

Transhumant Pastoralism in Central Africa: Emerging Impacts on Conservation and Security

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KEY POINTS

- **Transnational Transhumance:** Long-distance migration of herders and their cattle across national boundaries in order to exploit seasonally available pastures and water
- The international community has largely ignored transnational transhumance as a priority conservation and security concern in the tri-border region of CAR, DRC, and South Sudan
- Armed conflict here has amplified pre-existing vulnerabilities that pertain to natural resource access. This has fueled abnormal transhumant migrations and resulted in increased threats to rural communities and wildlife populations
- Collaboration across conservation, security, and development sectors is needed, focusing on baseline data collection and sharing, and increased support of protected area governance and community conservation approaches that include pastoralists

Background: In Africa, approximately 268 million people practice some form of pastoralism (i.e., nomadism, transhumance, agropastoralism) across 43% of the continent's landmass (African Union 2010). This animal production system serves a critical role in cultural identity and is centered on strategic mobility to access water and grazing resources in areas of high rainfall variability (Galvin 2009). **Transhumant pastoralism** in particular, is characterized by regular movement of herders and their livestock between fixed points in order to exploit the seasonal availability of pastures (Stenning 1957). **Transnational transhumance** is the same migration process but across national boundaries and primarily involves cattle, which require greater quality and quantity of forage than other livestock species. In Central Africa, particularly in the tri-border region of Central African Republic (CAR), Democratic Republic of the Congo (DRC), and South Sudan (herein referred to as the tri-border region), **transnational transhumance occurs within a landscape of escalating violent conflict that has local to global implications for human and environmental security; yet as a priority issue, it has long been ignored, receiving limited media exposure, international assistance, or policy attention.**

Transhumance in Central Africa: Transnational transhumance is not a new phenomenon in Central Africa. Herder groups from Sudan, Burundi, Rwanda, and Uganda have been present in DRC's high altitude humid zones since the mid-18th century (African Union 2010) and Sudano-Sahelian pastoralists have moved in and out of CAR since the early 20th century (IOM 2014). **However, recent intensification of southward cattle migrations in search of grazing resources has reorganized regional land use and opened up a new settlement frontier. This has exacerbated the ongoing problematic coexistence between mobile herders and local agriculturalists and raised new concerns for the landscape's network of protected areas.** In the tri-border region, transnational transhumance typically occurs from April to October (IOM 2014), with herders arriving from countries such as Cameroon, Chad, Niger, Nigeria, and Sudan. Determining the national origin of these mobile groups is challenging, as ethnicity essentially supersedes national identity, with pastoralists further united by a common religion (Islam) and the ability to speak Arabic. This has produced deeply-rooted repressive attitudes by national governments towards transhumant and resident pastoralists alike, and fostered an environment of distrust with many sedentary communities. A range of labels are used to describe the main transhumant groups, including Fulani, FulBe, Peulh, Fula, Fellah, Fellaata, Hausa, Toucouleur, Wodaabe, Hangamba, and Mbororo. Fulani is the broadest Anglophone label to identify transhumant pastoralists and covers some 30-40 million Fulfulde/Pular speakers spanning West and Central Africa, and the Sahel. Notwithstanding, use of this label can oversimplify complex sub-ethnic ties and land tenure rights based on tribe, clan, and local geography, all of which can feed into pastoral identity (Seignobos 2011). **In the tri-border region, Fulani pastoralist population estimates range from 53,000 - 89,500 people, with approximately 1.1 - 2.2 million head of Fulani-driven cattle in CAR and DRC alone (Table 1).**

¹ An updated version will be released following a USFWS-hosted meeting on transhumance in October, 2017.

Table 1. Demographic data of transhumant pastoralists in the tri-border region, Chad, and Cameroon, including the primary group identified; human population and total cattle herd estimates; livestock's percent contribution to the national gross domestic product (GDP); and data sources. * denotes national cattle estimates. [‡]This may actually be 460,000 -1 million animals - FAO estimates a 50-77% drop in Fulani cattle numbers since the start of CAR's national crisis in 2013, stating that around 1 million Fulani cattle have been stolen or massacred by armed groups including the Seleka and anti-balaka.

