissaka, Gambo and Rafaï, in CAR, stated that although they hunt mostly for their own consumption, they sell surpluses to restaurant owners and passing traders. Truck drivers and female traders known colloquially as "*wali gara*" come from Bangassou, Bria, Nzako and even Bangui. According to interviewees, there is no formal organization of hunting and, increasingly, people from neighbouring towns and cities, such as Bangassou, hunt without the permission of local communities. This has become a source of conflict between local people and non-natives, as more people come from further afield (as far as 100 km away).

Small-scale poaching by local people and non-natives, armed pastoralists, foreign poachers and armed groups takes place inside the PAs. Poachers camp for several days at a time throughout the year (dry and rainy seasons). According to the conservation services, about 20% of local men in northeast DRC engage in small-scale poaching.

In Chinko, "resident" poachers originate from the following locations: Bakouma (the villages of Balinguini, Fadama, Gbabi, Gbolo, Kono, Mbango, Mourou, Ndabissoua, Ngounde, Nzako and Zabe) and Rafaï (the villages of Agoumar, Barama, Derbissaka, Démbia, Fodé, Guerekindo, Katambour, Madabazouma, Selim, Vougba-Balifondo and others further afield). "Non-native" poachers come from Bangassou, Bria and Gambo. According to interviewees, poaching is an important source of income for all communities living around the reserve and most offtake is sold to local buyers.

Large-scale commercial poaching by armed groups and militarized poachers is highly organized. According to PA managers and local communities, these groups engage in poaching for purely economic purposes. In forest areas where there are roads, poachers camp for several weeks, following wildlife movements and targeting large mammals, such as Elephant, Bongo and Buffalo. Helicopters have been involved in several poaching incidents in Garamba, one of them thought to belong to the Ugandan army (Gettleman 2012), indicating the level of sophistication and resources being employed for poaching in the landscape. For more detail, see pg. 40 on organized poaching and wildlife trafficking.

c) Relations between local communities and PA management

The majority of respondents stated that they were aware of the importance of PAs and the conservation of natural resources and protected species. PA managers and local communities were also interviewed about the relationships between the communities and the conservation services. In CAR, the local administrative authorities and local peopled interviewed indicated that they are aware of the importance of wildlife and have a genuine willingness to support PA management. However, some mentioned a desire for greater participation in the management of Chinko.

In DRC, local authorities and traditional chiefs also contribute to awareness-raising, chairing and facilitating meetings with PA managers. From Garamba management's point-of-view, local community participation in natural resource management is essential. Among 55 local residents interviewed, 70% declared that they have a good relationship with park staff, and acknowledged the efforts by the park to protect wildlife. They also appreciated opportunities for dialogue via a Community Conservation programme, which organizes conferences on wildlife ecology and the economic impacts of the park. Through these activities, they take part in exchanges and decision-making about the management of Garamba.

PA managers and 80% of 140 local people interviewed in Bili indicated that they maintain good relations. In general, local communities recognized the efforts and goodwill of the conservation services to involve them in management, by establishing community conservation committees and taking their concerns into account. However, 20% of local people felt that the relationship was strained by repressive law enforcement actions undertaken by the rangers.

Around Garamba

70%

of locals interviewed said they have a good relationship with park staff

Around Bili

80%

of locals interviewed said they have a good relationship with park staff

Hunter in Bili, DRC

III. Organized Poaching and Wildlife Trafficking

a) Actors involved in large-scale poaching

Discussions and interviews with PA managers, local communities and humanitarian NGOs helped to identify the principle actors involved in poaching in the GBC landscape, who are:

- non-State armed groups
- State actors
- armed pastoralists
- independent militarized poachers.

i) Poaching by armed groups

Interviewees reported that foreign armed groups kill a great number of large mammals and are the main perpetrators of poaching in this landscape, naming the LRA, Janjaweed, SPLA and Uda.

According to PA managers and humanitarian NGOs working in DRC, the LRA has put unprecedented pressure on wildlife they since arrived in the Uélé provinces in 2005. Most notably, Garamba has been targeted by the LRA, who set up temporary camps along the Faradje-Aba road, and northwest of Garamba along the Dungu-South Sudan road. LRA fighters are able to conduct Elephant poaching operations by operating in small, mobile units. LRA defectors reported that commanders send 3–4 teams of LRA fighters out at a time from concealed base camps, making it extremely difficult for conservation actors to detect them (P. Ronan, Invisible Children, *in litt*. to authors, March 2017). Similar units have been spotted in the Bili area, where former LRA affiliates have been based. They poach not only for food, but also to acquire high-value commodities (Elephant tusks, Leopard skins). Escapees interviewed by Maisha agents mentioned a specific interest in ivory and use of semi-automatic firearms (N. Kalron, Maisha Consulting, *in litt*. to authors, March 2017). It was reported that the LRA is no longer actively involved in commercial poaching in CAR, probably because so few Elephants remain in Chinko; however, they continue to poach wildlife as food for themselves and their abductees.

"Interviewees reported that foreign armed groups kill a great number of large mammals and are the main perpetrators of poaching in this landscape, naming the LRA, Janjaweed, SPLA and Uda."

An apparent tendency to refer to all Sudanese poachers as Janjaweed and South Sudanese as SPLA, means that any involvement of other armed groups from the Sudans in poaching was not noted. In the past, the Sudanese Janjaweed hunted on horseback; however, APN staff in CAR and DRC have not witnessed any recent hunting of this type. A faction led by an SPLA defector (the Palangabolo; Small Arms Survey 2017) has been active in Garamba during 2017 (APN *in litt*. to authors, March 2017).

According to key informants, national armed groups are also involved in poaching in CAR. Interviewees mentioned poaching by Séléka in the Chinko locality, but interviewers did not record any information about anti-balaka activities relating to wildlife. Too few data about these groups were gathered to make an informed statement about their involvement in poaching based on this study. The Uda are a subgroup of Mbororo and discussed below (see pg. 42).

Poachers in Chinko Project Area

ii) Involvement of armed forces and law-enforcement officers in poaching

Based on discussions and interviews with PA managers, local communities and humanitarian NGOs working in DRC, some FARDC soldiers have used firearms and ammunition provided by the government to poach wildlife, and a few have been involved in Elephant poaching. In areas that have become highly insecure, FARDC and gendarmes can become major instigators of poaching (N. Kalron, Maisha Consulting, *in litt*. to authors, March 2017). However, in both Garamba and Bili, ICCN and FARDC are now operating joint patrols with FARDC. In Bili, joint patrols are organized when rangers are covering potentially dangerous areas where LRA may be present, and in 2016, FARDC participated in patrols of Bili on 49 of 160 patrol days (Lushimba 2016). According to Garamba's management, the involvement of government soldiers in poaching incidents seems to have diminished since collaboration between ICCN and the FARDC has improved.

In CAR, interviewees made no mention of law enforcement officers being implicated in poaching or wildlife trafficking in CAR. Law enforcement officials from the *Ministère de l'Environnement, du Développement Durable, des Eaux, Forêts, Chasse et Pêche* have been seconded to Chinko and they participate in ranger patrols inside the CPA. The Chinko Project also works in collaboration with the Gendarmerie in Bangassou when they make arrests.

iii) Involvement of traditional chiefs and local leaders in poaching

Beyond their social, political and administrative responsibilities, and their roles as traditional judges, it was reported during interviews that village chiefs in DRC are often directly or indirectly implicated in poaching by hosting foreigners, armed pastoralists in particular, for a small bribe. Since the area has been affected by civil war, it is rumoured that some local leaders and chiefs have increased their involvement in illegal activities. In addition, anti-poaching teams in Garamba and Bili confirmed that some village chiefs own large guns, and not only do they send some of their subjects out in poaching expeditions, but they also occasionally oblige non-residents to participate.

Although interviewees in CAR were reluctant to talk about their own illegal exploitation of protected species, they reported that poaching is sometimes facilitated by the administrative authorities.

iv) Involvement of transhumant pastoralists in poaching

According to local residents and humanitarian NGOs working around Garamba, the groups of armed pastoralists actively involved in poaching include some transhumant Uda are identifiable by the semi-automatic firearms and donkeys they travel with.

PA managers in CAR stated that the biggest threat to Chinko comes from transhumance cattle herding between December and May each year. The seasonal movements of transhumant pastoralists in and around Chinko are shown in Figure 6. Fulani cattle herders from Darfur pose a serious poaching problem, as do Mbororo, some carrying rocket launchers and belt grenades. Not only do they kill wildlife, including Giant Eland and Buffalo (and sell the meat), but they also poison predators, such as Lions. It was also reported that some Mbororo obtain firearms from the Séléka.

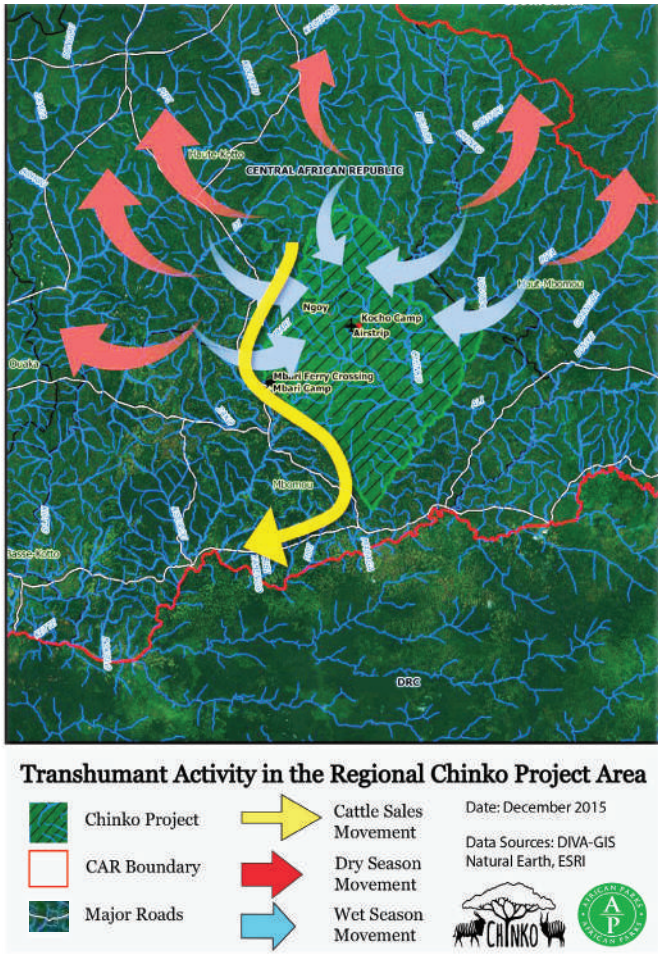


Figure 6. Map showing seasonal movements of transhumant pastoralists and their herds in and around Chinko in CAR. Source: The Chinko Project/APN

Mbororo Pastroralists in Bili Complex

v) Independent militarized poachers

According to key informants, a militarized poaching network composed of both local and foreign poachers equipped with semi-automatic firearms targets large mammals, including Bongo, Buffalo, Elephant and Hippopotamus in the PAs. They sell the meat to individuals and restaurants in peripheral villages and towns, and then purchase a new supply of cartridges and begin the process again. Some of these poachers are linked to backers who supply guns, ammunition and the means to reach trading and exchange points. They too sell the meat locally, but high-value products, such as ivory, skins and other trophies, are transported to larger towns and cities, including Bambari, Bangassou, Bria and Bangui.

b) Trafficking of wildlife

PA managers and NGOs (Caritas, CDJP, CRS, Invisible Children) working around Garamba and Chinko stated that armed pastoralist groups, including some Uda, are actively involved in trafficking of wildlife, and of ivory and Leopard skins in particular.

Discussions with local communities in the CAR sector of the landscape indicated that local leaders and chiefs are implicated in internal, but not cross-border trafficking. Interviewees in CAR also mentioned Séléka facilitation of poaching and wildlife trafficking, namely Séléka elements supplying firearms and using their vehicles to transport large quantities of bushmeat to neighbouring towns and cities, such as Bria and Yalinga, northwest of Chinko. Interviewers did not record any information about anti-balaka involvement in such trade.

In DRC, the FARDC is believed to facilitate the movement of wildlife products, especially in garrisoned towns such as Dungu, which is a way station for cross-border trafficking (Vira & Ewing 2014). Men in FARDC uniforms can pass through roadblocks without being controlled, and the army in DRC is said to facilitate the movement of wildlife products (ivory, Leopard skins) to merchants in nearby urban centres (Aba, Dungu, Faradje) or further afield (Aru, Durba), even Ango, Bunia, Buta, Kisangani and Isiro.

Small-scale poachers and some local communities could be considered to have links to wildlife trade through the sale of bushmeat and of cartridges and other hunting paraphernalia; however, ammunition is openly on sale at roadsides and in markets across the region.

c) Poaching and trafficking routes

Figure 7 shows the poaching and trafficking routes in and out of CAR and DRC to South Sudan and Uganda, as described by interviewees. Poachers from Sudan and Chad enter CAR via the border with South Sudan, pass through Haut-Mbomou Prefecture to Derbissaka Township near Chinko. They then cross the Vovodo River to enter the reserve, and set-up hunting camps for two to three months. Nationals more often cross the Bomu River 3 km from Rafaï, to enter Chinko from the southwest. According to key informants, poachers in DRC often use motorcycles serving the road between Faradje and Durba to arrive at or depart from Garamba. Bushmeat is transported by motorcycle or vehicle to selling points in villages and urban centres. As well as bushmeat, traders sell ivory and big cat skins, fat, teeth and claws, hidden in bags of palm oil, pepper and cassava. In CAR, the first points of sale for illegally-procured wildlife products are the towns of Rafaï and Zemio (Zemio also hosts 2,400 Congolese refugees[13] who fled LRA atrocities in DRC in 2009). Zemio is seemingly the largest trading centre for wildlife products in southeast CAR, notably for Elephant meat and orphaned Chimpanzees.[14]

Around Bili, traffickers heading south go to Buta via Bondo or Titule, then onto Banalia and Kisangani. Traffickers heading north to CAR cross the Bomu River and then follow trails made by transhumant pastoralists into the savannas of Bomu Hunting Domain, where the border is porous—uncontrolled and unsecured. To reach CAR, they cross the river at Adama, Bakpolo or Basokpio, and head for a landing point near Zemio. Using the Ango route, via Dakwa, the crossing point and interim destination is also Zemio. If traffickers cross the Bomu River, which forms the border between DRC to CAR, almost all crossing points are under the influence of or controlled by armed groups, including ex-Séléka elements, who levy illegal taxes on passengers crossing the river and commercial goods, the taxation varied by quantity and value. In 2015, the area from Bangassou to the border with South Sudan was mostly under the influence of LRA groups active in northern DRC (UNPoE 2015).

13 as of January 2017 http://data.unhcr.org/drc/settlement.php?id=302&country=38&region=160

14 The field team leader in CAR was to carry out fieldwork and interviews in and around Zemio as part of this study. Due to insecurity along the Rafaï-Obo road, he did not reach Rafaï or Zemio.

From Garamba, the first points of trade are urban centres, including Aba, Bangadi, Dungu, Doruma, Durba and Faradje—it has been estimated that there are 15–30 ivory dealers in Dungu alone. Goods are then moved on to Aru, Isiro, Buta and Kisangani. From here on, many intermediaries, often from other countries, enter into the trafficking chain. In both CAR and DRC, wildlife products are generally delivered to local merchants, often nationals of Chad, Libya, Mali and Senegal. Interviewees stated that the routes used by traffickers are not fixed; since they are serving black markets, buyers do not always use the same locations, and often have flexible itineraries. High-value products may exit DRC through Aba, a town at the border of South Sudan, or Arua on the border with Uganda. An alternative route is the road between Dungu and South Sudan: SPLA-iO combatants and other sources have said that some ivory from GNP goes to Juba in South Sudan (UNGoE 2016b).

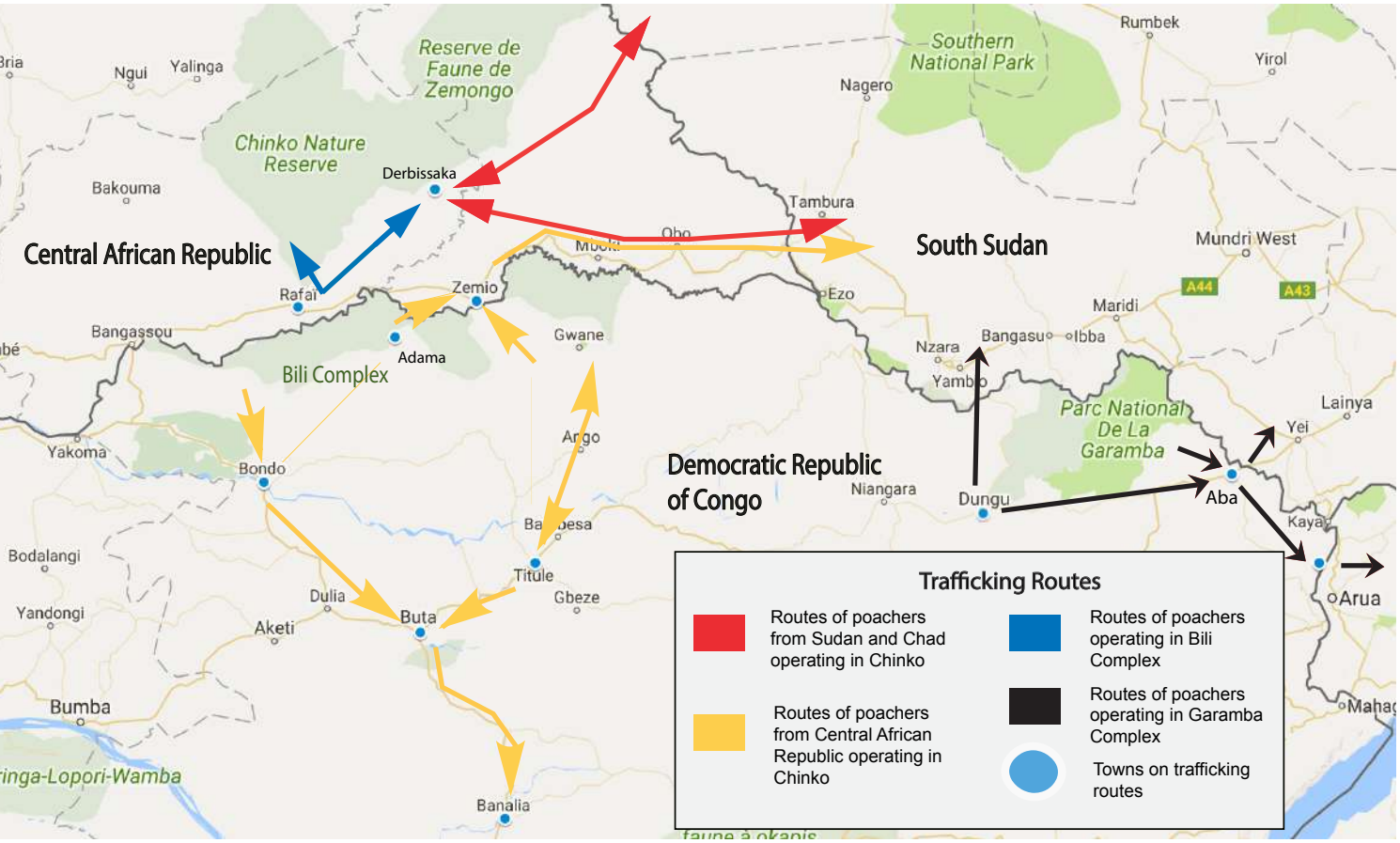


Figure 7. Map showing poaching and trafficking routes in and out of southeast CAR and northeast DRC, based on information gathered during interviews.
Source: IUCN

South Sudan and Uganda are "critical waypoints" for Elephant tusks and other wildlife (Cakaj & Lezhnev 2017). A common trading route through Uganda is via the border towns and important trading posts of Ariwara and Arua, where ivory is sold to well-connected buyers, who in turn go to Kampala and sell it for export, most often to Asia (Titeca 2013a). The tusks are transported in trucks, either cut into small pieces or left as a whole—depending on the preferences of the buyer. Ugandan traders are key in this commodity chain/trade network: they play a prominent role at different levels by using Congolese or South Sudanese traders as middlemen. The nature of their involvement consistently points at collusion by Ugandan politico-military elites (Titeca 2013b). DRC is one of the main sources of wildlife products, especially ivory, being trafficked through Kenya. Such products enter Kenya mainly through the Malaba border point along the Kenya–Uganda border (Weru 2016).