Country	Group ID	Population Estimate	Cattle Estimate	Livestock's Contribution to National GDP	Sources
CAR	Fulani/Peulh/Mbororo	40,000 - 64,500	2 million [‡] 4.1 million*	10%	Goutex et al. 1994; African Union 2010; FAOSTAT 2014; Joshua Project 2016
DRC	Mbororo	10,000 - 20,000	100,000 - 250,000 950,000*	9%	FAO 2005; AUPS 2008; FAOSTAT 2014; ICG 2014; Lancaster 2014
South Sudan	Mbororo	3,000 - 5,000	Unknown 11 million*	36%	USDOS 2011; ICPALD 2015
Chad	Fulani/FulBe/Mbororo	62,500 - 79,000	300,000 (1992 est.) 7.8 - 20 million*	15-27%	Flury et al. 2009; African Union 2010; FAOSTAT 2014; ICG 2014; Joshua Project 2016
Cameroon	Fulani/FulBe/Mbororo	199,000 - 202,000	2.1 million 5.9 million*	13%	African Union 2010; Moritz et al. 2013; FAOSTAT 2014; Joshua Project 2016

Drivers of Transnational Transhumance: Armed conflict has amplified pre-existing vulnerabilities in the tri-border region that pertain to natural resource access (e.g., drought/desertification, population growth, poor governance, undefined/unenforced land tenure rights, and unemployment). This has fueled abnormal transhumant migrations, resulting in increased threats to rural communities, wildlife populations, and protected areas. All three countries are in a state of humanitarian crisis, fueled in part by armed conflict (HIU 2016). All three countries are also at the highest level of concern for state fragility², with CAR and South Sudan additionally having more than one-quarter of their total population displaced (Cook et al. 2017). In CAR, such violence has been predominately carried out by young unemployed men, with a worsening economic and human development outlook nationwide (ICG 2014). This bleak trajectory may especially hurt mobile herders, as poverty levels for pastoral communities are higher across Central Africa than the average level of 44 percent (Africa Union 2010). Chronic drought and overgrazing in some areas of the Sahel and Central Africa has encouraged widespread bush encroachment from invasive trees and shrubs (e.g., *Harungana madagascariensis*, *Croton macrostachyus*, and *Chromolaena odorata*), resulting in a “green degradation” that has pushed pastoralists further south into uncharted territory (Fay 2015; Bassett & Boutrais 2000). Furthermore, increased access to veterinary care, including a number of trypanocidal drugs has facilitated access to regions historically unsuitable for cattle due to tsetse fly prevalence, including much of CAR and northeastern DRC (Figure 1.)

A host of armed groups occupy this frontier landscape and act as an especially potent destabilizing force. They include the Lord's Resistance Army (LRA), Seleka/ex-Seleka factions, anti-balaka, Janjaweed, and numerous ethnic militias, in addition to armed bandits and criminal networks that engage in trafficking of wildlife, timber/charcoal, minerals, and small arms (IPIS 2014; Krause 2015; UNSC 2016). Of late, many transnational transhumant migrations have come directly from high conflict zones in CAR, South Sudan, Chad, Cameroon, and Nigeria. In some instances this has shifted people from transhumant to refugee status, as seen with approximately 45,000 Fulani (Mbororo) registered as refugees in Cameroon (90% fleeing from CAR) and an additional 60,000 - 70,000 on the CAR/Cameroon border seeking refugee status in 2008 alone (AUPS 2008; Seignobos 2008). Moreover, some 40,000 Fulani (Peulh) refugees were reported in Chad in 2015 (AIDSPC 2015).

² For fiscal year 2015, CAR, DRC, and South Sudan received a combined total of \$937.8 million in State Department and U.S. Agency for International Development administered bilateral foreign assistance (Cook et al. 2017).

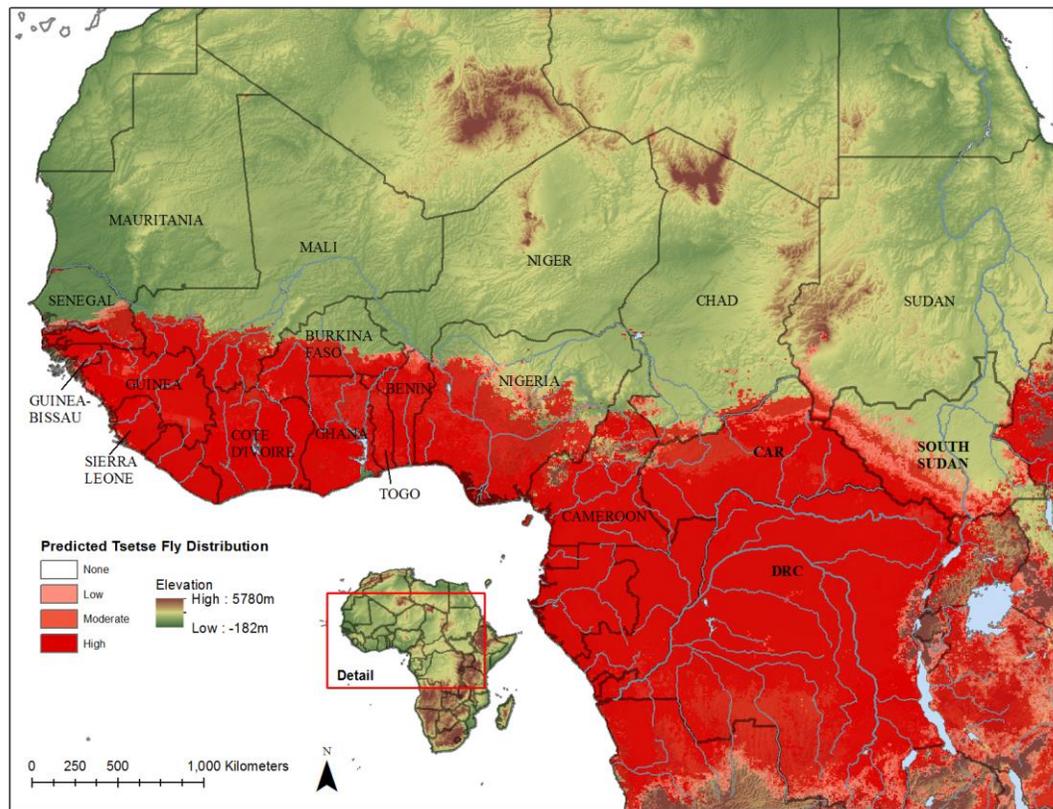
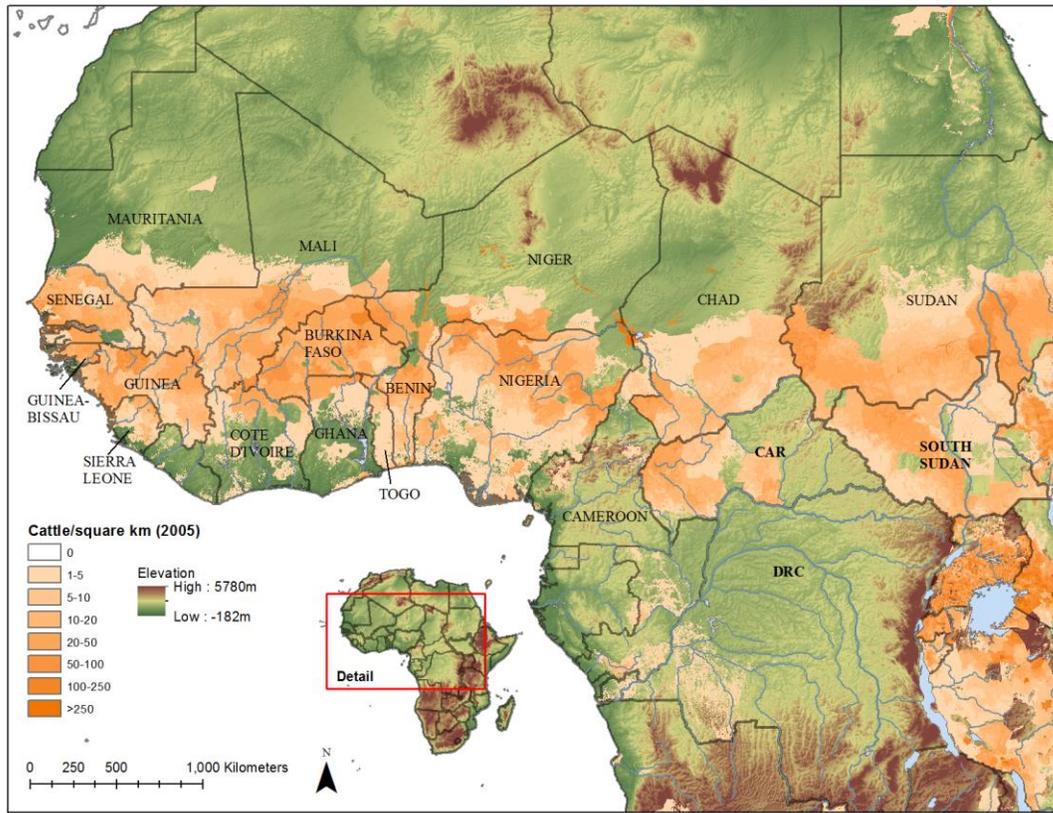