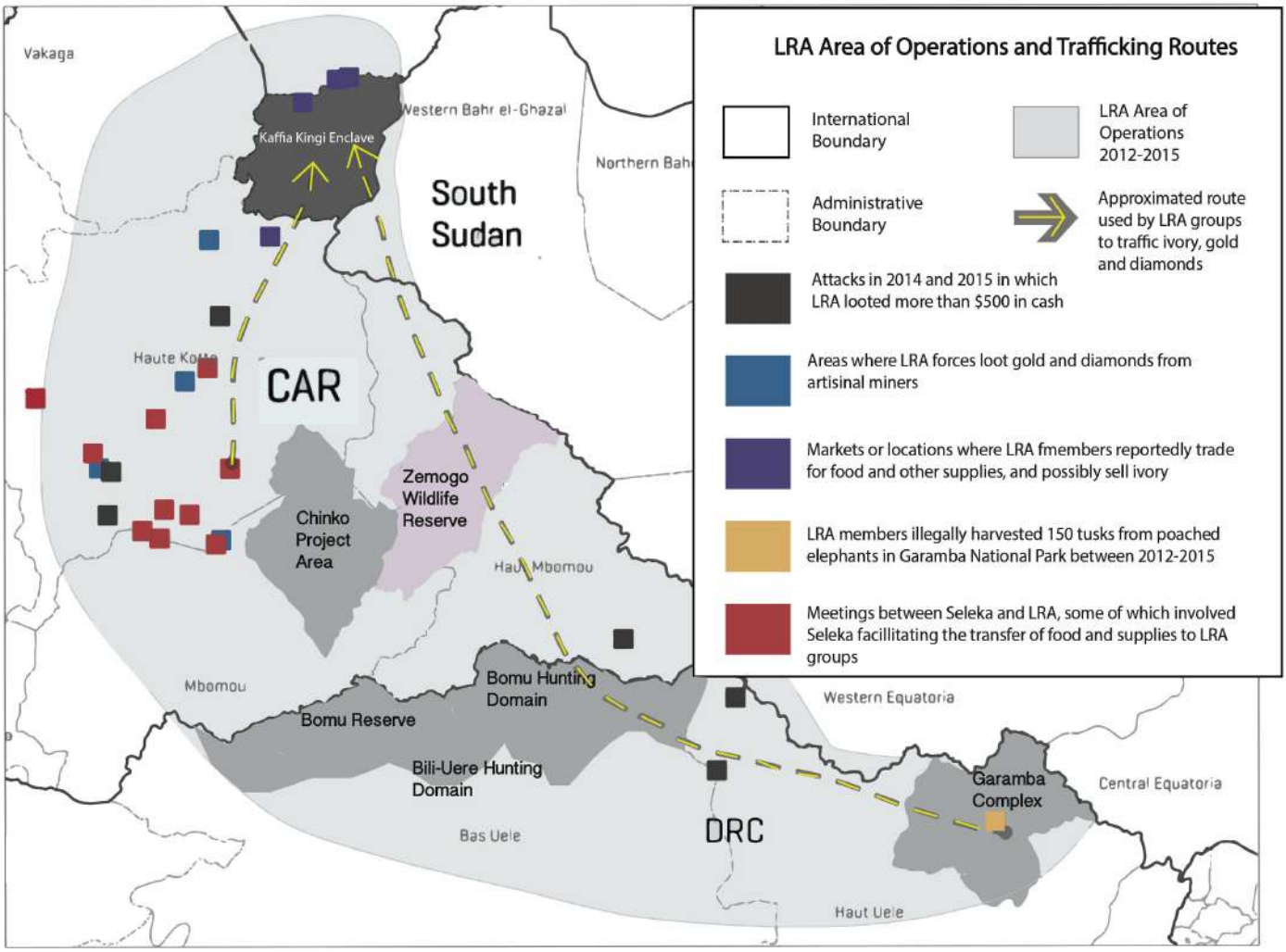


Figure 8. Map showing generalized trafficking routes from Garamba in DRC through CAR to the Kafia Kingi enclave. Adapted from Ronan 2016

Another route goes to Sudan: a GPS transmitter hidden in a fake tusk was stolen by poachers after an incident park rangers in Garamba in June 2015 was traced to Ed Daein, the capital of East Darfur State, Sudan. Investigators concluded that the tusks were taken by LRA fighters (Christy 2015). Maps showing known routes used by the LRA and other armed groups to traffic ivory and other wildlife products indicate that a second common intermediate destination is Kafia Kingi (Figs. 8 and 9). In the border area between Sudan's South Darfur State, the Kafia Kingi enclave, and CAR's Haute Kotto Prefecture, LRA groups have established regular relationships with several traffickers (Ronan 2016). This region is a known hub for illicit trafficking from CAR to Darfur and Khartoum. LRA bodyguards who defected from Kony's group in 2015 reported that some traders made regular visits to LRA camps to purchase ivory. Traders in this area have since become the LRA's primary outlet for bartering ivory in exchange for supplies (Ronan 2016). Such opportunistic relationships allow this LRA unit to resupply without committing attacks that could give away their location (Ronan 2015). As the LRA became more familiar with these trade networks, Kony tasked the LRA forces in eastern CAR and northern Congo with collecting ivory, diamonds and gold (Ronan 2015, 2016).

Figure 9 indicates the level of information about clandestine activities in this region that is already known to US authorities.

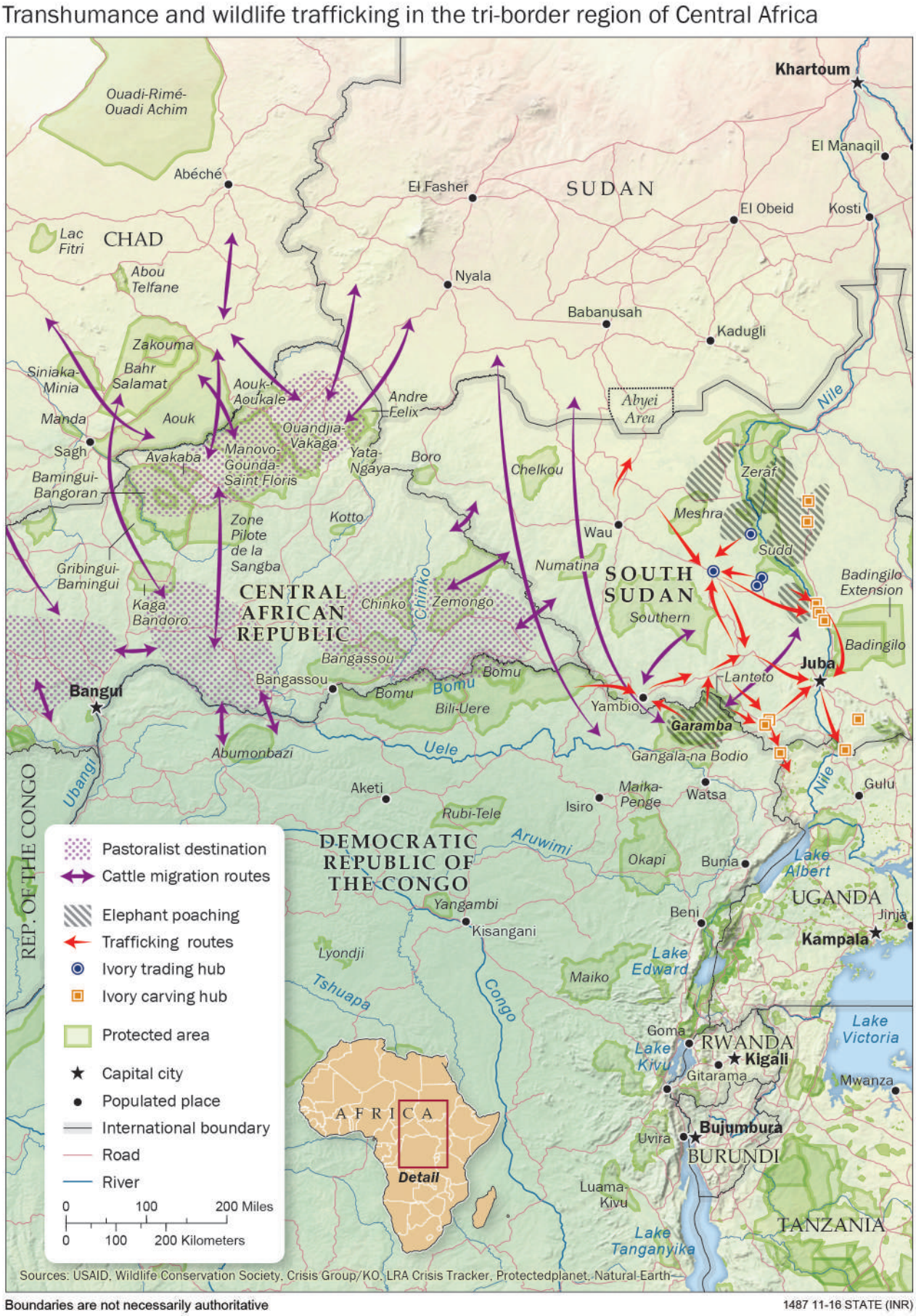


Figure 9. Map of wildlife trafficking routes and transhumance in the border regions of CAR, DRC, Chad, South Sudan and Sudan. Source: Bureau of Intelligence and Research (INR), US Department of State

LRA fighters on the outskirts of Garamba National Park

DISCUSSION

A wide variety of actors engage in poaching in southeast CAR and northeast DRC. Poaching can be viewed as occurring along a graded spectrum, ranging from a relatively small-scale livelihood strategy to a large-scale organized criminal activity. For the latter, large and dangerous animals are usually targeted, which requires the use of semi-automatic firearms or heavy weapons. We begin this discussion by looking at illegal hunting by local people.

a) Bushmeat, livelihoods and conservation incentives

The first part of this study examined the socioeconomic situation of local communities living around the PA complexes of the Garamba-Bili-Chinko landscape. Economic poverty[1] is prevalent in such rural environments and local people depend on natural resources for their survival and livelihoods. As already mentioned, infrastructure and government services are lacking in the GBC landscape, and a study carried out just south of Bili a decade ago illustrates the extent of poverty and the degradation of infrastructure (if it exists at all) in this region: "First constructed in colonial times, the roads have not been maintained for 20 years or more; many have not been motorable for a long time. Most stretches linking administrative centres are cut, due to broken bridges and ferries. The only traffic is bicycles, motorbikes and foot-porters, even between major centres that have populations of more than a million people, and which cross economically important areas (diamonds, various ores, timber, primary agricultural products). People are poor, with monthly household incomes mostly not exceeding $25. Living conditions are bad, housing precarious (only rare houses are roofed with corrugated iron); school enrolment is less than 50% throughout; less than 15% use medical clinics; less than one per cent of water-points have been improved; household equipment is basic (mats or even bare soil for bedding), cooking equipment and furniture are rudimentary; traditional soap has taken the place of manufactured soap. Public infrastructure is broken down or non-existent" (Hart 2007).

"This lack of formal economic opportunities also intensifies the exploitation of wildlife and forest resources for commercial purposes."

In rural areas of southeast CAR and northeast DRC, the formal economy in almost non-existent. Due to the geographic isolation, lack of development and persistent insecurity in this region, rural communities have few employment or other economic opportunities. This lack of formal economic opportunities also intensifies the exploitation of wildlife and forest resources for commercial purposes. To quote Michelle Wieland (WCS Socio-Economic Advisor): "these people have little to no access to formal markets. Although often prevalent, livestock are not consumed, but rather are household banks". Therefore, instead of eating domestic animals, local people depend heavily on bushmeat.

Hunting (small scale, both legal and illegal) was ranked third by Bantu interviewees in terms of importance as a livelihood activity, after agriculture and livestock rearing. However, hunting was found to be the biggest source of income for many communities inhabiting this landscape. Especially striking is that hunting and poaching contributed almost 60% to household income around Chinko—four times the amounts generated by agriculture (15.1%). Communities in CAR stated that they hunt mostly for their own consumption, but

15 UNESCO definitions of poverty: http://www.unesco.org/new/en/social-and-human-sciences/themes/international-migration/glossary/poverty/

this was not supported by data that they themselves provided. Clearly, a lot of bushmeat was sold. The relative proportions of sales that were legal and illegal is unknown; however, it is unlikely that such high levels of income came from legal sales alone. The illegally-obtained meat of protected species can fetch particularly high prices and such trade is clandestine (e.g. Elephant meat sales in Bangassou; Williamson *et al*. 2004).

The activities of armed groups, which have been intense during the last decade, have suppressed economic development of this region, and in this climate, local communities have become increasingly dependent on natural resources, and wildlife in particular. Poaching has also been exacerbated by loss, degradation and fragmentation of natural habitat by mining, logging and agricultural activities, which provide greater access to the forests, and commercial sale of bushmeat has become a massive and unregulated trade in northeast DRC (AWF 2016).

"The activities of armed groups, which have been intense during the last decade, have suppressed economic development of this region, and in this climate, local communities have become increasingly dependent on natural resources, and wildlife in particular."

Animals are slaughtered in much greater numbers when they are sought for financial gain and such levels of offtake are unsustainable. Wildlife populations can be decimated when hunting and poaching goes beyond local consumption and becomes a commercial activity, and especially when Endangered and other protected species are targeted. Endangered mammal species in the GBC landscape include Chimpanzee and Lelwel Hartebeest. National legislation also fully protects Elephants, most of the medium and large antelope species (such as Giant Eland, Oribi *Ourebia ourebi*, Roan Antelope, Uganda Kob, Waterbuck *Kobus ellipsiprymnus*), and the Giant Pangolin. The scale of the threat of poaching is evident from the apparent extirpation of Elephants from the Bangassou forest, which neighbours Chinko (Luhunu & Bechem 2009). Those Elephants were killed not for their ivory, but principally for their meat (Williamson *et al*. 2004).

Clearly, incentives to discourage poaching and other illegal wildlife trafficking activities are needed urgently. Developing alternative pro-conservation, economic opportunities for communities living in the GBC landscape will be a particular challenge in light of the factors given above and a longstanding regional agricultural crisis, illustrated by the following quote: "Agriculture in almost all areas is in a state of crisis: a crisis of tenure in the forestry concessions, a crisis of speculation in the coffee zone, a crisis everywhere of farming techniques, which are environmentally destructive yet which are incapable of providing an adequate income to farmers" (Hart 2007).

A recent mid-term evaluation of CARPE (USAID 2017a) judged that the livelihood alternative initiatives implemented by CARPE-sponsored projects were limited in scope, under-conceptualized and too poorly executed to be effective. Consequently, the evaluators recommended that CARPE abandon investment in all but the most promising sustainable livelihood activities. They suggested that future decisions about livelihoods interventions would be best addressed through demand-driven approaches, concluding that commitment to new practices is influenced by market demand (USAID 2017a).

Action needed

- **Campaigns that reinforce legal distinctions between protected Endangered species and species that can be killed outside of PAs with permits**
- **"Beyond Enforcement" programming designed at the community or landscape level, which recognizes the distinction between illegal, unsustainable trade and the legitimate, sustainable use of wild resources**
- **Development of appropriate income generating opportunities and incentives with careful planning and evaluation**
- **Consultation with bushmeat experts and other livelihoods specialists to devise appropriate conservation incentives or livelihood-focused interventions**

First, it is essential that efforts to clamp down entirely on the killing of Endangered and other protected species are reinforced. To facilitate successful law enforcements efforts, it is critically important that the Protected Area Authorities (PAAs) and their implementing partners launch sensitization campaigns that emphasize and reinforce the legal distinctions between fully protected and Endangered species, and species that can be killed legitimately if outside PAs and with the appropriate permits (see #Hunting vs. Poaching). Generally, people are not sufficiently aware of the different levels of legal protection afforded to various species of wildlife—that some species are "fully (integrally) protected", others only "partially protected" and some not protected at all. Most people know that big and dangerous animals are usually protected by law, but they may not be aware that small, vulnerable species, such as the Giant Pangolin and the Aardvark *Orycteropus afer*, are also protected under national laws. Therefore, Recommendation 1.1 is to prioritize law enforcement and public awareness campaigns that highlight Endangered and protected species.

It is now widely believed that that in order for law enforcement efforts to succeed, they must be complemented by community engagement and empowerment. The IUCN SSC Sustainable Use and Livelihoods Group (SULi), together with the Institute for Environment and Development (IIED), University of Queensland, Austrian Ministry of Environment and TRAFFIC, has developed a model referred to as "Beyond Enforcement[16]" to engage local communities in tackling wildlife crime (IUCN SULi. 2015; Cooney *et al.* 2016). This approach provides a framework to improve evidence-based programming designed at the community or landscape level, which includes recognition of the distinction between illegal, unsustainable trade and the legitimate, sustainable use of wild resources.

The development of appropriate income generating opportunities and incentives will require careful planning and evaluation (see Wicander & Coad 2015). The CARPE evaluation team noted that problems of access to markets were raised by many of the people they interviewed, and they therefore recommended that an Agriculture Commercial Legal and Institutional Reform (AgCLIR) diagnostic and a market/value chain analysis be undertaken to produce a roadmap for development of product value chains (USAID 2017a). Wieland agrees that efforts should focus on diversifying the economy with commodities that are lightweight and easy to transport, noting that since a drop in prices on the international market, Robusta coffee is left to rot on the plant (M. Wieland, WCS Socio-Economic Advisor, pers. comm.). Feasibility studies are also needed to assess which crops might be profitably grown in this region, such as Cacao for example.