Figure 1. *Top:* Density of cattle in Africa, 2005. *Source:* FAO Animal Production and Health Division. *Bottom:* Predicted tsetse fly distribution in Africa, 2000 (Fusca, Palpalis, and Morsitans groups). *Source:* Oxford University. Maps by Matthew Luizza, USFWS.

Impacts of Transnational Transhumance: Transhumant pastoralists are both the propagators and victims of armed conflict, the effects of which have contributed significantly to the deterioration of conservation, development, and security stabilization efforts in the tri-border region. In CAR, organized crime involving Fulani (Mbororo) began in the northwest part of the country in the early 1980s and flourished with the ensuing technological advances of cell phones and motorbikes (Seignobos 2011). Communities in northeastern DRC have noted their generalized sense of insecurity is centered on LRA and Fulani (Mbororo) - for the latter, particularly members of the Ouda sub-group, which are especially well armed (Lancaster 2014). Additionally, the presence of Fulani-based militia groups has increased in CAR, following the overthrow of the government in 2013. This includes the Union for Peace in the Central African Republic (UPC), the Chad-based Popular Front for Recovery (FPR), and the newest addition, Return, Reclamation, Rehabilitation (3R), formed in 2015. All three groups have been accused of major human rights atrocities. Nonetheless, Fulani also pay a heavy price as the result of armed conflict. Transhumant pastoralists are often targeted by armed insurgent groups, Zaraguina (highway bandits), and even government agents, becoming the victims of theft, extortion, and kidnapping (African Union 2010; AIDSPC 2015), and although the direct human toll is unquantified, many deaths and family separations have been reported by herders (IOM 2014; ICG 2014).

Armed conflict has also fueled a significant congestion of pastoralists and their herds along the Chad-CAR border (ICG 2014), including a 60 percent increase in cattle between 2013 and 2014 alone (IPIS 2014). Similar increases have occurred in parts of South Sudan and DRC where rain fed cultivation is the year-round livelihood activity (FAO 2015). This poses potentially serious consequences for human and animal health, as transhumant mobility has proven critical in the transmission of foot and mouth disease in Cameroon (Kim et al. 2016) and regions of high pastoralist congestion in South Sudan's Central and Eastern Equatoria states have witnessed a dramatic increase of livestock disease outbreaks, including foot and mouth disease, East Coast fever, and trypanosomosis from 2013 to 2014 (FAO 2015). As a result of this, **pastoralists are increasingly moving into uncharted territory and arming themselves as a form of livestock protection and defense, leading to perceived or actual safety threats that have produced an escalation of violent and deadly encounters, especially at the porous national borders where transhumant routes and numerous protected areas overlap** (Figure 2). Such abrupt and abnormal migrations within an increasingly insecure region make protected areas an enticing destination for pastoralists in search of refuge and resources. Examples of protected area incursions span the 1980s to present in Chad, CAR, Sudan, Cameroon, and DRC, and often involve collusion with local authorities (AUPS 2008; Tumenta et al. 2013; ICG 2014). These incursions increase the risk of disease transfer, which is frequently bi-directional at the wildlife/livestock interface (Bengis et al. 2002), and spark conflict with protected area managers (e.g., park rangers and ecoguards) and agriculturalists living near protected areas. Such conflict is the result of acute habitat degradation, the poaching of threatened and endangered wildlife for trade in bushmeat and wildlife parts, and direct competition between cattle and wildlife for access to forage and water, in addition to water pollution, increased water competition, and direct crop damage.

A number of USFWS-supported protected areas, spanning CAR, DRC, Cameroon, South Sudan, Nigeria, and Mali are dealing with this crisis (Appendix 1). For example, in Garamba National Park (DRC) and Chinko Reserve (CAR), iconic wildlife populations have been decimated by insecurity and poaching. This includes the extirpation of the last northern white rhinos (*Ceratotherium simum cottoni*) in both locations and Kordofan giraffe (*Giraffa camelopardalis antiquorum*) in Chinko Reserve, in addition to the catastrophic decline of elephant populations (*Loxodonta africana* and *L. cyclotis*) in both protected areas. The LRA and poaching gangs have benefited the most from the large-scale slaughter of Garamba’s elephants for their ivory and the illegal exploitation of other wildlife for bushmeat; however, armed pastoralists have also been accused of engaging in similar activities, including bushmeat hunting and elephant poaching (IPIS 2014; McConnell 2016). Chinko Reserve has also experienced direct and indirect pressures of Sudanese transhumant pastoralists causing extensive ecological degradation, including habitat destruction and the killing of endangered African wild dogs (*Lycaon pictus*; Hickisch & Aebischer 2013). Furthermore, pastoralists operating in both areas have been accused of illegally exploiting minerals (i.e., gold and diamonds) and timber (AUPS 2008; IPIS 2014) and colluding with businessmen, armed groups, and traditional chiefs, for protection services and to gain access to resources on community or protected area lands (Lancaster 2014; UNSC 2016). As recent as April of 2017 aerial surveys discovered nearly all of northern CAR’s Manovo Gounda Saint Floris National Park was being used by pastoralists in the dry season³. In Cameroon, protected areas including Mbam and Djerem and Boubandjida National Parks have identified cattle incursion as the greatest threat to wildlife and their habitat, with the former noting a 348% increase in cattle counts in the park from 2008. Transhumant pastoralists have also been noted to be involved in illegal pangolin trade as “middle-men” in the sale of pangolin scales and as direct consumers of pangolin bushmeat, as the animals can be easily transported alive to be properly slaughtered according to Islamic law.



Fulani (Mbororo) at the edge of Chinko Reserve, CAR (Left image). Photo courtesy of Chinko Project/African Parks. Fulani (Mbororo) pastoralists, in the Bili-Uéré protected area, DRC (Right image). Photo courtesy of Lukuru Wildlife Research Foundation.

Further complicating the issue, transhumant pastoralists are not only increasingly armed but also driving larger herds, some of which are escorted by professional security sector elements. This has intensified conflict with agriculturalists and other pastoralists. For example, Fulani pastoralists in CAR have witnessed heavily protected and extremely large cattle herds from Chad and Sudan functioning outside of traditional pastoral codes. This includes violating arrangements made between other pastoralists and local farmers, intimidating and bullying drivers of small herds, and even engaging in cattle raiding and banditry (IOM 2014; AIDSPC 2015). These “neo-pastoralists”, which in many cases have herds guarded by the Chadian National Army and comprised of raided cattle from Fulani pastoralists, internally displaced persons and refugees, have further exacerbated existing bottlenecks of cattle herds in southern Chad and northern CAR and worsened competition for dwindling natural resources (ICG 2014; IPIS 2014). Although commercialized and absentee

³ <https://phys.org/news/2017-06-wildlife-northern-central-african-republic.html>.

herding is not new to Africa - in West Africa and the Sahel, there is a long history of urban elite investment in cattle during economic or political upheaval that is based on a system of entrustment and reciprocity with professional herders (i.e., Fulani) - **the “militarization” of commercial transhumance is a more recent activity, with an increasing number of urban elite cattle owners (including military and civil administration officials) bypassing entrustment contracts and reciprocity arrangements with local pastoralists and simply hiring a driver and armed protection to move cattle into frontier areas with limited prior social contact.** These activities can intensify overgrazing and contribute to the idea of a pastoral “invasion”; all of which continues to undermine regional stabilization efforts and threatens the network of protected areas that are the last remaining hope for imperiled wildlife in Central Africa.

Recommendations: Human security and environmental security are inextricably linked. Armed conflict has resulted in acute negative impacts on wildlife and has exploited rural people, including resident and transhumant pastoralists. Saving the last savannas of Africa and ensuring local people have sustainable access to natural resources, including grass, water, and wildlife requires improved natural resource governance that directly engages the emerging challenges linked with transnational transhumance. **Small-scale herders, rural agriculturalists, and wildlife will likely continue to feel the brunt of coupled environmental and security challenges in the tri-border region unless concerted action is taken.** Moving forward, this will require extensive cross-sector collaboration between Central African governments and conservation, security, and development-focused organizations. These collaborative efforts must go beyond single-sector technical approaches, and embrace innovations for sustainable natural resource management, good governance, diverse knowledge forms (e.g., indigenous knowledge), and integration of rural livelihoods with expanding market opportunities. This issue should be an urgent priority for conservation, security, and development organizations alike, as an increasing population on the African continent, with more wealth, and a growing appetite for beef and other cattle products will require larger herds that need grass and water, much of which is located in or adjacent to protected areas, and many of these are found in regions plagued by insecurity. **Identification of and increased support for a constellation of priority protected areas (many of which USFWS has supported historically or currently supports) that covers the tri-border region and extends across the broader Sudano-Sahel zone⁴ is of the utmost importance.** In concert with this, creation and maintenance of cattle-free corridors that connect these protected areas is needed, but such efforts must include local stakeholders - including transhumant pastoralists - and respect their local livelihood practices throughout the designation planning process. Suggested priority areas for USFWS include the following:

- 1) **Increased data gathering and assessments of core natural resource assets within the tri-border region and across the broader Sudano-Sahel zone.** This is necessary to fill in critical gaps and provide needed baselines in locations where data, such as wildlife ranges, population counts/trends, and the distribution of habitat types and land use classes are limited. This can facilitate the identification of biological priorities and assist effective tracking of declining or rebounding wildlife populations. A more robust understanding of transhumant pastoralist numbers and herd sizes and better spatial data on transhumance routes, corridors, cattle markets, and grazing destinations (including protected areas) could provide critical inputs for informed decision making. Additionally, data on where the surge in livestock vaccines is coming from and what organizations are administering them is needed, as the flood of trypanocidal drugs used as prophylactic or curative treatment for livestock will continue to have a major impact on expanding the range of cattle into previously unsuitable areas, including protected areas that encompass the savanna-forest ecotone.
- 2) **Efficient and timely data sharing, analysis, and dissemination between key stakeholders.** This requires collaboration not only across agencies and institutions spanning conservation, security, and development sectors, but inclusion of and collaboration with rural agriculturalists and pastoralists and the sharing of outputs in practical forms (e.g., printed maps; interactive data portals; radio broadcasts). A greater understanding of the cross-sector impacts of livestock-related investments is also needed. For example, development-centered livestock investments by the World Bank in Chad - including watering holes and

⁴ This zone is comprised of savanna and savanna-forest transition habitat covering some 7.7 million km² across mostly West and Central Africa (including the tri-border region) and parts of North and East Africa between 5° and 20° N Latitude.

slaughterhouses - may have heightened and unintended consequences for protected areas and other conservation efforts in the south (i.e., CAR) where water and grass is more abundant. Linked with this, there is a great need for assessment of the reasons for investment in livestock, as commercialized and absentee herding by urban elites has been anecdotally connected to money laundering and other illicit trade activities, including wildlife and arms. Moreover, better sharing of salient weather, resource, and conflict information among key stakeholders, including herders and farmers, is warranted (e.g., rainfall forecasts, availability of grazing areas in different regions, flooding impacts, locations of armed conflict events and poaching incidents) and could be facilitated through the ever-expanding mobile phone networks that pastoralists and agriculturalists are a part of, in addition to rural radio networks supported by NGOs with a long-standing presence in the tri-border region (e.g., Invisible Children, SAIPED, Catholic Relief Services).

- 3) **Enhancement and promotion of multi-level governance approaches.** Where armed groups are present, tensions between pastoralists and local communities seem higher; therefore, security issues in the tri-border region must be resolved if any reasonable stabilization of transhumant pastoralist migrations is to be achieved. A key approach will be continuing, and where possible, expanding strategic investments in the network of Sudano-Sahel protected areas and their buffer zones, in addition to cattle-free corridors that connect these habitat zones, and renewing support for both traditional and modern institutions that facilitate negotiations over the right to access natural resources - for example, arrangements of flexible access within a fixed network of transhumance corridors (see Moritz et al. 2013; Turner et al. 2016). This support, including continued law enforcement capacity building, is critical, as protected areas in the tri-border region can improve the security situation for both wildlife and surrounding communities by stabilizing areas where the state is absent. However, the law-enforcement model should not be the sole intervention, rather, it should be a component of a more holistic approach that understands and engages the complex reality of resource conflict, including the historical, political, and ecological contexts. This should include supporting and leveraging community-based mechanisms such as community social cohesion or protection committees that can help identify and facilitate opportunities for sensitization and mutual gain between pastoralists, agriculturalists, and protected areas. These local governance institutions that are based on traditional knowledge practices can complement formal protected area management processes and provide an important measure of local empowerment and flexibility. This flexibility is critical as transhumance routes - although generally coinciding with agriculture clearing - shift in location and length depending on changing ecological and political circumstances.