In the absence of accessible markets, credits towards the provision of healthcare and schooling might be more effective incentives than any agricultural activities (M. Wieland pers. comm. 2016). Therefore, Recommendation 2.1 is to consult with bushmeat experts and other livelihoods specialists to devise appropriate conservation incentives or livelihood-focused interventions. Based on the outcomes of 2.1, pro-conservation, livelihoods-focussed interventions could be

16 https://www.iucn.org/commissions/commission-environmental-economic-and-social-policy/our-work/specialist-group-sustainable-use-and-livelihoods-suli/communities-and-illegal-wildlife-trade/beyond-enforcement-initiative

made with a view to discouraging illegal bushmeat hunting and other poaching and/or trafficking activities by local communities living in the GBC landscape.

In the absence of accessible markets, credits towards the provision of healthcare and schooling might be more effective incentives than any agricultural activities (M. Wieland pers. comm. 2016). Therefore, Recommendation 2.1 is to consult with bushmeat experts and other livelihoods specialists to devise appropriate conservation incentives or livelihood-focused interventions. Based on the outcomes of 2.1, pro-conservation, livelihoods-focussed interventions could be made with a view to discouraging illegal bushmeat hunting and other poaching and/or trafficking activities by local communities living in the GBC landscape.

Paying local communities not to poach could also be explored, although according to Felbab-Brown (2015), conditional money transfers only work in this context if effective monitoring systems and penalties are in place, which requires routing out corruption among rangers, police, judiciary and officials. See below (pg. 66) for further recommendations.

b) Large-scale poaching and wildlife trafficking

We begin this section with a word of caution from Kalron: "much of the information that can be gathered is partial or third-party based, so it's truly difficult to assess what's happening in this landscape and the relationships between the various groups. So the reliability of the sources should be treated with appropriate caution" (N. Kalron, Maisha Consulting, *in litt.* to authors, March 2017).

Poaching as an organized criminal activity is carried out by professionals (historically from Darfur, Chad and Libya, according to Titeca 2013a and the Small Arms Survey 2017), armed herders or members of armed groups.

i) Involvement of non-State actors in poaching and wildlife trafficking

Foreign armed groups originating from Sudan, South Sudan and Uganda are operating across the GBC landscape; there are also national armed groups in CAR—the anti-balaka, ex-Séléka and related factions. It is likely that the involvement of other groups and militia was under-represented in this study, due to a tendency for interviewees to refer to all armed groups from the Sudans as Janjaweed or SPLA. This is unsurprising given the historical involvement of these two groups in commercial poaching in CAR and DRC (e.g. Somerville 2016), and the complexity of the constantly evolving political environment in the Sudans. Also, even seeing someone wearing a particular SPLA uniform is not proof that they are a member of that group. At times, it is unclear whether poachers wearing uniforms are SPLA, SPLA-iO, South Sudanese police units, deserters, or have simply acquired the uniforms and concrete proof is difficult to come by (APN *in litt.* to authors, March 2017).

"Park authorities consider armed poachers from South Sudan to be the greatest current threat to Garamba's wildlife ."

Park authorities consider armed poachers from South Sudan to be the greatest current threat to Garamba's wildlife (McConnell 2016; UNGoE 2016a). South Sudanese poachers appear to be a mix of soldiers, former soldiers, police officers and civilians (Cakaj & Lezhnev 2017). These poachers and armed groups likely make up the majority of poachers active in Garamba, entering DRC

from Lantoto National Park; however, armed (north) Sudanese poachers, LRA and Mbororo pastoralists also continue to poach in this park (Cakaj & Lezhnev 2017).

(North) Sudanese poachers are reputed to be experienced, well-armed and have been widely reported to engage in poaching at a large scale (Vira & Ewing 2014). Sudanese militia, including Janjaweed elements, assisted the Séléka into power and poached for ivory on its behalf (Agger 2014; Somerville 2016). They have occasionally attacked LRA fighters on the assumption that these groups were transporting Elephant tusks and other valuables (UNPoE 2015). However, Khartoum's ongoing support likely negates the Janjaweed's need for ivory to trade in exchange for arms (Haenlein *et al.* 2016).

Much has been learned about LRA activities through interviews with former LRA fighters by the Enough Project, Invisible Children and the Resolve LRA Crisis Initiative, among others (e.g. Agger & Hutson 2013; Cakaj 2015; Ronan 2016). For the first two decades of its existence, the LRA had little involvement in trafficking illicit natural resources (Lancaster & Cakaj 2013). But according to an LRA defector, in the summer of 2011, Kony ordered his fighters to kill Elephants and harvest their tusks. The principal combat units in DRC have focused almost exclusively on poaching Elephants, using light and heavy machine guns and rocket-propelled grenades (UNGoE 2016a). The tusks of Elephants killed in Garamba were sent north to Kony's group in Kafia Kingi (Resolve, Enough Project and Invisible Children 2014).

"During nine months of 2015, an LRA group of about 50 people camped in GNP, sustaining themselves by robbing local people. According to a defector, Kony had tasked this group with obtaining 100 elephant tusks from GNP. "

During nine months of 2015, an LRA group of about 50 people camped in GNP, sustaining themselves by robbing local people. According to a defector, Kony had tasked this group with obtaining 100 Elephant tusks from GNP. Teams of two to four men rotated in and out of the main camp, ensuring that at least three teams were poaching at any given moment. Each team hunted Elephants for approximately one week at a time, or until they killed an Elephant. If a team succeeded in killing an Elephant, it would remove the tusks and leave immediately without collecting the meat, to ensure that they avoided confrontation with park rangers or larger groups of armed poachers who may have heard the gunshots. Once they returned to the main camp, a senior commander ensured that the tusks were hidden in locations kept secret from most members of the group. While poaching teams targeted Elephants in the park, other small groups of LRA fighters looted food from travellers along the Dungu-Duru road and Dungu-Faradje road, returning to replenish the poaching teams and other group members with supplies (Ronan 2015, 2016).

LRA units based in the border area around the Kafia Kingi enclave have succeeded in integrating themselves into illicit trafficking networks. From Kafia Kingi and South Darfur, Kony has access to traders and a relative safe haven from the AU-RTF. Some reports indicate the LRA arranges rendezvous with trusted traders via satellite phone (Ronan & Poffenberger 2013). To maintain this strategic foothold, the LRA must avoid conflict with armed herders and Sudanese poachers, as unconfirmed reports have indicated that professional Sudanese poaching rings target LRA groups for their ivory.

According to Ronan (2016), the Sudanese Armed Forces stationed in South Darfur and Kafia Kingi introduced the LRA to traders as early as 2010. Former LRA combatants report that LRA

forces have on occasion traded with Janjaweed, but they usually try to avoid them. National Geographic reported that LRA and Janjaweed have fought over ivory, with one group robbing the other, and that it was the Janjaweed's tactic of trading ivory that gave Kony the idea to start killing Elephants (Christy 2015).

To date, there has been no confirmation of LRA groups trading ivory with ex-Séléka groups. However, LRA groups frequently trade ivory with merchants based in the Kafia Kingi enclave, which borders a region of CAR that is controlled by ex-Séléka groups, raising the possibility that the LRA could expand this trade with ex-Séléka or other armed groups in CAR (P. Ronan, Invisible Children, *in litt*. to authors, March 2017).

Trade in ivory by the LRA and the Janjaweed is considered to be minor compared to that accounted for by the large number of poaching gangs operating in the region, particularly those from South Sudan (Haenlein *et al*. 2016). But for as long as they can, the LRA is expected to continue to use ivory to obtain food and ammunition (Haenlein *et al*. 2016), and although localized, the impact of the LRA likely remains significant at the landscape level.

There is ample evidence of human rights abuses—theft, violence and mass killing—by anti-balaka and ex-Séléka (Agger 2015), but little information pertaining to their direct involvement in poaching was forthcoming to investigators. However, ex-Séléka have facilitated poaching by providing weapons, and have used their vehicles to transport bushmeat. According to Agger (2014) and APN (2016), armed militia—including some Séléka elements—pose one of the largest threats to wildlife in Chinko. After the Séléka came to power, control of the bushmeat sector was reportedly taken over by a Séléka strongman (ICG 2014c). The Séléka also enabled Sudanese poachers to expand their operations in CAR (Vira & Ewing 2014). Agger (2014) writes that since they took power in 2013: "responsibility for elephant poaching and revenues from ivory sales extends to top Séléka leaders and involves regional armed groups, including the Janjaweed. Large groups of Sudanese poachers based out of South Darfur regularly cross into CAR to kill elephants". Agger (2014) established that Séléka leaders authorized Sudanese poachers to kill Elephants, and that Séléka fighters smuggled the ivory. Armed pastoralists are discussed below on pg. 54.

Elephant shot from helicopter and tusks removed in Garamba National Park

ii) Involvement of State actors in poaching and wildlife trafficking

Historically, FARDC soldiers have been involved in Elephant poaching. Being deployed against the LRA gave soldiers access to Garamba and allowed them to participate in poaching. Furthermore, FARDC soldiers were able to account for the ammunition used to kill wildlife by making up false reports of confrontations with the LRA (Titeca & Costeur 2015). Evidence of FARDC poaching activities in the Bili region was gathered by the Lukuru Foundation (2011). In the recent past, many observers believe that FARDC soldiers were the worst culprits of wildlife poaching in the region. Vira and Ewing (2014) pointed out that this was not surprising given that soldiers are undisciplined, poorly trained and rarely paid. But more often, FARDC soldiers and officers lend firearms or give ammunition to civilians, with whom they co-operate or trade ammunition for ivory. One such case involved army officers in Faradje (UNGoE 2015). It has also been reported that the FARDC dominates the criminal poaching and trafficking networks in DRC (Vira & Ewing 2014).

According to the UNGoE (2016b), FARDC are still involved in the illegal exploitation of wildlife in this region. However, reports from the field indicate that this may no longer be the case in Garamba, as collaboration between FARDC and the park has considerably reduced FARDC involvement in poaching. In both Garamba and Bili, FARDC are now participating joint patrols, while law enforcement officials from the Ministère de l'Environnement, du Développement Durable, des Eaux, Forêts, Chasse et Pêche participate in patrols in Chinko.

iii) Involvement of Mbororo (Uda) in poaching and wildlife trafficking

Interviewees stated that armed pastoralists are actively involved in wildlife poaching and trafficking, and cited the Uda in particular. However, they seemed to refer to all armed pastoralists as Uda, and it is likely that many interviewees did not differentiate subgroups within the Mbororo. There are other groups of armed pastoralists in the region, but people also seemed to generalize between pastoralists and to call them all Mbororo, perhaps because the Mbororo are the most numerous (90% of cattle herders in CAR; Hutin & Meunier 2015). Published sources state that armed pastoralists and their hundreds of thousands of cattle pose the biggest threat to the Chinko ecosystem and wildlife (Woods 2016). The dry season is a critical period in Chinko, as this is when poachers and cattle herders move southwards, not only in search of grazing, but also to poach. According to the UN Panel of Experts, nomadic herders poach wildlife largely for their own consumption, but they also collaborate with professional poachers from Sudan, selling them ivory, skins and horns ((UNPoE 2016). Rangers in Chinko have had violent confrontations with armed herders from Darfur (APN 2016). Rangers in Garamba have had frequent clashes with aggressive and heavily armed Uda ("Hudas", UN 2016; Cakaj & Lezhnev 2017).

There is also the issue of community members alleging that herders are in alliance with the LRA. It is known that under threat, Mbororo have provided the LRA with food and information, but it seems that any co-operation by the Mbororo is opportunistic and is usually coercion (Conciliation Resources 2012). In CAR, Mbororo have sometimes occupied villages abandoned by civilians following LRA attacks, adding to suspicions of connivance between the LRA and Mbororo groups (Conciliation Resources 2012).

According to Kalron, the various networks intertwine: there are "FARDC elements working with Mbororo and alternatively Mbororo with LRA, UPDF with local traders through the Aru/Arua axis and potentially with Garamba rangers, plus Séléka with SPLA-iO and Janjaweed to Khartoum and Egyptian traders with South Sudanese elements. So, its a complicated landscape and information is quite scarce and not very reliable" (N. Kalron *in litt.* to authors, March 2017).

Action needed

- **Theory of Change (ToC) framework to tackle international wildlife trafficking and to foster dialogue with local communities**
- **Expansion of the existing Early Warning Networks to encompass poaching and illegal wildlife trade**
- **Detailed investigation of trafficking of wildlife along the Rafaï-Obo axis in CAR, focussing on Zemio**
- **Address the problem of costs of transporting prisoners to courts within stipulated timeframes, to enhance law enforcement**

In addition to continued and improved law enforcement activities, local communities could be engaged in effort to counter wildlife trafficking. Biggs *et al.* (2017) developed a Theory of Change (ToC) framework to tackle international wildlife trafficking and to foster dialogue with local communities, amongst others. ToCs are used in project design and evaluation, as outlined in guidance developed by USAID (see USAID 2016a and #Online tools for conservation planning). This particular ToC presents the underlying assumptions and enabling conditions for involving communities in combatting trafficking. The authors identified the following pathways for community-level actions:

A. Strengthening disincentives for illegal behaviour (e.g. increasing law enforcement, strengthening penalties)
B. Increasing incentives for stewardship of wildlife (e.g. developing or supporting initiatives or enterprises that generate local benefits)
C. Decreasing the costs of living with wildlife (e.g. providing adequate fencing to protect livestock and reduce losses to predators)
D. Creating alternative sources of income (i.e. diversifying livelihoods options).
These four pathways can be used to guide development of a logical and transparent programme. Each of the above will require the strengthening of enabling conditions, including capacity building and improved governance.

Recommendation 1.2 is to support expansion of the existing Early Warning Networks to encompass poaching and illegal wildlife trade. The existing networks are not presented in this report, but a detailed assessment was carried out as part of a performance evaluation and needs assessment of counter-LRA programmes (see IBTCI 2015). High frequency radios have been installed at 50 locations across southeast CAR and northeast DRC, with hubs in Obo and Dungu. Invisible Children has already begun to expand its information gathering and sharing activities to enhance rapid response efforts to address wildlife poaching and trafficking. See Appendix V for plans to modify the LRA Crisis Tracker, so that it will also become an early warning system for and deterrent to poaching.

Recommendation 1.2 is to is undertake a detailed investigation of trafficking of wildlife along the Rafaï-Obo axis in CAR, focussing on Zemio, which is acknowledged to be a regional centre of wildlife trade. The refugee camp in Zemio is also known to harbour a major wildlife trafficker (N. Kalron, *in litt.* to authors, March 2017).

In relation to Recommendation 1.6, the CARPE evaluation team suggested that an effective strategy is needed to address the problem of costs of transporting prisoners to courts within stipulated timeframes (USAID 2017a). The evaluators noted that successful prosecution is already difficult to accomplish in DRC, due to the weak and poorly funded court system. The high costs of transporting poachers and traffickers long distances to court so that they can face trial in a major challenge. Therefore, a mechanism that supports judicial follow-up and transportation of arrested poachers would be a game changer. Financial assistance to meet these costs could greatly improve the effectiveness of law enforcement. See below (pg. 66) for further recommendations.

"This Endangered species merits special attention. In the GBC landscape, chimpanzees seem to be appreciated only as food, or as a potential source of income, despite being fully protected."

Eastern chimpanzee adult male in Chinko

c) Chimpanzees

This Endangered species merits special attention. In the GBC landscape, Chimpanzees seem to be appreciated only as food, or as a potential source of income, despite being fully protected by national laws throughout their range, and listed in Appendix I of CITES and as Class A of the African Convention. AWF (2016) has noted that local officials are largely unaware or unconcerned about the protected status of Chimpanzees, and that little public awareness and education has been carried out in this region. Anecdotal information gathered during this study indicated that even some people working directly with the conservation services attribute no particular importance to Chimpanzees. Meanwhile the killing of adults for meat and subsequent trafficking of orphaned infant Chimpanzees is rife.

Chimpanzees are often killed in retribution for crop raiding, so IUCN has produced guidelines on avoiding and mitigating conflict between humans and great apes (Hockings & Humle 2009). IUCN has also published a conservation action plan for great apes in eastern DRC (Maldonado *et al*. 2012), which includes a strategy for raising awareness and involving local communities in Chimpanzee conservation. Both these documents should be useful resources to conservation organiaations working in this landscape.

Action needed

The lack of concern about Chimpanzees in parts of the GBC landscape is alarming. We therefore recommend that an urgent sensitization campaign is undertaken by the PAAs and conservation NGOs targeting a) local communities, b) national and local government institutions, especially law enforcement agencies, and c) NGOs, including humanitarian organizations.

- **Urgent sensitization campaign is undertaken targeting local communities, national and local government institutions, and NGOs.**
- **Implementation of landscape-wide awareness campaign and adoption of chimpanzees under conservation targets**

AWF has adopted Chimpanzees as one of their conservation targets and is planning to implement an awareness-raising campaign. Such an outlook should be adopted throughout the landscape, emphasising that Chimpanzees have slow rates of maturation and reproduction and are therefore highly vulnerable to hunting pressure.

d) Transhumant pastoralism

One of the objectives of this study was to analyse conflict between local communities and transhumant Mbororo pastoralists. The history of the arrival of Fulani herders differs between CAR and DRC, and influences how they are perceived and treated by residents. Most Mbororo pastoralists in CAR arrived from Chad and Sudan during the last century, although they would not have reached Haut-Mbomou until the 1980s (Ankogui-Mpoko *et al*. 2010). Many have since settled in Rafaï, Derbissaka and Djema townships.

Historically, upon arrival in a new area, Mbororo pastoralists usually paid a visit to the local chief to show respect and to obtain information about local customs and sacred sites. This fostered good relations with local communities and facilitated the permanent settlement of some Mbororo in CAR, where access to land was free. Permission to occupy land could be obtained by a simple request to a village chief or the mayor of a town, and with an oral agreement from these local authorities, pastoralist communities could graze their cattle and even settle. Most of southeast CAR is sparsely populated, so there was little competition between the Mbororo and resident communities in the past. Increased conflict over land between farmers and cattle herders in CAR is an outcome of the increased cross-border seasonal migration from Chad and Sudan, with herders pushing south because climate change is increasing desertification and less pasture is available in the north (ICG 2014b; see below).

Chadian pastoralists are entering CAR with increasingly large herds, because wealthy Chadians, including officials of the defence and security forces, are investing in cattle and hiring herders to escort them (ICG 2014b). These herds number in the thousands and with so much money tied up cattle, the herders are increasing arming themselves (IOM 2014; Hutin & Meunier 2015). They may even be given protection by members of the Chadian army (ICG 2014b). This is known as "absentee herding". The growing trend to be armed has led to increasing weaponization of pastoralists in general and with it, allegations that these herders are involved in cattle-raiding and banditry (IOM 2014). The presence of Fulani pastoralists from Sudan and Chad has been blamed for exacerbating the civil conflict, especially because they were so heavily armed (McGrew 2016).