References: African Union (2010). Policy Framework for Pastoralism in Africa. AIDSPC (2015). Les Peuhls Mbororo de Centrafrique. AUPS (2008). Report on the Migration of Mbororo Nomadic Pastoralists. Bassett & Boutrais (2000). Cattle and Trees in the West African Savanna. *In Contesting Forestry in West Africa*. Bengis et al. (2002). Infectious animal diseases. *Rev. sci. tech. Off. int. Epiz.* Cook et al. (2017). Sub-Saharan Africa. Congressional Research Service Report. FAO (2005). Livestock Sector Brief. Congo, Democratic Republic Of. FAO (2015). South Sudan Livestock Strategy. FAOSTAT (2014). Retrieved: www.fao.org/faostat/en/#data. Fay (2015). National Geographic Voices. Retrieved: <http://voices.nationalgeographic.com/2014/12/28/william-stamps-cherry-expedition-slowly-north/>. Flury et al. (2009). Molecular characterization of two common Chadian cattle breeds. *AGRI*. Galvin (2009). Transitions: Pastoralists living with change. *Annual Rev Anth.* Gouteux et al. (1994). Tsetse and livestock in CAR. *Bull Soc Pathol Exot.* Hickisch & Aebischer (2013). Evidence of African wild dogs in CAR. *Canid Bio & Cons.* HIU(2016). U1442 STATE (HIU), August, 2016. ICG (2014). The security challenges of pastoralism in Central Africa. ICPALD (2015). The Contribution of Livestock to the South Sudan Economy. IOM (2014). Migration dimensions of the crisis in the CAR. IPIS (2014). Mapping conflict motives: The Central African Republic. Joshua Project (2016). Retrieved: https://joshuaproject.net/people_groups/10949. Kim et al. (2016). Simulating the transmission of foot-and-mouth disease among mobile herds, Cameroon. *J of Art Soc and Soc Sim.* Krause (2015). Small arms survey 2015. Cambridge U. Press. Lancaster (2014). A people dispossessed. Conciliation Resources Research Report. McConnell (2016). In Congo, a war for Africa's elephants. Retrieved: <http://www.tristanmcconnell.co.uk/in-congo-a-war-for-africas-elephants/>. Moritz et al. (2013). Rangeland governance in an open system. *Pastoralism: Res, Pol & Pract.* Seignobos (2008). La question mbororo. Seignobos (2011). Le phénomène zargina. *Afrique cont.* Stenning (1957). Transhumance, migratory drift, migration. *Journal of Royal Anth Inst Great Britian & Ireland.* Tumenta et al. (2013). Livestock depredation and mitigation methods around Waza National Park. *Oryx*. UNSC (2016). Turner et al. (2016). Reconciling flexibility and tenure security for pastoral resources. *Hum Ecol*. Final report of the panel of experts on the Central African Republic. USDOS (2011). Country Reports on Human Rights Practices for 2011.

Appendix 1: USFWS has supported projects in Africa’s Sudano-Sahel zone since 1990. This list represents a subset of projects that have identified emerging challenges related to transhumant pastoralism. Through these 17 projects (2003 - 2016), USFWS has provided \$1.7 million in support, which was matched by \$3 million in additional leveraged funds.