As pastoralists armed themselves further, it became difficult to distinguish between pastoralists and poachers, leading some communities in CAR to associate transhumance with insecurity (ICG 2014b). When civil war broke out in CAR in 2013, members of the Muslim pastoralist minority, including the Mbororo, were targeted by anti-balaka militias (MRG 2014) and systematically attacked. Both anti-balaka and ex-Séléka elements were involved in the theft or slaughter of large numbers of cattle belonging to the herders (ICG 2014a; Agger 2015). Subsequently, many Fulani joined the Séléka, thus local communities often conflated the two and accused the Fulani in general of being members of the Séléka (McGrew 2016). Some participated in attacks and committed human rights abuses alongside the Séléka, including the murder of civilians and burning of villages (HRW 2017).

A political analysis of the relationships between the (ex)Séléka and the Fulani in general, or Mbororo in particular, is beyond the scope of this study. However, we note that one of the ex-Séléka factions, the Union for Peace in the Central African Republic (UPC) is a militarized faction of the Fulani community and claims to act as a protector and champion the rights of the Mbororo.

The Mbororo in DRC have been victimized by both State and non-State actors. Most arrived relatively recently (since the early 2000s; Titeca 2016). In 2010, the Congolese authorities decided forcibly to repatriate the Mbororo forcibly. Knowing that they had Kinshasa's support,

FARDC soldiers permitted death threats, theft of livestock and other possessions, rape and arbitrary arrest of Mbororo in Bas-Uélé Province (ICG 2011). This resulted in deaths on both sides (ICG 2014b). The FARDC then accused an Mbororo of carrying firearms for the LRA. Research by Titeca and Costeur (2015) indicates that this collaboration did not happen, but FARDC soldiers used this accusation to legitimize further attacks on the Mbororo, harassing them and stealing their cattle. Even recently, a FARDC commander in the region referred to Mbororo as "accomplices of the LRA" (Radio Okapi 2017). It has also been reported that this intimidation became a lucrative activity for the soldiers involved (Titeca & Costeur 2015). This situation created tensions and mistrust on all sides and did nothing to facilitate acceptance and integration of the Mbororo into resident communities.

Negative attitudes towards the Mbororo could stem from fear or suspicion. Transhumant pastoralists travel in the "bush" (savannas and forests), and this brings them into geographic proximity to members of the LRA. Consequently local people often suspected and accused the Mbororo of having links to armed groups, and of communicating useful information to poachers who travel on donkeys or horses and traffic in wildlife species, which the Uda do (Titeca 2016). At the same time, some Mbororo were exploited by the LRA, for example, they were threatened with kidnap or theft of their cattle unless they acted as intermediaries to procure supplies from the local population (UNGoE 2016a).

Compounding these suspicions was the increasing tendency of herders, especially the Uda subgroup, to carry firearms (usually AK-47s) to protect themselves and their animals, which provoked fear among local people (Conciliation Resources 2014).

"Conflict with cattle herders is especially high during periods of drought when migrating herders sometimes graze their cattle on farmers' lands and use their water points. The sources of conflict are predominantly competition over access to water and pasture, illegal grazing, and trampling of crops by livestock. "

Conflict with cattle herders is especially high during periods of drought when migrating herders sometimes graze their cattle on farmers' lands and use their water points. The sources of conflict are predominantly competition over access to water and pasture, illegal grazing, and trampling of crops by livestock. The disruption of migration routes has led to increasing destruction of crops and fuelled the conflicts between farmers and pastoralists (ICG 2014b).

The massive and growing numbers of cattle are having disastrous impacts on the ecology of the region. For example, they cause erosion and desertification, and introduce invasive species. The passage of cattle through Chinko disturbs wildlife and threatens the natural habitat. When pastoralists enter PAs, they pose a dual problem for managers, because as well as engaging in poaching, their cattle may carry diseases that could be transmitted to wild animals. The presence of cattle increases the risk of disease for many ungulates and Giant Eland are particularly vulnerable (APN 2015).

Over the longer term, climate change is expected to intensify desertification of the Sahel, and to push transhumant pastoralists further south in search of grazing and water (IOM 2014). This will exacerbate conflicts still further.

Action needed

- **Identifying and delineating transhumance corridors to control the movements of cattle herds**
- **Supporting the provision of veterinary supplies for the treatment of livestock belonging to herders**
- **Consult experts on transhumant pastoralism in Central Africa to explore the best ways to improve relations with and integrate Mbororo pastoralists into the local communities.**

Here we look at options for addressing the conflicts between local communities and transhumant pastoralists that have arisen from competition for natural resources, negative environmental impacts caused by their cattle herds, and management of those environmental impacts. Once the region becomes more stable, the activities of transhumant pastoralists that have provoked tension could be reduced or controlled by:

1) Identifying and delineating transhumance corridors to control the movements of cattle herds and restrict their impacts to narrower areas, circumventing protected areas.

By avoiding protected areas, environmental degradation of these important habitats would be minimized. Containing movements of the cattle herds may also geographically restrict poaching by the herders and avoid disease transmission to wildlife. Establishing corridors will require rational land-use planning in consultation with all stakeholders. Transhumance corridors have been successfully created and managed in West Africa, where both farmers and pastoralists recognize the importance of corridors for their peaceful coexistence (Alidou 2016). Marked migration routes also minimize the trampling of crops. It will also be necessary to provide watering points, veterinary posts and cattle resting areas (ICG 2014b). Additionally, the construction of infrastructure, such as roads and cattle markets, will enable local populations to benefit from the Mbororo's passage (ICG 2014b).

CAR's legislation on pastoralism is obsolete (ICG 2014b), therefore CAR and Chad will need to produce a legal framework to regulate cross-border livestock movements. In Chad, investment in water points, regulation of market access, and conflict resolution campaigns have reduced conflict and achieved more sustainable use of resources by transhumant pastoralists (ICG 2014b; IOM 2014).

CAR's legislation on pastoralism is obsolete (ICG 2014b). CAR and Chad should produce a legal framework to regulate cross-border livestock movements. In Chad, investment in water points, regulation of market access, and conflict resolution campaigns have reduced conflict and achieve more sustainable resource use by transhumant pastoralists (ICG 2014b; IOM 2014).

2) Supporting the provision of veterinary supplies for the treatment of livestock belonging to herders who do not transgress the boundaries of PAs and also agree to collaborate with efforts to combat wildlife trafficking. As well as motivating compliance with conservation, treating cattle would reduce the threat that diseased cattle pose to wildlife (e.g. IUCN & OIE 2014).

In CAR, this could be done through the National Federation of Central African Livestock Producers (*Fédération Nationale des Éleveurs Centrafricains*, FNEC). FNEC is a regulatory and support body that was established (as an association) by the government of CAR in 1973. The Federation has had a chequered history and its offices were destroyed in 2013, but it continues to operate primarily to facilitate veterinary drug marketing and distribution

(MCDMR 2015). FNEC's income comes mainly from membership fees and reportedly also from profits on drug sales and, in the past, 60% of all herders were fee-paying members (World Bank 1986). FNEC could again become the interface between pastoralists and local authorities and, if provided with financial and logistical resources, could help to promote the regulation of transhumance.

3) Consult experts on transhumant pastoralism in Central Africa to explore the best ways to improve relations with and integrate Mbororo pastoralists into the local communities.

Advice could be sought through the IUCN World Initiative for Sustainable Pastoralism (WISP), and through the Pastoralist Portal (www.iucn.org/wisp), managed by WISP[1], which serves as "a shortcut to understanding some of the key, emerging or contentious issues related to sustainable pastoral development". It also provides links to online resources and agencies working on issues relevant to pastoralism. In addition, the Convention on Biological Diversity (CBD Secretariat 2010) has developed best practice guidelines on pastoralism. This document covers overuse of water resources, overgrazing, livestock-wildlife conflicts, and positive environmental impacts. See below (pg. 66) for further recommendations.

Mbororo herders with cattle in CAR

17 https://www.iucn.org/theme/ecosystem-management/our-work/global-drylands-initiative/iucns-work-drylands/closed-projects-and-initiatives/world-initiative-sustainable-pastoralism-wisp

e) Online tools for conservation planning

USAID has produced a wealth of resources to assist conservation planning. These are freely available online, including a series of "How-To" guides, such as how to define appropriate outcomes and indicators for monitoring and evaluation (USAID 2016b). Theory of Change (ToC) is explained (USAID 2016a) as "a decision support tool that illustrates the causal links and sequences of events needed for an activity or intervention to lead to a desired outcome or impact and articulates the assumptions underlying each step in the chain". This approach provides a framework for planning activities and for evaluating whether desired outcomes and impacts have been achieved.

A Biodiversity Cross-Mission Learning Program is being implemented by USAID's Bureau for Economic Growth, Education, and Environment (E3)'s Office of Forestry and Biodiversity (FAB). This Learning Program is designed to increase the effectiveness of strategic approaches by improving understanding of the factors that determine the outcomes of biodiversity programmes. USAID's Learning Lab (https://usaidlearninglab.org) provides a mechanism for accessing and contributing to a repository of tools and resources for conservation planning. A Collaborative Learning Group has recently produced a *CWT Learning Agenda* (USAID 2017b) for combating wildlife trafficking, and a CWC toolkit (USAID 2017c) for combating wildlife crime.

https://usaidlearninglab.org

The authors of the toolkit reviewed a range of strategic approaches and selected 10, which provide broad starting points for any CWC strategy. These include building law enforcement capacity and reducing tolerance and opportunities for corruption.

Good governance

Most of the resources cited invoke corruption as an obstacle to effective implementation of conservation programmes. Biggs *et al*. (2017) refer to "governance challenges" and define corruption as "the abuse of public office for private gain". Corruption facilitates the operations of both specialist and opportunistic poachers and wildlife traffickers, who use a wide range of methods, including providing critical information to poachers and supplying weaponry (Wittig 2016). Both grassroots, opportunistic criminals and powerful networks are facilitated by corrupt officials, from low-level field personnel who can be bribed upwards (Wittig 2016).

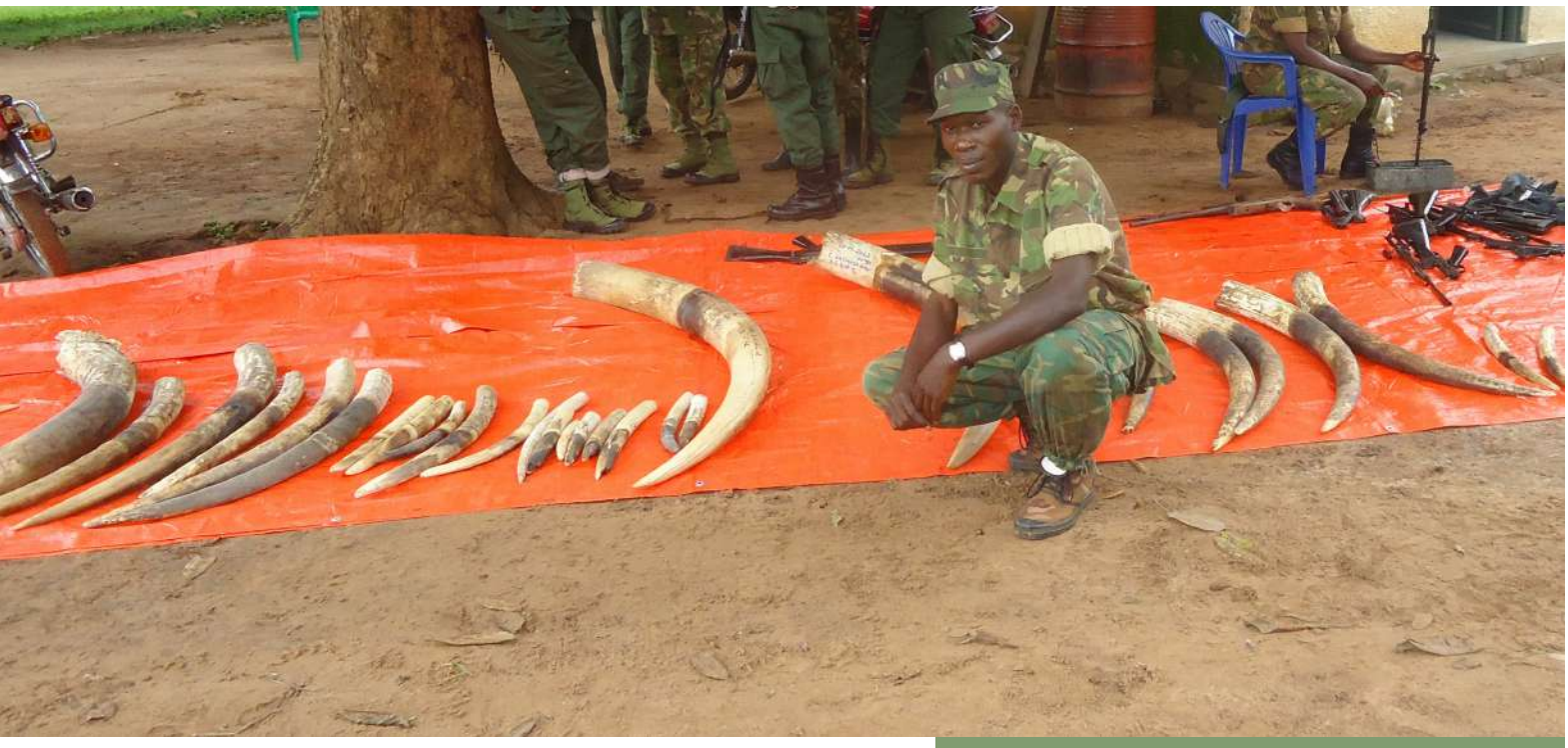
Traffickers choose the path of least resistance. Wyatt and Cao (2015) spotlight some basic facts of life for wildlife rangers: PAAs provide healthcare coverage for their employees, but if an agent is killed in the line of duty, there may be no provision to care for his family. Therefore, to ensure the future welfare of his wife and children, a ranger threatened with violence may be persuaded to take a bribe (Wyatt & Cao 2015). Similarly, rangers' salaries are often low compared to the value of the wildlife that they are charged with, yet they may have significant discretionary powers and little supervision, which allows opportunities for corruption. To create a more robust force, States should improve the rates of pay of rangers, and officers of Customs and border agencies, so that they will be less tempted by small bribes (Wyatt & Cao 2015).

Limiting corruption in wildlife trafficking will require a multi-faceted holistic approach (Wyatt & Cao 2015). The organized crime networks could not operate as effectively as they do without the corrupt officials.

Bili rangers training

Garamba park rangers discover bush meat smoking on a rack at a poachers' campsite

Garamba rangers training for combat



Park rangers display tusks recovered Garamba National Park

Poached leopard skin confiscated by patrol in Bili

CONCLUSIONS

Elephants in Garamba National Park

Buffalo poached by nomadic herders in Chinko

The communities living in settlements at the peripheries of the PAs in the Garamba-Bili-Chinko landscape exert strong pressures on natural resources, upon which they are highly dependent. They often engage in unsustainable activities, especially hunting and poaching, which has become their number one source of income.

Focus group discussions and interviews in the villages across the landscape indicated that the armed groups are involved in poaching and wildlife trafficking are the LRA, armed groups and militia from the Sudans, and armed pastoralists. Due to a tendency for interviewees to refer to all pastoralists as Mbororo, all armed pastoralists as Uda, Sudanese poachers as Janjaweed and South Sudanese rebel groups as SPLA, the diversity of groups involved in poaching is likely to have been under-represented in this report. Nonetheless, it is clear that organized illegal hunting and trafficking of wildlife by armed groups and highly-militarized poachers is severely threatening the survival of some of the region's iconic species.

"Conservation organizations must be fully supported and strengthened, so that they can continue to defend wildlife and their ecosystems against the enormous pressures currently being exerted upon them."

This study also highlighted some of the challenges being posed by transhumance migration, and the conflicts between nomadic pastoralists and rural communities. Ways to regulate the movements of large cattle herds (by, for example, formal identification and delineation of specific migratory corridors) are urgently needed before this situation worsens. Three years ago, it was clear that the regulation of cross-border transhumance could not be undertaken until the crisis in CAR was resolved (ICG 2014b). Sadly, the security situation in CAR has continued to deteriorate.

With civil conflicts being fought in CAR, DRC, South Sudan and Sudan, violence, political instability and displacement still rock this region. The restoration of security is essential for normal activities to be resumed and a prerequisite for new programmes to be implemented.

Fortunately, there is a dedicated conservation presence working in the protected areas of this landscape. These conservation organizations must be fully supported and strengthened, so that they can continue to defend wildlife and their ecosystems against the enormous pressures currently being exerted upon them. However, the challenges they face are enormous, and will not be overcome unless security is restored, corruption is controlled and the flow of arms curbed. As Felbab-Brown (2015) noted, "without routing out pervasive corruption and breaking the economic incentives for local communities to participate in or tolerate poaching, the bush wars will be lost, no matter how heavy the rangers' equipment".

RECOMMENDATIONS

A. Recommendations to USAID

Thematic Area 1: Illegal Activities & Law Enforcement

No.	Intervention	Key Partners
1.1	Promote public information campaigns that highlight Endangered and other protected species, legislation, law enforcement and corruption. Many people in this region are not sufficiently aware of the different levels of legal protection afforded to various species of wildlife—that some species are "fully (integrally) protected", others only "partially protected" and some not protected at all. These distinctions should be emphasized and efforts made to clamp down entirely on the killing of Endangered and other protected species. USAID could support such campaign activities through their government and NGO partners.	ICCN, MEFET, NGOs, USAID
1.2	Support deliberate expansion of existing Early Warning Networks to encompass poaching and illegal wildlife trade (see Appendix V).	USAID, NGOs, ICCN, MEFET
1.3	Undertake a detailed investigation of trafficking of wildlife along the Rafaï-Obo axis in CAR, focussing on Zemio, which is acknowledged to be a regional centre of wildlife trade. Commission research to determine species and volumes being traded along these trafficking routes and through the transit hubs.	NGOs, ICCN, MEFET, USAID
1.4	Support the restoration of State authority and law enforcement in CAR and DRC, through for example, funding ongoing disarmament, demobilization and reintegration (DDR) campaigns.	USAID, NGOs, FBOs

Thematic Area 2: Local Communities and Livelihoods

No.	Intervention	Key Partners
2.1	Consult with bushmeat experts and other livelihoods specialists to assess alternative economic activities, and to determine appropriate incentives to reduce poaching.	USAID, NGOs, ICCN, MEFET
2.2	Based on the outcomes of 2.1, support alternative pro-conservation, economic incentives for communities located in the vicinity of protected areas to discourage illegal bushmeat hunting and other poaching and/or trafficking activities.	USAID, NGOs, ICCN, MEFET
2.3	Use a Theory of Change framework and existing models, such as the Beyond Enforcement initiative, to improve evidence-based programming designed at the community or landscape level.	USAID, IUCN, IUCN-SULi, NGOs, ICCN, MEFET

Thematic Area 3: Mbororo Pastoralists and Transhumance

No.	Intervention	Key Partners
3.1	Consult experts on transhumant pastoralism in Central Africa, through, for example, the IUCN World Initiative for Sustainable Pastoralism (WISP), to explore the best ways to improve relations with and integrate Mbororo pastoralists into the local communities.	Governments of CAR & DRC, USAID
3.2	Seek agreement on the cross-border migration of cattle herders into CAR and DRC. Facilitate dialogue and negotiations with the governments of Chad and South Sudan.	Governments of CAR & DRC, USAID

Thematic Area 4: Transboundary Collaboration in Support of Wildlife Conservation

No.	Intervention	Key Partners
4.1	Facilitate NGO communications and co-ordination with USAID in South Sudan, along with information sharing between the conservation bodies on the ground in the tri-border area. For example, support the development of an MoU between the agencies responsible for protected areas to facilitate information- and intelligence-sharing, and collaboration on cross-border security and counter-wildlife trafficking efforts.	USAID
4.2	Support broader transboundary collaboration through the establishment of a permanent consultation platform on wildlife protection and counter-wildlife trafficking involving CAR, DRC, South Sudan and Sudan. Such a platform could bring together local administrators from each country, PA managers (representatives of the States and their partners), local communities, law enforcement agencies and civil society.	Governments of CAR & DRC, ICCN, MEFET, USAID, NGOs, FBOs, AUC-DREA
4.3	Assist in strengthening diplomatic relationships between the countries affected by organized poaching in the GBC landscape (CAR, DRC, South Sudan and Uganda). This could improve border security and biodiversity conservation, as well as ensuring the integrity and security of the landscape. To that end, those countries and their partners could host a meeting with donors and strategic organizations working in the region to review security issues and illegal wildlife trafficking thoroughly, and plan to secure the future of the landscape.	USAID, AUC-DREA, strategic partners and donors

B. Recommendations to governments in the region and the wider conservation community

No.	Intervention	Key Partners
1.5	Support a campaign of urgent action for Chimpanzees. The importance of these Endangered great apes and of the unique populations in this landscape seems to be completely underestimated—if recognized at all—not only by the local communities, but also some of the institutions and agencies working in the region.	ICCN, MEFET, NGOs
1.6	Reinforce efforts to prosecute perpetrators of environmental crimes, especially poaching and trafficking of Endangered and other protected species. Revise and standardize wildlife legislation at the regional level with harmonized penalties commensurate with the crimes committed.	ICCN, MEFET, Environmental Inspectors, Police, Customs, NGOs
1.7	Review existing amnesty measures and consider implementing a system to reclaim guns, ammunition and other poaching apparatus by instituting an amnesty period during which individuals can relinquish their guns and equipment to local authorities without being questioned about their legal status or penalized for their use.	Governments of CAR & DRC
1.8	Strengthen the capacities of key law enforcement and wildlife crime enforcement officials on legal and procedural matters.	Ecoguards, Police, Armed Forces, Office Congolais de Contrôle (OCC), Customs, Magistrates

Thematic Area 2: Local Communities and Livelihoods

No.	Intervention	Key Partners
2.4	Develop multi-stakeholder consultative platforms on local resource use and benefit sharing to enhance dialogue, communications and collaboration among key stakeholders living in and around protected areas.	ICCN, MEFET, IUCN, IUCN-SULi, NGOs, FBOs

Thematic Area 3: Mbororo Pastoralists and Transhumance

No.	Intervention	Key Partners
3.3	Identify and delineate transhumance corridors that would control the movements of large cattle herds and thus restrict their impacts to narrower areas, avoiding protected areas. A legal framework governing livestock movements would also be needed.	Governments of CAR & DRC, NGOs
3.4	Support provision of vaccine kits and other veterinary supplies for the treatment of livestock belonging to herders who do not transgress the boundaries of protected areas and agree to collaborate with efforts to combat wildlife trafficking. As well as motivating compliance with conservation, treating cattle would reduce the threat that diseased cattle pose to wildlife. In CAR, this could be done through the National Federation of Central African Livestock Producers *(Fédération Nationale des Éleveurs Centrafricains*, FNEC).	Governments of CAR & DRC, USAID

Thematic Area 4: Transboundary Collaboration in Support of Wildlife Conservation

No.	Intervention	Key Partners
4.4	Implement and extend mechanisms for cross-border collaboration to include South Sudan and Uganda. For example, bi-lateral MoUs such as those existing between Uganda and Kenya, or South Africa and Mozambique, could outline specific areas of collaboration and capacity related to illegal wildlife trade to support mutual legal assistance (MLAs) for evidence gathering and international prosecutions.	USAID

Girl in Bili village

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Mural in Bangassou, CAR

Garamba rangers marching to LRA camp

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APPENDIX I: SOURCE OF GIS DATA

Appendix I. Sources of GIS Data

This appendix lists information on protected areas in the GBC landscape that is available in the online Interactive Forest Atlas of the Central African Republic (http://caf.atlas-forestier.org/) and the Interactive Forest Atlas of the Democratic Republic of Congo (http://cod.forest-atlas.org/).

The Ministry of Water, Forests, Hunting and Fishing and World Resources Institute (WRI) manage the CAR Atlas. The Ministry of the Environment and Sustainable Development and WRI manages the DRC Atlas. Both websites incorporate data from Global Forest Watch (GFW) http://www.globalforestwatch.org/

GIS shapefiles from the Atlases can be downloaded here:
CAR http://caf-data.forest-atlas.org/datasets?sort_by=created_at
DRC http://cod-data.forest-atlas.org/datasets?sort_by=created_at

GIS shapefiles and other information about the protected areas can also be downloaded from the UNEP-WCMC World Database on Protected Areas (WDPA) http://www.wdpa.org/

1. GARAMBA COMPLEX

The Garamba complex encompasses the Garamba National Park and Azande, Gangala-na-Bodio and Mondo-Missa hunting domains.

Garamba National Park, IUCN Category II. Area: DRC Atlas 5,112.0 km², WDPA reported 4,937.2 km², WDPA GIS 4,981.7 km², Hillman Smith *et al.* 2014 4,900 km²

Azande Hunting Domain (Domaine de Chasse des Azandé), IUCN Category VI. Area: DRC Atlas 4,057.9 km², Hillman Smith *et al.* 2014 2,892 km²

Gangala-na-Bodio Hunting Domain (Domaine de Chasse de Gangala-na-Bodio), IUCN Category VI. Area: DRC Atlas 3,737.5 km², Hillman Smith *et al.* 2014 2,652 km²

Mondo-Missa Hunting Domain (Domaine de Chasse de Mondo-Missa), IUCN Category VI. Area: DRC Atlas 1,827.0 km², Hillman Smith *et al.* 2014 1,983 km²

WDPA combines the three hunting domains. Area: WDPA reported 9,829.3 km² GIS 9,924.6 km². Total area of the Garamba Complex in DRC Atlas is 14,734 km², 14,767 km² WDPA reported, 14,906 km² WDPA GIS and 12,427 km² in Hillman Smith *et al.* (2014)[1].

2. BILI COMPLEX

The 43,400 or GIS 43,751.6 km² Bili complex includes the Bili-Uéré Hunting Domain, the Bomu Hunting Domain and the Bomu Wildlife Reserve.

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[1] Discrepancies with surface areas in GIS can be attributed to two main factors (J. Kalpers, pers. comm.):
- Accuracy of data: this relates to the source of information used to digitise polygons (sat images, old maps, ground data), and/or:
- Topography: whether or not the surface area derives from a Digital Elevation Model (DEM) or just a 'flat' polygon.

Bili-Uéré Hunting Domain (DC de Bili-Uéré), IUCN Category VI, Area: DRC Atlas 32,689.66 km², WDPA reported 32,748.4 km², WDPA GIS 33,009.7 km².

Bomu Hunting Domain (DC de Mbomou), IUCN Category II. Area: WDPA reported 4,125.6 km², WDPA GIS 4,152.0 km².

Bomu Wildlife Reserve (Reserve de Faune du Mbomou), IUCN Category Ib. Area: WDPA reported 6,541.5 km², WDPA GIS 6,589.9 km².

The DRC Atlas combines the Bomu Hunting Domain and Bomu Wildlife Reserve as Réserve de Faune du Bomu. Area: 10,667.1 km² (same as WDPA reported areas combined).

3. CHINKO

The CAR Atlas shows four separate hunting zones (zones d'intérêt cynégétique, ZIC), all created in 1972 and which do not have an IUCN classification. Chinko is not in the WDPA.

Mbari Area in Atlas 3,254.5 km²

Chinko Area in Atlas 4,095.3 km²

Vovodo Chinko Area in Atlas 3,539.2 km²

Bas Chinko Area in Atlas 8,241.8 km²

Total area of ZICs in Atlas 19,130.8 km²

Chinko Project Area: 17,600 km² (source The Chinko Project).

4. DROPBOX LINK

The following link is to a Dropbox folder containing GIS data and additional maps of the Garamba-Bili-Chinko landscape:

https://www.dropbox.com/sh/5wgfa678x0djn6a/AACA9ZvOGmC6xBJnHE2SrTn9a?dl=0

APPENDIX II:
AWF 2016 BILI UELE LANDSCAPE STRATEGY

AFRICAN WILDLIFE FOUNDATION

Bili-Uele Landscape Strategy: Summary Document 2016-2021

January 2016

African Wildlife Foundation (AWF)

This is an abridged version of the full strategy. For the full strategy, contact AWF.

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Citation: African Wildlife Foundation. Bili-Uele Landscape Strategy. 2016-2012. Nairobi, Kenya.

EXECUTIVE SUMMARY

AWF recognizes the outstanding biodiversity and ecosystem services value of the Bili-Uele Landscape in the northern Democratic Republic of Congo, as well as the significant threats which it faces. Its lowland forests, savannah mosaic, river systems, eastern chimpanzee, forest elephant, and lion are AWF conservation targets, as well as global conservation priorities. These targets are 'umbrella targets;' benefits from interventions, which are designed to conserve these targets, are intended to support the protection of the complete and nested suite of biodiversity in the landscape.

The threats to the landscape are multiple, intertwined and escalating. The Bili-Uele Landscape has, until recently, been considered one of the most pristine and untouched ecosystems in central Africa, home to one of the Congo Basin's last concentration of large mammals, and the largest remaining continuous population of chimpanzees on the continent, referred to as a "mega-culture." Researchers indicate, however, that this fauna is under imminent threat of rapid depletion or extirpation. Poaching (inclusive of trapping for live trade) is the most significant threat to the wildlife of Bili-Uele; rapid increases in poaching north of the Uele River can be correlated to an invasion of artisanal diamond and gold miners from 2007. Mining, agricultural expansion, logging, settlement and transport network expansion are cumulatively contributing to habitat loss, degradation and fragmentation, while driving socio-economic and cultural change, which exacerbates the poaching threat.

The drivers of these threats include poor to non-existent protected area management until recently, poverty, poor local governance, poor planning, lack of local, regional and national political commitment and coordination, few economic incentives for conservation, and limited protein alternatives. There is also persistent insecurity in the landscape due to the transboundary movements of the Lord's Resistance Army (LRA) LRA, as well as increasing transhumance in the north of the landscape by Mbororo pastoralists and associated conflicts. These drivers and related threats are expected to increase substantially in scope and severity over the next 5 years due to increased access, migration from CAR and increased access.

Based upon the value of the landscape, the escalation of threats, and the significant opportunities to ensure effective biodiversity conservation, AWF committed to work with Institut Congolais pour la Conservation de la Nature (ICCN) to conserve the Bili-Uele Landscape for a sustained period of time. AWF designed a robust and multi-faceted program of work in consultation with stakeholders to assist in ensuring, along with key partners, the long-term ecological integrity of the landscape.

The strategy includes three focal areas:

1. the Bili-Uele Protected Area Complex (BUPAC), comprising parts of the Bili-Uere, and Mbomu Domaines de Chasse, and Mbomu Faunal Reserve, constitutes the initial spatial focus for biodiversity conservation efforts;
2. surrounding rural land comprises the focus for engaging with communities around economic activities such as mining and agriculture; and
3. urban centers related to BUPAC via the bushmeat trade constitute a focus for education and awareness-building.

The key conservation actions which AWF intends to implement are as follows:

Conservation Action I:	Improve PA management & protection
Conservation Action II:	Improve community livelihoods
Conservation Action III:	Increase awareness of bushmeat and poaching & enhance law enforcement
Conservation Action IV:	Improve informal mining sector, reducing impact and increasing revenue
Conservation Action IV:	Influence large scale infrastructure projects to minimize ecological and social impact

AWF will also work proactively with other ongoing projects, such as USAID's Secure, Empowered, Connected Communities (SECC) program for communities threatened by the LRA, implemented by the Catholic Relief Services, and FAO programs in the landscape, to ensure cross-project synergies and effective outcomes.

AWF's overall goal is to support the conservation of the biodiversity and ecological integrity of the Bili-Uele Landscape in a way that engages local authorities and communities. In all of its activities, AWF will work to implement programs that result in the ecological, economic and social sustainability of the landscape.

Purpose of the Strategy

The Bili Uele Landscape Strategy has arisen out of AWF's expanding engagement in Central Africa. Bili Uele is one of the 38 priority landscapes representing outstanding conservation value, as identified in AWF's Landscape Conservation Process. It is a focal landscape for AWF in the DRC, alongside Maringa-Lopori-Wamba Landscape. This strategy is nested in AWF's organisational strategic plan. After years of planning with the ICCN, AWF initiated activities in the Bili Uele Landscape in 2015. This strategy outlines how AWF intends to scale up its activities in the landscape and leverage new opportunities for greater impact. It is therefore timely for a strategic framework to guide a proactive approach and activities in Bili Uele into the future.

This strategy is intended to ensure efficacy and impact of AWF's conservation activities in the Bili Uele Landscape. It outlines the key conservation challenges in the landscape, the drivers of biodiversity loss, and identifies opportunities and priorities for action which attend to these drivers. The strategic framework is intended to guide all programmatic planning and implementation, and to ensure synergy between AWF's activities and those of partners.

The ultimate goal of the strategy and AWF's program in the landscape is to ensure the *ecosystem resilience* of the Bili Uele Landscape in the face of increasing pressures, such that its important biodiversity and associated ecological processes maintain functional health and continue to support wildlife and people into the future.

1. Landscape Overview

Geographical Location

The Bili-Uele Landscape, as conceptualized by AWF, comprises the Bili-Uele Protected Area Complex (BUPAC), the Rubi-Tele Domain de Chasse and the various proximal zones of human habitation and activity north and south of the Uele River. It is situated in the Bas-Uele District of Orientale Province, northern Democratic Republic of Congo (DRC), and is bordered to the north by the Central African Republic (CAR). BUPAC covers approximately 50,000 km² (Figure 1). The southern and northern limits are the Bili and the Mbomu Rivers respectively, between 24°E and 25°E. The eastern and western limits are the south-north roads/tracks from Bili-Badday (35km)-Adama (105km)-Mbomu (55-60km), and from Yakpa via Ndamala and Bakpolo up to the Mbomu River.

Figure 1. The location of the Bili Uele Landscape, Province Orientale, northern DRC (Source: Revised from Brittanica)

The large landscape encompasses four protected areas, the first three are clustered together and north of the Uele River and the fourth south of the Uele River (see Figure 2):

1. Bili-Uéré Domaine de Chasse, 32,700 km², created in 1974 and defined as a partial faunal reserve with low protection status;
2. Mbomu Domaine de Chasse, 4,124.62 km² , adjacent to Bili-Uéré Domaine de Chasse and defined as a partial faunal reserve with low protection status;
3. Reserve de Faune du Mbomu, 6,546.4 km², defined as a faunal reserve with total protection status;[1] and
4. Domaine de Chasse de Rubi-Tele, 9,080 km², created in 1930 and defined as a partial faunal reserve with low protection status. (Figure 2). This area is extremely remote and characterized by very low human density (<2 individuals/km²) with a forest cover loss rate in the past ten years at less than 0.5%. (Plumptre *et al* 2010)

[1] Areas based on the World Database of Protected Areas

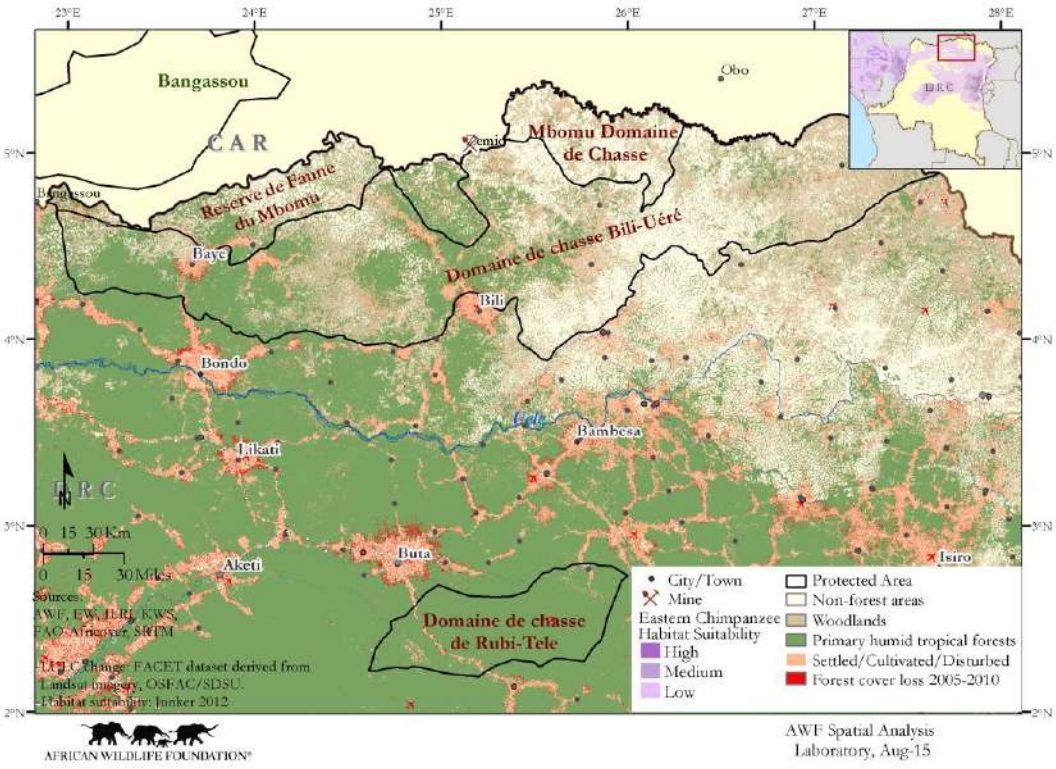


Figure 2. Bili-Uele Conservation Context

Given the large scale of this landscape and historical lack of conservation management,[2] in 2013 AWF initiated conservation work in Bili Mbomu, an 11,000 km² area forest savannah complex that encompasses part of Bili-Uéré Domaine de Chasse and Reserve de Faune du Mbomu. The decision to focus activities in this area was based on literature review, landscape and wildlife surveys, AWF scoping, local and national consultations, and satellite map analysis on deforestation trends. Bili Mbomu is a highly biodiverse area, and has low human density, low forest cover loss and prominent geographical identification markers within the broader landscape. It also encompasses what is referred to as the Bili-Gangu zone which was identified by researcher Cleve Hicks[3] as a conservation priority due to the large number of chimpanzees, elephants and lions at this site.