Grant Number	Project Partner	Site	Countries	Conservation Target(s)	Notes	\$ Support USFWS/Leveraged
AFR-1646 (F16AC00508)	African Parks Foundation	Chinko Reserve; Garamba National Park	CAR, DRC	Savanna and forest elephant, Kordofan giraffe, chimpanzee, lion, giant eland, African wild dog	Project seeking to address impacts of livestock disturbance in the Chinko-Garamba landscape. Armed Sudanese pastoralists are considered to be the greatest threat to Chinko by the implementer.	\$300,000/ \$515,875
AFR-1641 (F16AP00864)	Wildlife Conservation Society	Bouba-Ndjida National Park	Cameroon	Savanna elephant	Transhumance is noted by the implementer to be a major issue. Cattle counts up 348% from 2008, traditional grazing has expanded due to regional insecurity, and an increasing number of herders spend the majority of the year in the Park.	\$100,000/ \$59,100
AFR-1626 (F16AP00522)	Wildlife Conservation Society	Mbam and Djerem National Park	Cameroon	Forest elephant, chimpanzee, giant pangolin, hippopotamus	Incursion of cattle herds is considered to be the greatest threat to wildlife and their habitat by the implementer.	\$251,151/ \$244,868
AFR-1554 (F15AP00732)	Wildlife Conservation Society	Bouba-Ndjida National Park	Cameroon	Savanna elephant	Aerial surveillance identified ~ 12,000 head of cattle in the Park. Incursion of cattle herds is considered to be the greatest threat to wildlife and their habitat by the implementer.	\$106,479/ \$0
AFR-1501 (F15AP00751)	African Parks Foundation	Chinko Reserve	CAR	Savanna and forest elephant, African wild dog, leopard, giant eland	Conflict between wildlife and transhumant pastoralists is considered a key problem by the implementer. The project is actively engaging this issue.	\$109,527/ \$435,220
AFR-1407 (F14AP00568)	WildCRU	Benoué, Bouba-Ndjida, & Faro National Park	Cameroon	Lion, hyena, leopard	Working to mitigate human-wildlife conflict, including designing enclosures (bomas) to protect livestock from lions.	\$49,035/ \$90,093
AFR-0200 (F13AP00872)	Chinko Project	Chinko Reserve	CAR	Chimpanzee	Seeking to build local community support (including among transhumant pastoralists) for conservation efforts. Project also studying the reasons for Sudanese herders coming to Chinko.	\$99,780/ \$213,248
AFR-0163 (F13AP00791)	Leo Foundation	Waza, Benoué, Bouba-Ndjida, & Faro National	Cameroon	Lion	Seeking to mitigate lion-livestock conflict at all four Parks.	\$49,500/ \$46,360

		Parks				
AFR-0855 (F13AP00682)	Wildlife Conservation Society	Mbam and Djerem National Park	Cameroon	Forest elephant	Working to reinforce engagement between Park staff and community members, including herders.	\$78,539/ \$75,960
AFE-0848 (F13AP00425)	WILD Foundation	Gourma Reserve	Mali	Savanna elephant	Working with local pastoralists through a community resource management program to secure access to forage and water for Africa's northernmost elephant population.	\$49,993/ \$447,709
GA-0906 (F12AP00182)	Lukuru Wildlife Research Foundation, Inc.	Bili-Uere and Rubi-Tele Reserves	DRC	Chimpanzee	Increased presence of Mbororo cattle is a growing concern identified by the implementer. Multiple incidents of conflict occurring, including Mbororo with ~10,000 head of cattle in Api region stealing food from local people and an incident of a FARDC member being stabbed to death by an Mbororo when confronting a large group of herders camped in the Bili forests.	\$132,850/ \$68,750
AFE-0760 (96200-1-G135) FY2011	WILD Foundation	Lake Banzena (Gourma Reserve elephants)	Mali	Savanna elephant	Addressing human-wildlife conflict related to transhumant pastoralist and elephant use of Lake Banzena.	\$47,994/ \$588,865
GA-0629 (96200-0-G014) FY2009	Wildlife Conservation Society	Mbam and Djerem National Park	Cameroon	Forest elephant, chimpanzee	Working with transhumant Mbororo to create community-based organizations of cattle grazers to provide pastoralists with permanent water supply facilities to solve dry season resource needs.	\$88,877/ \$42,456
AFE-0476 (96200-9-G056) FY2009	Wildlife Conservation Society	Yankari Game Reserve	Nigeria	Forest elephant	Poaching and grazing the most common Reserve violations identified by the implementer.	\$41,144/\$50,400
AFE-0450 (98210-8-G646) FY2008	WILD Foundation	Lake Banzena (Gourma Reserve elephants)	Mali	Savanna elephant	Addressing human-wildlife conflict related to transhumant pastoralist and elephant use of Lake Banzena.	\$71,758/ \$55,000
AFE-2006 (98210-6-G258) FY2006	Wildlife Conservation Society	Boma National Park	South Sudan	Savanna elephant	Elephants were noted to avoid major areas of cattle grazing and conflict was expected to increase in the dry season with decreasing resource access.	\$130,577/ \$58,377
AFE-0183 (98210-3-G507) FY2003	World Wildlife Fund	Waza National Park	Cameroon	Savanna elephant	Seeking to assess livestock incursions in regards to the ecology of the park and surrounding areas.	\$20,836/ \$34,900