[2] This document will refer to historical lack of management; however, as of January 2015, AWF in partnership with ICCN has established management presence in parts of the landscape as described herein.
[3] Max Planck Institute.

Figure 3. Bili Mbomu, 11,000 km² core area where AWF started conservation management, a priority because of high biodiversity.

Physical Features and Climate

The Uele River bisects the landscape, resulting in two distinct but contiguous habitat types. North of the Uele River is primarily savannah and savannah woodland, with islands of old-growth moist tropical forest, and numerous streams and rivers, accompanied by gallery forests. This area comprises the endangered Northern Congolese savannah mosaic region. South of the Uele River is predominantly vulnerable Congolese lowland forest region.

The landscape falls in Central Africa's humid, tropical zone, and under the Uele Eco-Region, which typically exhibits an extended wet season (March to November) and short dry season of approximately three months (December to February). Average annual rainfall in the lower-elevation, densely forested areas south of the Uele River is 1,600–1,700 mm, while the higher-elevation savannah mosaic receives approximately 1,200–1,500 mm. The mean average temperature for the Uele Eco-region is 24^0 C. (Thieme *et al* 2005)

Key Ecosystem Goods and Services

The Bili Uele Landscape forms part of the Uele Freshwater Ecoregion (Thieme *et al.* 2005) and serves as a key water catchment in the Congo Basin, providing clean water to human populations in the Orientale Province and Congo Basin more broadly. The Uele River is a tributary to the Ubangi River, which is a tributary to the Congo River (Figure 6). The Uele River's catchment covers 139,700 km². The Landscape also provides a key source of food, in the form of bushmeat, for the region's inhabitants, as well as multiple benefits from the use of wood, energy and construction.

Fauna and Flora

The Bili-Uele landscape is considered continentally outstanding for its biological distinctiveness (Thieme *et al* 2005). Over half of the southern part of landscape falls within the Northeastern Congolian lowland forest terrestrial ecoregion recognized for its global biological significance, high levels of plant endemism, and expanses of forest habitat with intact animal and plant assemblages (Fund 2014).

DRC hosts 14 eco-regions, some of which extend into other countries. The BUPAC region straddles two eco-regions divided by the Uele River and features a complex mosaic of primary forest, savanna woodland, swamp forest, and regenerating forest. South of the Uele, within the Northeastern Congolian Lowland Forest eco-region (Encyclopedia of Earth, 2014), BUPAC vegetation is dominated by lowland, old growth semi-deciduous and sub-montane rainforest. North of the Uele, the rainforest grades into the Northern Congolian forest-savanna mosaic—a narrow transition zone between Congolian rainforests and the Sudanian/Sahelian grasslands. In both the north and the south, riparian forests are often mono-dominant stands of *Gilbertiodendron dewevrei* (Gerard, 190; Hicks, pers. obs.).

It is estimated that the northern forests of the DRC contain half of the remaining free-living chimpanzees in Africa. The landscape is home to an estimated 35-65,000 eastern chimpanzees, an estimated 3-5,000 forest elephants (J. Hart. Pers. Comm.), okapis, and a unique mixture of forest and savanna species, including forest buffalo, eland, hyena, lion, leopard, golden cat, and eight species of monkey (AWF camera traps).

Conservation Management

The Bili-Uéré Domaine de Chasse and is the largest protected area in the DRC. It is classified as a partial faunal reserve (les réserves de faune partielles), resulting in a low level of protection and vague natural resource regulations. It is also absent from conservation documents and did not until AWF intervention have active law enforcement by ICCN (Hicks and van Boxel 2010). Little is known about the area due to its remoteness and lack of presence and few organizations have worked in the landscape. The information gathered to date mainly comes from historical reconnaissance, eco-regional assessments, research from researchers and recent interventions by AWF.

Demographic and Socio-economic Context

The region to the south of the Uele River is much more populated than the region to the north, with larger cities and an abundance of gold and diamond mines[4]. The population density ranges between 6.2 to 18.4 people per km^2. With a population of 55,313 in 2012, Buta is the largest city in this region and has an annual growth rate of 2.15 (Helders, 2012). The area north of the Uele River has a lower population density of 3.5 - 5.2 people/km^2 (Hicks and Van Boxel 2010) and only three major towns the largest which is Bondo (18,576).

This region is dominated by the Azande, with a wider variety of ethnicities present in towns, like Bili, and the area south of the River is dominated by the Baboa (in Buta and Bambesa) and the Babenza (in Aketi). The Bakango and Lokele people, who traditionally practice fishing as their main economic activity, reside along the Uele River, and the Bangalema, a nomadic hunting group, are moving into the southeastern forests of this region. Numerous immigrants from all over the DRC and elsewhere live in and around the larger towns, many of which moved to take advantage of the informal mining sector in the region (Hicks and van Boxel 2010).

[4] Monographie de la Province Orientale, Kinshasa, 2005

Subsistence and commercial activities

The people in this region primarily practice shifting cultivation (on a 3-5 year timescale) along roads and near towns. Approximately 50 years ago, cotton, oil palm, and manioc were grown in this region. Remnants of this past cultivation can be found from the main roads west to the Bo River. Cultivation is now concentrated south of the Uele River near Buta, Aketi and Bambesa; however, there is no train network and road networks have fallen into disrepair preventing local farmers from exporting cash crops which has reduced the viability of the agricultural sector, and contributed to poverty and an increase in bush meat hunting (Hicks *et. al.* 2014). Bush meat hunting is a significant economic activity for local subsistence and commercial markets. There is a growing influx of merchants to Bili town and bushmeat is sold to Kisangani and other larger cities using Bili town as a base hub, (Hicks 2014).

The informal gold and diamond mining industries are extensive in the BUPAC region and expanding. There was an influx of artisanal miners into the Bili-Uere Domain de Chasse in 2007. There are also indications from AWF field consultation that several gold mines, the scale of which is undetermined, in the Bili-Mbomu forest savanna are being planned or developed, though none seemed to be existing during a field visit conducted by AWF staff in 2014. Artisanal mining activities are, however, ongoing especially west of the identified Bili-Mbomu core area. (Hicks and van Boxel 2010).

In 2002, the Wasmoeth Wildlife Foundation initiated a community conservation project at Bili in which they purchased the coffee of the local Azande farmers at a higher price than the market value, in exchange for the local support for the protection of wildlife. This did not stop local elephant poaching, and Wasmoeth suspended the project when mining moved into the area because it violated the agreement made with local chiefs (Hicks 2008b). Zande chiefs have historically shown suspicion to and lack of cooperation with outsiders (Hicks 2014). AWF has and will continue to engage chiefs and planning and operations so as to avoid mistakes made in the paste.

Infrastructural Development

This landscape is currently relatively inaccessible. However, development of infrastructure is being planned. For example, the Pro-Route project is an active project approved in 2008, from the World Bank, which aims to establish access between provincial capitals, districts and territories in three provinces in northern DRC[5] and will potentially have a serious impact on the BUPAC region. (Figure 4) This project will open up the area, providing greater accessibility to formerly pristine forests, and hence pose great challenges to effective biodiversity conservation if not planned appropriately and coinciding with solid conservation measures on the ground.

[5] www.worldbank.org/projects

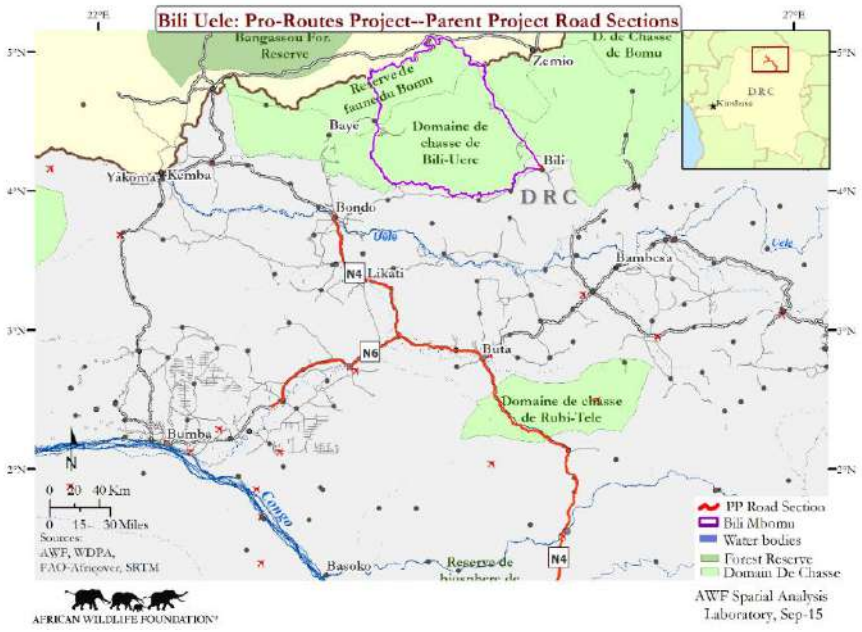


Figure 4. World Bank supported infrastructure project.

Political Context

The landscape has historically experienced poor governance, civil unrest and refugee movements. It is believed that the LRA is currently present in BUPAC, north of the Uele River, having been pushed out of the Central African Republic (CAR) by AU forces. There are fears that north-eastern DRC will start to see increased attacks (Reliefweb 2015). There appears to be a tendency for the LRA to move westwards from Garamba to Bili (Froment, J.M. APN, pers. Comm; Christy, B. 2015.)

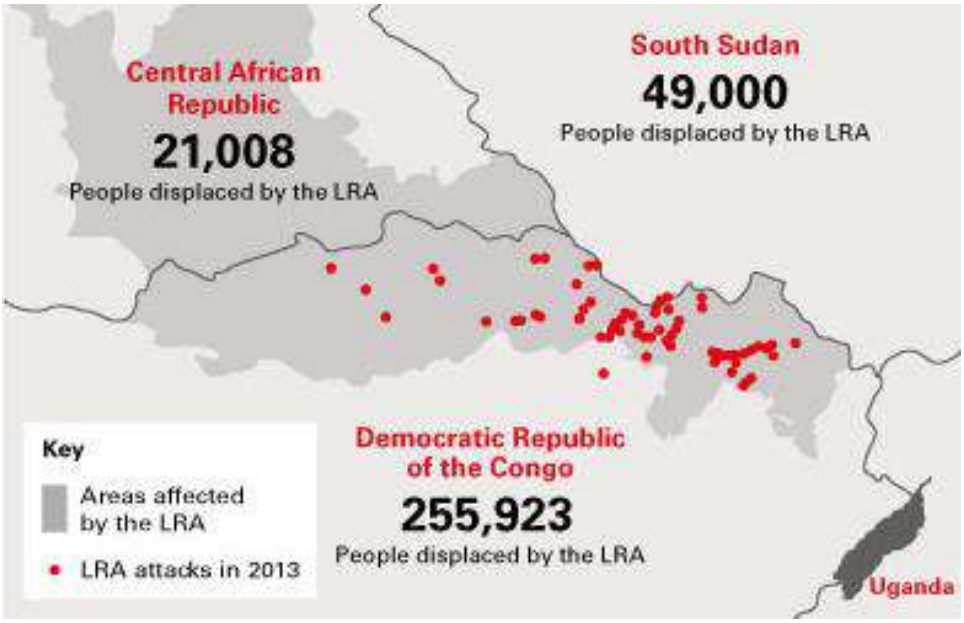
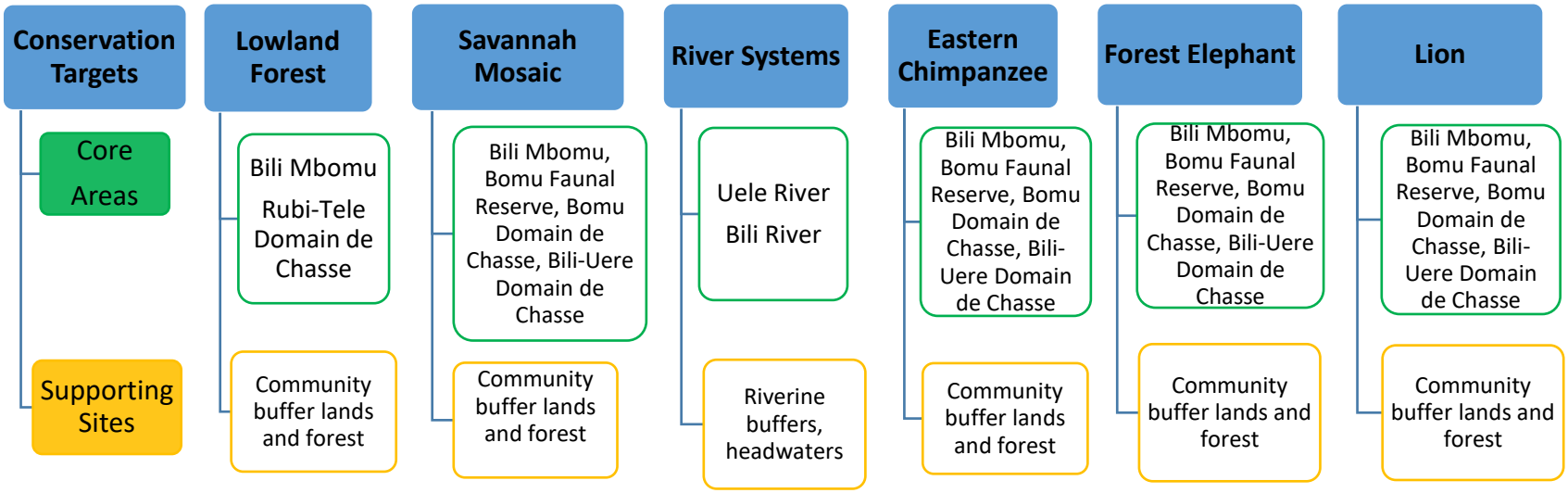


Figure 5. LRA attacked in 2013. (Christian Aid)

2. Conservation Framework

2.1 Conservation Targets & Geographical Location

AWF has selected the following conservation targets for the Bili-Uele Landscape based on ecological importance, overall indicators of ecological health and in line with AWF organizational conservation targets. The core areas refer to the spatial areas that primarily support the targets, followed by supporting sites. Securing and stabilizing protection of the core sites is critical for securing the conservation targets.



NOTE: AWF is currently focusing on the core areas. It will conduct assessments to determine the high priority supporting sites in 2016.

Detailed Description of Conservation Target in Full Version of AWF Strategy. Request from AWF.

2.2 Zonation Map and Table

Zonation Map & Table in Full Version of AWF Strategy. Request from AWF.

2.3 THREAT ANALYSIS

Understanding the drivers/sources of the direct threats to BUPAC, and in turn how these threats variably impact target habitat and species, is critical for developing a robust and holistic series of conservation actions. Conservation actions to a large extent tend to the drivers and sources of the threats, rather than the direct threats *per se*. Future threats not captured here include disease to the chimpanzees.

2.3.1. Table showing relation of direct threats to conservation targets projected over time

	Site-Specific Biodiversity: Bili Uele Landscape					
	Spatial Targets: Habitat Area/Ecosystem Function ↔			Individual Species		
Direct Threats	Lowland Forest	Savannah Mosaic	River systems	Eastern Chimpanzee	Forest Elephant	Lion
Poaching				↑	↑	↗
Artisanal Mining	↑	↑	↑	↑	↑	↗
Agricultural expansion	↗	→	↗	↗	↗	↗
Logging	↑	↗	→	↑	↑	→
Incompatible settlement	↗	↗	↗	↗	↗	↗
Infrastructure expansion	↗	↗	→	↗	↗	↗
Uncontrolled fires and overgrazing		↗		↗	↗	↗

Threat taxonomy:

- Habitat loss, degradation and fragmentation
- Direct target species decline

Threat's impact on biodiversity over last 30 years:

- NA
- Low
- Moderate
- High
- Very high

Current threat trend:

- Decreasing impact (↘)
- Continuing impact (→)
- Increasing impact (↗)
- Rapidly increasing impact (↑)

2.3.2. Table showing current status of relation of direct threats to conservation targets

	Site-Specific Biodiversity: Bili Uele Landscape					
	Spatial Targets: Habitat Area/Ecosystem Function			Individual Species		
Direct Threats	**Lowland Forest**	**Savannah mosaic**	**River systems**	**Eastern Chimpanzee**	**Forest elephant**	**Lion**
Poaching						
Artisanal Mining						
Agricultural expansion						
Logging						
Incompatible settlement						
Infrastructure development						
Uncontrolled fires and overgrazing						
Scope, Severity, Irreversibility	High	Medium	Low	N/A		

Threat taxonomy:

Habitat loss, degradation and fragmentation	Direct target species decline

2.3.3. Table showing relation of direct threats to their direct drivers

		Direct threats						
		Poaching	Artisanal Mining	Agricultural expansion	Logging	Incompatible Settlement	Infrastructure Development	Uncontrolled fires and overgrazing
Direct Drivers	Non-existent/inadequate PA management	x	x	x	x	x		x
	Inadequate awareness of local communities around NRM management	x	x	x	x	x		
	Intensifying bushmeat demand and trade	x						
	Lack of environmental regulation around development				x	x	x	
	Urban population growth	x	x	x	x	x	x	
	Lack of land use planning	x	x	x	x	x	x	x
	Poverty / lack of economic options	x	x	x	x	x		
	Insecurity	x	x					x

2.3.3 Threat descriptions and locations

Detailed Description of threats and locations in Full Version of AWF Strategy. Request from AWF.

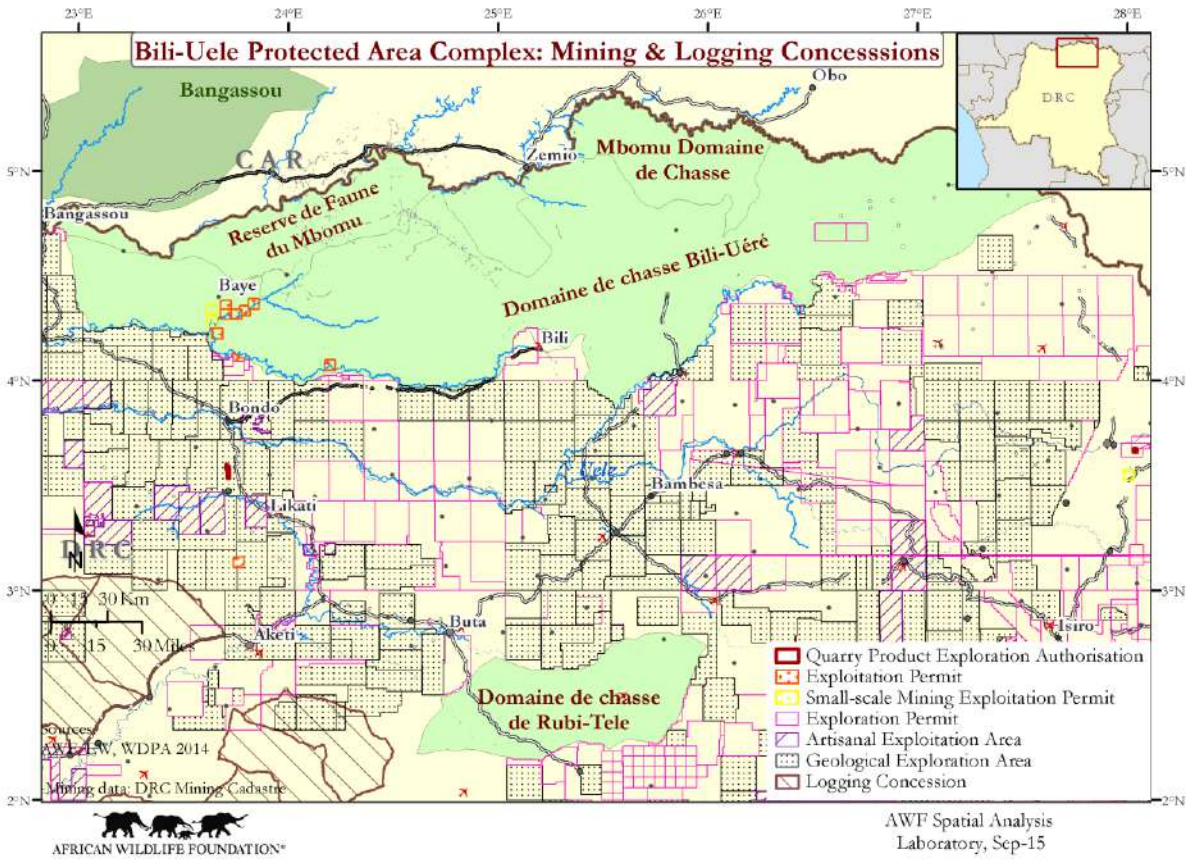


Figure 8. BUPAC mining and logging concessions.

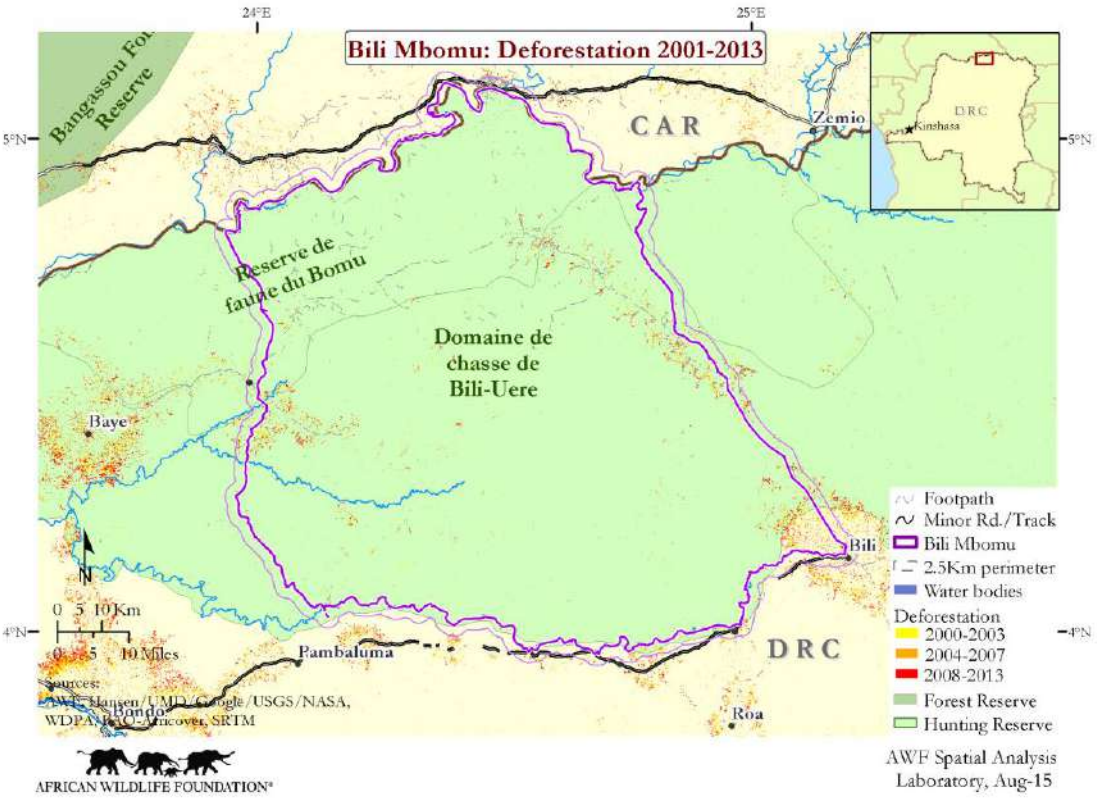


Figure 9. BUPAC land use change and forest loss 2000-2010.

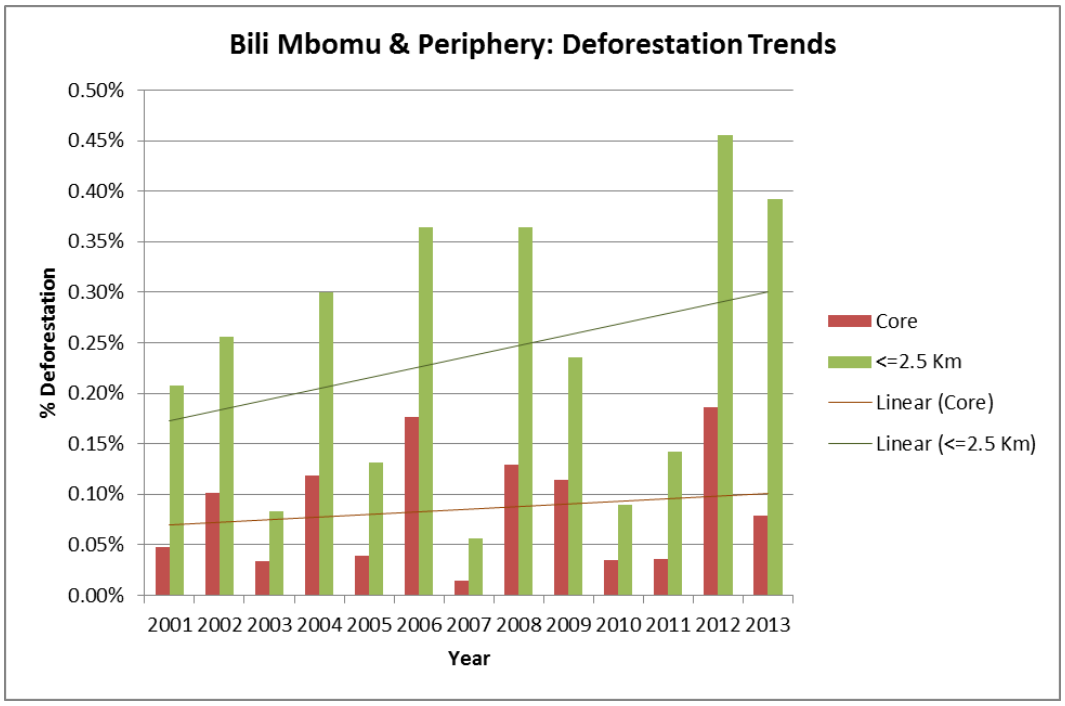


Figure 10. Deforestation trends from 2001-2013 in the Bili Mbomu core area (maroon bars) and the adjacent 2.5km peripheral zone. Source data Tree cover loss (Hansen/UMD/Google/USGS/NASA).

3. Conservation Approach

3.1 Past and Current Conservation Activities

Conservation Activities	Bili Uele Landscape
Law Enforcement	Wildlife protection and law enforcement has effectively been absent from the region from the 1990s until AWF entered the landscape in 2015 with setting up a central office for ICCN in Bili Mbumu, recruiting, training and equipping eco-guards, and introducing Standard of Procedures for anti-poaching.
Long-term Research	Karl Ammann initiated a research and conservation project on the Bili chimpanzees in 1996. Cleve Hicks conducted 2.5 years of research in the region between 2004 and 2009 for his Ph.D. at the University of Amsterdam. There is currently no active research in the landscape.
Permanent Monitoring Program	Surveys were carried out by Cleve Hicks between 2004 and 2009. Recent surveys have been carried out by AWF in 2013-2015. Part of the work AWF is introducing to be completed by the ICCN eco-guards is ecological monitoring through CyberTracker and SMART technology.
Public Awareness & Education	Very little work in terms of public awareness and education has been carried out, and local officials are largely unaware or unconcerned about the protected status of chimpanzees or forest elephants. Once information is gleaned from the AWF work, a public awareness and outreach campaign will be designed.
Ecotourism	There is no eco-tourism in the region and very limited to no potential to develop this.

Figure adapted from ApesWiki 2011 and updated by AWF.

In 2013, AWF provided a grant to the Max Planck Institute for Evolutionary Anthropology, led by Hicks, to provide recommendations on how best to maximize ICCN wildlife protection measures for BUPAC. This report helped design this strategy.

AWF and ICCN signed an MOU (May 2013), to extend their DRC partnership into the Bili-Uele Area and to ensure strong coordination. (Since replaced by a co-management agreement signed 2016).

AWF conducted a scoping mission in February 2014 with ICCN and the Lukuru Wildlife Foundation to better understand the willingness of authorities and local communities to engage in conservation and to evaluate the best programmatic approach. Local communities expressed a desire for ICCN presence and patrols within Bili Mbomu, an interest in participating in wildlife and ecological protection and monitoring and an expectation of transparency in implementation. Thereafter, ICCN expressed its desire for AWF to assist in establishing an effective patrol and protection presence in Bili Mbomu. AWF provided a grant in January 2015, to assist ICCN in establishing operations for Bili Mbomu. This included: opening an ICCN office in Bili; recruitment of key staff, including conservator; equipment acquisition; establishment of patrol and protection protocols; recruitment of 20+ eco-guards (mainly from the local community) and training; baseline data acquisition on key species population distribution and abundance and threat presence and intensity; stakeholder engagement; and the development of a conservation management and surveillance strategy.

AWF and ICCN are in the process of signing a co-management agreement for the BUPAC area, starting in Bili Mbomu, which formalizes AWF's role in this landscape. In November 2015 AWF hired a full-time Technical Advisor with anti-poaching expertise who is based in Bili.

3.2. CONSERVATION ACTIONS

Conservation Action 1: Improve PA management & wildlife protection
Conservation Action 2: Improve community livelihoods
Conservation Action 3: Increase awareness on bushmeat & poaching & enhance law enforcement
Conservation Action 4: Improve informal and formal mining sector
Conservation Action 5: Influence large infrastructure projects to minimize ecological and social impact

Detailed Description of Conservation Actions in Full Version of AWF Strategy. Request from AWF.

3.3 Conservation Actions & Program Categorization

The table below indicates the program areas required for the successful completion of the conservation actions.

	CA I: Improve PA management & protection	CA II: Improve community livelihoods	CA III: Increase awareness on bushmeat and poaching & enhance law enforcement	CA IV: Improve informal and formal mining sector	CA V: Influence infrastructure projects to minimize ecological impact
Cons Science Species Protection					
Land Protection Management					
Conservation Planning					
Large Scale Infrastructure					
Policy & Advocacy					
Law Enforcement Wildlife Trafficking					
Community Program					

3.4 Five Year Program

The section below details AWF's proposed work over the next 5-years in the BUPAC Landscape in direct partnership with ICCN and other partners.

Detailed work plans are in the full strategy document.

BUPAC Program	2016	2017	2018	2019	2020
CA 1: Improve PA management & protection					
Develop GMP using Protected Area Planning Framework					
Annual work plan review and development AWF & ICCN					
Complete baseline: habitat, wildlife and threats					
Complete annual wildlife census					
2.1 Secure Bili Mbomu					
Select, train and equip eco-guards					
Establish & maintain eco-guard posts					
Erect 20 camera traps for wildlife and poaching monitoring					
Develop & support informant networks with communities					
Provide ecological monitoring / anti-poaching training					

Identify capacity needs and build capacity of ICCN Bili Mbomu staff through training					
Collar five lions in landscape & monitor movement					
Establish partnerships with research institutions					
Use new tools for improved monitoring and anti-poaching: drones with integrated Cybertracker/Smart applications					
Demarcate Bili Mbomu boundary					
Support, facilitate and host CoCoSi meetings					
Coordinate security intel with Army, AP, Maisha, and other security related entities					
2.1 Expand conservation management into community forests and Reserve de Bomu, Domain de Chasse de Bomu, Domain de Chasse Bili Uele					
Identify expansion area based on EA, SEA, LUP and ICCN consultation					
Recruit, equip and train eco-guards (pending expansion size)					
Establish eco-guard posts & sub-office					
Erect camera traps					
Implement efficient anti-poaching using CT/SMART					
Provide ecological monitoring / anti-poaching training					
Develop expanded management plan					
Develop BUPAC macro-level plan					
CA 2: Improve community livelihoods					
Identify priority community areas via EA, SEA, local government consultation and ICCN					
Complete Land Use Planning in appropriate locations					
Complete socio-economic assessment					
Complete livelihood assessment					
Implement Livelihood programs based on assessment					
Improve school infrastructure assistance					
CA 3: Increase awareness on bushmeat and poaching & enhance law enforcement					
Train local judiciary in the region and country-wide					
Support law enforcement					
Establish outreach program on bushmeat and trafficking					
CA 4: Improve informal mining sector					
Identify and map mining in BUPAC, and produced report on who is engaged in each site					
Identify mines posing greatest threats					
Assess mines and develop by-laws for environmental safeguards					
Work with local government authorities to implement by-laws					
CA 5: Influence large scale infrastructure and resource extraction projects to minimize ecological and social impact					
Assess status and projected impact large infrastructure projects					
Negotiate mitigated impact and offsets with relevant entities					

3.5 Risk Analysis

Risk Analysis in Full Version of AWF Strategy. Request from AWF.

3.6 Potential Partners

Below is a list of potential partners with whom AWF will work and collaborate. Effective partnerships is key to achieving AWF's conservation objectives.

Stakeholder analysis included in the Full Version of AWF Strategy. Request from AWF.

4. Indicators of Success

Indicators of success table is in Full Version of AWF Strategy. Request from AWF.

5. Entry and Exit Strategy

Exit and Entry Strategy in Full Version of AWF Strategy. Request from AWF.

6. Security Plan

Security Plan in Full Version of AWF Strategy. Request from AWF.

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APPENDIX III: CHINKO MAMMAL SPECIES LIST WITH IUCN RED LIST STATUS

Appendix III. Chinko Mammal Species List with IUCN Red List Status

Source: Chinko Project http://research.chinkoproject.com/species_list

Taxonomic Group	Species Name	Scientific Name	Main Habitat	IUCN Status
Artiodactyla	Black-Fronted Duiker	*Cephalophus nigrifrons*	forest	LC
Artiodactyla	Bongo	*Tragelaphus eurycerus*	forest	NT
Artiodactyla	Bush Duiker	*Sylvicapra grimmia*	savanna	LC
Artiodactyla	Common Hippopotamus	*Hippopotamus amphibius*	generalist	**VU**
Artiodactyla	Common Warthog	*Phacochoerus africanus*	savanna	LC
Artiodactyla	Defassa Waterbuck	*Kobus defassa*	savanna	NT
Artiodactyla	Eastern Bay Duiker	*Cephalophus castaneus*	forest	LC
Artiodactyla	Eastern Blue Duiker	*Philantomba aequatorialis*	forest	LC
Artiodactyla	Eastern Giant Eland	*Tragelaphus derbianus*	savanna	LC
Artiodactyla	Forest Buffalo	*Syncerus nanus*	forest	LC
Artiodactyla	Giant Forest Hog	*Hylochoerus meinertzhageni*	forest	LC
Artiodactyla	Lake Chad Buffalo	*Syncerus brachyceros*	generalist	LC
Artiodactyla	Lelwel Hartebeest	*Alcelaphus lelwel*	savanna	**EN**
Artiodactyla	Loders Kob	*Kobus loderi*	savanna	**VU**
Artiodactyla	Nigerian Reedbuck	*Redunca nigeriensis*	savanna	LC
Artiodactyla	Nile Bushbuck	*Tragelaphus bor*	savanna	LC
Artiodactyla	Red-Flanked Duiker	*Cephalophus rufilatus*	savanna	LC
Artiodactyla	Red River Hog	*Potamochoerus porcus*	forest	LC
Artiodactyla	Roan Antelope	*Hippotragus equinus*	savanna	LC
Artiodactyla	Sudan Oribi	*Ourebia montana*	savanna	LC
Artiodactyla	Water Chevrotain	*Hyemoschus aquaticus*	forest	LC
Artiodactyla	Western Yellow-Backed Duiker	*Cephalophus silvicultor*	forest	LC
Artiodactyla	Weyns Duiker	*Cephalophus weynsi*	forest	LC

Taxonomic Group	Species Name	Scientific Name	Main Habitat	IUCN Status
Carnivora	African Civet	*Civettictis civetta*	generalist	LC
Carnivora	African Golden Cat	*Caracal aurata*	forest	NT
Carnivora	African Leopard	*Panthera pardus*	generalist	NT
Carnivora	African Lion	*Panthera leo*	savanna	**VU**
Carnivora	African Palm Civet	*Nandinia binotata*	forest	LC
Carnivora	African Wild Dog	*Lycaon pictus*	savanna	**EN**
Carnivora	Alexanders Cusimanse	*Crossarchus alexandri*	forest	LC
Carnivora	Banded Mongoose	*Mungos mungo*	savanna	LC
Carnivora	Black Footed Mongoose	*Bdeogale nigripes*	forest	LC
Carnivora	Caracal	*Caracal caracal*	savanna	LC
Carnivora	Common Slender Mongoose	*Galerella sanguinea*	generalist	LC
Carnivora	Egyptian Mongoose	*Herpestes ichneumon*	savanna	LC
Carnivora	Honey Badger	*Mellivora capensis*	generalist	LC
Carnivora	Long Nosed Mongoose	*Xenogale naso*	forest	LC
Carnivora	Marsh Mongoose	*Atilax paludinosus*	generalist	LC
Carnivora	Pousargues or Savanna Mongoose	*Dologale dybowskii*		DD
Carnivora	Rusty Spotted Genet	*Genetta maculata*	generalist	LC
Carnivora	Serval	*Leptailurus serval*	savanna	LC
Carnivora	Servaline Genet	*Genetta servalina*	forest	LC
Carnivora	Spotted Hyena	*Crocuta crocuta*	savanna	LC
Carnivora	White Tailed Mongoose	*Ichneumia albicauda*	savanna	LC
Chiroptera	Epauletted Fruit Bat	*Epomophorus*		DD
Hyracoidea	Western Tree Hyrax	*Dendrohyrax dorsalis*	savanna	LC
Lagomorpha	African Savanna Hare	*Lepus microtis*	savanna	LC
Lagomorpha	Bunyoro Rabbit	*Poelagus marjorita*	savanna	LC
Pholidota	Common African Pangolin	*Manis tricuspis*	forest	NT
Pholidota	Giant Pangolin	*Manis gigantea*	forest	NT
Pholidota	Ground Pangolin	*Manis temminckii*	savanna	LC

Taxonomic Group	Species Name	Scientific Name	Main Habitat	IUCN Status
Primates	Agile Mangabey	*Cercocebus agilis*	forest	LC
Primates	Crested Mona Monkey	*Cercopithecus pogonias*	forest	LC
Primates	De Brazzas Monkey	*Cercopithecus neglectus*	forest	LC
Primates	E. Black & White Mantled Guereza	*Colobus guereza*	forest	LC
Primates	Greater White Nosed Monkey	*Cercopithecus nictitans*	forest	LC
Primates	Northern Lesser Bushbaby	*Galago senegalensis*	savanna	LC
Primates	Olive Baboon	*Papio anubis*	savanna	LC
Primates	Patas Monkey	*Erythrocebus patas*	savanna	LC
Primates	Red Tailed Monkey	*Cercopithecus ascanius*	forest	LC
Primates	Tantalus Monkey	*Chlorocebus tantalus*	savanna	LC
Proboscidae	African Elephant	*Loxodonta africana*	forest/savanna	**VU**
Rodentia	African Brush Tailed Porcupine	*Atherurus africanus*	forest	LC
Rodentia	Crested Porcupine	*Hystrix cristata*	savanna	LC
Rodentia	Forest Giant Pouched Rat	*Cricetomys emini*	forest	LC
Rodentia	Greater Cane Rat	*Thryonomys swinderianus*	generalist	LC
Rodentia	Lesser Cane Rat	*Thryonomys gregorianus*	generalist	LC
Rodentia	Northern Giant Pouched Rat	*Cricetomys gambianus*	savanna	LC
Sciuridae	Forest Giant Squirrel	*Protoxerus stangeri*	forest	LC
Sciuridae	Gambian Sun Squirrel	*Heliosciurus gambianus*	savanna	LC
Sciuridae	Striped Ground Squirrel	*Xeros erythrops*	savanna	LC
Sciuridae	Thomass Rope Squirrel	*Funisciurus anerythrus*	forest	LC
Tubulidentata	Aardvark	*Orycteropus afer*	generalist	LC

APPENDIX IV. DATA COLLECTION SHEETS AND GUIDE USED FOR STRUCTURED INTERVIEWS

Appendix IVa. Survey for villages/local communities. Assessment of poaching

Country_____ Name of the protected area _____

Last and first name of the interviewer: _____

Date of the survey: ___/___/___ Start time: _____ End time: _____

Last and first name of the interviewee: (optional)

_____

Ethnic group/clan affiliation: _____

Village: _____

Prefecture/Department: _____

Sub-prefecture/District: _____

1. Specific objectives of the study

- *Get a better understanding of the removal process of wildlife resources, hunting areas, and times of peak hunting activities;*
- *Assess the populations' level of dependence on wildlife resources found in the massif;*
- *Estimate the contribution of hunting in household income and food;*
- *Estimate the level of pressure on wildlife;*
- *Identify the actors active in the area;*
- *Determine the nature of wildlife products and their destination;*
- *Explore local knowledge on wildlife management;*
- *Identify conflicts related to the exploitation of wildlife and the methods of resolution;*
- *Get a better understanding of the interactions between hunting and logging to explore the opportunities of having both uses in the same area;*
- *Identify the nature of relationships between hunters and the PA administration on one hand, and the other players on the other hand.*

2. Type of hunting, period, areas, distance and time

a. Fill the table below

#	Type	Month of the year	Where it is practiced? (areas)	Distance /walking time
1.	Wire or liana traps			
2.	Gun (local or manufactured)			
3.	Spear or bow			
4.	Barrier			
5.	Hunting by running			
6.	Other?			

b. How much time do you spend for hunting activities in comparison with other activities?

_____

c. At what time of the day do you regularly hunt (day/ night) _____

Destination of hunting products

#	Captured species in order	Quantity (+ least hunted, ++, heavily hunted)	Use of hunting products (by order of importance)				
			Sale	Self- consumption	Ceremony	Barter	Craft
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

1- To whom do you sell the products?

1…..... ❑ 2……, ❑ 3…….❑ Other ……

2- Regarding the sold quantities, who buys the most?

a- Travellers

b- Villagers

c- Traders /(Bayam-Salam) of (city, district, country):

3- What is the average sales price?

Income per month or hunting period? Purpose/use of the profits?

A. Evolution

What do you think of this distance (compared to the time of your grand-parents)?

❑ It is the same as before

❑ It is longer than before

Why? _____

_____

4- According to you, is the game as abundant as at the time of your grandparents?

❑ Abundant ❑ Average ❑ Fair ❑ Rare ❑ None

Explain_____

5- Are some species disappearing? Yes ❑ No ❑

If yes, which ones?

_____

_____

_____

B. Local methods of natural resources management

How do people appropriate hunting territory here in the village?

How are hunting activities organized in the village?

Who decides where to hunt, when to hunt, and which species to hunt?

Who makes the decision about the other forest products? Exploitation?

Are there some constraints to access these resources? How do you work around these constraints?

What are the rules pertaining to resources management at the local level?

What do you need to do for the resources, particularly hunting products, to remain abundant?

What should not be done?

Do the people respect the law? If yes, why? If no, why?

C. Access regulations

Are there reserved hunting areas?

❑ For the villagers? ❑ For some families in the village?

❑ For people from a neighbouring village? ❑ For other people - specify?

6- Are there areas in your territory for which individuals have to request an authorization to hunt?

❑ Yes ❑ No

If yes, which ones? _____

_____

To whom do you ask this authorization? _____

_____

Habits and customs

What is the favourite game here in the village? Why?

Species	Why?

_____

_____

7- According to your traditions and customs, which animal species are prohibited for human consumption?

Species	Custom/ Tradition	Why?

Do you camp when you hunt? Yes ❑ No❑

If yes, when (seasons) and where?

For how long? _____

Where do you stay during this period?

_____

Who else, besides you, stays there?

_____

Are there some rituals before hunting?

Preservation techniques

What are the preservation techniques you use for the wildlife products?

_____

_____

Conflicts

8- Are there any conflicts related to hunting in your area?

Yes ❑ No❑

If yes, which ones?

_____

_____

How are they resolved?

_____

_____

9- Among the people of the village, who are the main hunters by order of importance? (Organization)

❑ Youth ❑ Adults ❑ Old people (age group)

10- Are there female hunters in your village? Yes ❑ No❑

If yes, how many? _____

What is the proportion of hunters compared to the total population of the village?

Hunters_____ Non-hunters _____ ?

Other people outside the village

11- Is hunting practiced by outsiders? ❑ Yes ❑ No

12- Where do they come from? Do they ask for an authorization? If yes, to whom?

_____

_____

Relationships with other types of exploitation (protected areas, mining, logging, safari)

23 – What type of relationships do you have with

a. Protected areas?
b. Logging companies?
c. Mining company (companies)?
d. Safaris?

Knowledge of regulations of laws

24 – Do you know the hunting regulations of your country? Animals prohibited for hunting, hunting seasons?

Knowledge of ecology

25 – Are you aware of the gestation and birthing periods of animals? What do you do during these periods?

Appendix IVb. Assessment of the Mbororo communities in the Garamba-Bili-Chinko landscape

Data collection sheet

Date: **Name of the interviewer:** **Survey #:**

Identification of the camp/village:

Name of the village:

Estimated number of inhabitants: women: men: children:

Nature of the village: concession camp, regular village, agricultural camp, etc.

Presence of a school: yes/no Level taught: Presence of a health centre? Yes/no

Accessibility: paved road, unpaved road, footpath

Identification of the interviewee:

Female/male Name:

Age: Number of children:

Level of education:

Arrival date in the village:

Economic activity:

Main economic activity of the interviewee:

Secondary economic activity of the interviewee:

Main economic activity of the other villagers:

Estimated annual revenue of the surveyed household:

Agricultural activity:

Does the interviewee (or another individual in the household) practice agriculture (or does he/she own fields)? Yes/no

How does access to land work? Free allocation (specify by whom)/monetary payment/payment in kind (share of production or other, specify)

Do you have a land title?

Migration:

Presence of people from outside the village (migrants)? Yes/no Number:

In which commune/country where you born?

Are you a resident of this village? Yes/no Since when?

Are you a visitor? Yes/no At which period do you travel?

For how long? Where do you go?

In which village/country did you live before settling here (village, foreign country)?

Did you participate in the general census of the population? Yes/no. How long is your stay in this village? Do you think you will leave this village one day? Yes/no

Mbororo pastoralists

Did you get authorizations to practice transhumance in this CAR/DRC area? Yes/no

What was the land access process for the transhumance?

Did you get authorizations for your livestock herd to consume the water from the wells or the water points in the village? Yes/no

How do you manage your livestock herds to prevent them from wandering?

Do you know the rules of customary management? Yes/no. If yes, do you respect these rules?

What difficulties have you encountered during the transhumance?

Do you practice transhumance in the area considered sacred? Yes/no

Have you experienced any case of animal poisoning by farmers? Yes/no

Have you experienced any destruction by farmers of livestock crossing trails to pastures? Yes/no

Have you experienced any case of animal wounding by farmers? Yes/no

Have you been threatened by the LRA or Séléka regarding your activities? Yes/no If yes, why?

Have you experienced any conflicts between farmers and pastoralists that ended with the loss of human life and destruction of infrastructures? Yes/no If yes, for what reasons?

Do you know the Garamba/Bili/Chinko park/area? Yes/no Are there any pressures from the Garamba/Bili/Chinko on pastoralists? Yes/no

Is there a transhumance trail? Yes/no Do you usually respect the transhumance corridor? Yes/no If no, why not?

Are the transhumance trails marked? Yes/no. Is there any signage at the different entrances to Garamba/Bili/Chinko? Yes/no

Are there any water points/troughs in or near the protected area? Yes/no Is there a salt pan in or near the protected area? Yes/no

Do you practice transhumance in the Garamba/Bili/Chinko park/area? Yes/no

Is there a consultation framework including the Garamba/Bili/Chinko project staff, the Mbororo pastoralists, and the local communities? Yes/no

Do you have any relationship with the Garamba/Bili/Chinko project? Yes/no Are you involved in the management of the Garamba/Bili/Chinko project area? Yes/no

What are your relationships with the local communities of the neighbouring villages?

Do the local communities and the Mbororo intermarry? Yes/no What are the characteristics?

Do you have any relationships with the administration? If yes, in what circumstance? What is your impression about these contacts?

What are your relationships with the armed groups – Séléka, LRA, and others?

Have you had any conflicts with the armed groups? If yes, which ones:

How did you resolve this conflicts?

Existence of land conflicts? Other specific conflicts?

What are the true causes of conflicts arising between two social groups? What are the visible signs of conflicts in the Garamba/Bili/Chinko area?

What measures were taken/should be taken to sustainably resolve the issues in order to promote sustainable development in this part of the country?

Hunting, fishing, and livestock practices

Do you (or any other individual in the household) practice hunting? Yes/no

Location and distance covered, stay or not

What are the species sought?

What is the frequency of hunting (quantity of game per month or year)?

What do you do with the hunting products? Sale/ self-consumption?

Who comes to buy the hunting products (meat, ivory, skins, trophies, etc.)? What are the products sold?

Did you meet some hunters when passing through forests? Yes/no Which nationality? Sudanese, Congolese, Chadian, Ugandan, other?

Did you participate in the transfer of hunting products? Yes/no If yes, to which destination: DRC, Sudan, Uganda, Chad, other?

What are the extraction ways for poaching products in your knowledge?

Do you rear livestock? Yes/no Which species?

To what purpose? Sale/self-consumption

Do you practice fishing? Yes/no Which technique?

To what purpose? Sale/self-consumption

Collection of non-timber forest products

What are the main products you collect inside the forest?

For what uses?

How often do you collect (per month)?

Perception about the environment

Have you noticed any changes of practices in the village? If yes, which ones? For what reasons?

Have you noticed any changes in the forest? If yes, which ones? For what reasons?

Have you noticed any changes in the fields? If yes, which ones? For what reasons?

Appendix IVc. Guide for interviews with protected area managers, law enforcement agencies and local authorities

1. **Literature review**

- Project document;
- Project implementation strategy action plan;
- Project implementation planning;
- Project internal report;
- Project evaluation report;

2. **Direct discussion with the PA coordination**

- Presentation of the objectives of the mission and request for potential guidance to conduct the study;
- Structure and operation of the Conservation Service (availability of texts regulating the operation and management of the PA);
- Main lines of action in the area;
- Opportunities and assets of the area;
- Observed threats and pressures;
- Main illegal activities and main actors;
- Strengths and weaknesses observed during the intervention;
- Level of collaboration with the local authorities, the law enforcement authorities, the LRA, and the local populations;
- Perspective regarding the involvement of local authorities, the law enforcement authorities, and the LRA in illegal activities;
- Activities to increase the well-being of local populations and development dynamics created by the project, giving generic indicators for results, effects, and impacts;
- Staff recruitment process at the local level;
- Level of involvement of the Mbororo;
- Level of involvement and ownership of target populations of the project outputs;
- Practical arrangement for each output to ensure its sustainability;
- Multi-sectoral coordination mechanism;
- Rules of collaboration with the project and what the project expects for the structuring and organization of farmers;
- The different national programs active in the project area, their objectives and intervention strategies;
- Major difficulties faced during project implementation, with the potential to compromise the achievement of some results.

Note*: Questions will be specifically formulated for each target*

APPENDIX V. EXPANSION OF INVISIBLE CHILDREN'S EARLY WARNING NETWORK TO SUPPORT COUNTERWILDLIFETRAFFICKING ACTIVITIES

Appendix V. Expansion of Invisible Children's Early Warning Network to support counter-wildlife trafficking activities

Invisible Children has connected 52 historically-isolated communities throughout eastern CAR and northern DRC into an Early Warning Network (EWN) through solar-powered high-frequency (HF) radios. The EWN enables these communities to share vital information about imminent threats with each other and with two regional "hub" radios managed by IC and community partners. The low-cost technology and reliance on community volunteers ensures that communities can sustain the EWN with minimal external support.

The utility of the EWN to local communities and international stakeholders has continued to expand organically beyond its original LRA-focused purpose to include information on wildlife poaching, wildlife trafficking and the movement of armed groups that engage in these activities. Invisible Children's EWN partners often report such information on their own initiative, recognizing that the armed groups responsible for poaching are a destabilizing force that threatens their safety, livelihoods and environment. The EWN spans a vast area in the corridor between Lantoto National Park (South Sudan), Garamba National Park, Bili-Uélé Protected Area Complex (DRC), Chinko Nature Reserve, Zemongo Faunal Reserve (CAR), and Radom National Park in the Kafia Kingi enclave (bordering South Darfur), meaning that the movements of armed groups responsible for poaching can periodically be tracked by analysing the sequence of reports provided by EWN communities in this corridor.

Based on extensive and ongoing consultations with a host of stakeholders, including regional conservation actors, regional civil society, local authorities and traditional chiefs, and security actors and experts, our desire is to more intentionally and strategically support this expansion in the EWN's utility, and integrate it with some of our community-based sensitization activities, which have proven effective over several years, in order to enhance rapid response efforts to address wildlife poaching and trafficking activities in the region and help build a community constituency that both recognises and supports the role that wildlife conservation plays in promoting regional security, stability and livelihood opportunities.

Additionally, Invisible Children currently manages the LRA Crisis Tracker project, the largest and most-widely respected information database, mapping and analysis platform pertaining to armed group activity in this corridor. Initially developed to record LRA activity, the database includes thousands of reports related to the movement and activities of other armed groups, including those engaged in poaching, as well as armed pastoralists groups. With some additional investments in the database, mapping platform and analysis team, more focused research could further support the efforts of wildlife conservation first responders to prevent and pre-empt poaching before it occurs. This analytical support would include the identification of long-term patterns of movement by different poaching actors. It can also help wildlife conservation first responders based in protected areas learn of poacher interactions with more distant communities as they approach or leave protected areas, triggering "alarm bells" that can help them better anticipate and respond to poaching threats.

EWN expansion activities already completed

- Basic information-sharing system established between Invisible Children, African Parks (Garamba and Chinko), and Invisible Children's EWN community partners in DRC and CAR (This has included the installation of an HF radio in Nagero, DRC, managed by GNP personnel, enabling them to join daily EWN security calls with communities in DRC. Invisible Children is in the process of working with Chinko personnel to install an HF radio there for the same purpose in CAR);
- Expansion of the EWN to Gbere, east of GNP (the first EWN expansion site in a community outside of LRA-affected areas, considered highly strategic for anti-poaching efforts in Garamba);
- Training of 6 EWN community partners in the vicinity of GNP (including Gbere) on

how to collect and report information related to wildlife poaching and trafficking;
- Community mapping completed in 6 communities in the vicinity of GNP (including Gbere), with a focus on data that can enhance wildlife protection efforts and analysis;
- Expansion of EWN into 5 communities in CAR's Haut Kotto prefecture, a key transit area for Sudanese poachers and armed pastoralists traveling to/from Chinko and GNP;
- Completion of a regional civil society workshop in Arua, Uganda, and a Workshop Outcomes Report, focused on cross-border human security and wildlife conservation in the "Greater Garamba Area", and the role of communities in promoting both human and wildlife security.

Desired future activities (resources pending)

- Expansion of the EWN to new target communities, identified based on civilian protection threats, access and implementation feasibility, and strategic value to wildlife conservation efforts;
- Implementation of a cross-border information sharing system between communities and conservation actors in Haut Uele (DRC) and Equatoria (South Sudan);
- "Training of Trainers" (ToT) workshops with Invisible Children staff, community partners, and wildlife protection practitioners and experts, focused on how communities can safely and effectively collect relevant wildlife poaching and trafficking information, and report it to regional wildlife conservation actors;
    - Following ToT workshops, Invisible Children and community partners conduct on site follow-up training with all EWN community partners in CAR and DRC;
- Community mapping in target communities across CAR, DRC and potentially South Sudan to gather additional layers of baseline data that can inform community-based protection plans, trigger rapid response efforts by conservation actors, and improve the ability of Counter-Wildlife Trafficking (CWT) analysts to understand individual armed group and poaching incidents in historical and community contexts;
- Expansion of the LRA Crisis Tracker database and mapping platform to enable Invisible Children to provide higher quality, more actionable data and analysis on wildlife trafficking activity to counter-poaching actors. Other options could include:
    - Password-protected access for key stakeholders to a private database and mapping platform with sensitive poaching and trafficking related information;
    - Invisible Children manages or co-manage a *new* private or open source platform through which regional conservation actors can contribute and access relevant data and analysis;
- Community sensitization programming using mobile cinema, FM radio and other context-appropriate media technology that has proven effective for community-based protection and community resilience purposes.

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TRAFFIC, the wildlife trade monitoring network, is the leading non-governmental organization working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development.

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WWF
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