



Photos courtesy of Chinko - African Parks and Naftali Honig - African Parks.

**U.S. Fish and Wildlife Service
Informational Meeting on Transhumant Pastoralism in Africa’s Sudano-
Sahel: Emerging Challenges for Human and Wildlife Security¹**

October 4, 2017

U.S. Fish and Wildlife Service Headquarters, Falls Church, VA

Summary Report



¹ The information, findings, and conclusions in this document summarize the proceedings of a meeting organized by the U.S. Fish & Wildlife Service (USFWS) and do not necessarily represent the views of USFWS.

EXECUTIVE SUMMARY

The U.S. Fish and Wildlife Service (USFWS) organized this informational meeting with project partners and relevant stakeholders to discuss the interconnected conservation and security challenges associated with seasonal long-distance and transboundary migrations of pastoralists and their cattle (i.e., transnational transhumance) in Africa's Sudano-Sahel. This meeting was organized in response to a growing number of USFWS-supported projects in the region identifying emerging challenges related to transhumance, in addition to a clear lack of attention to this issue from the broader international community. Held at USFWS headquarters in Falls Church, Virginia on Wednesday, October 4, 2017, this one-day meeting provided a unique opportunity to share information and engage in discussions among experts spanning conservation, security, and development sectors, to gain a better understanding of the interconnected conservation and security issues associated with transnational transhumance in the Sudano-Sahel and identify key questions that need to be answered in order to better support field activities and address the conflict dynamics that affect wildlife, natural resources, and people in the region. The event was attended by 71 people (in-person and remote access) from countries including Benin, Democratic Republic of the Congo (DRC), Gabon, India, Mexico, the United Kingdom, and the United States.

Eight expert panelists provided insights into different aspects of transnational transhumance from distinct framings, including conservation and human rights. Among other issues, they explored the basic features of the geography of transhumance in West Africa; field observations of the impacts of transhumance on security and protected areas in Central African Republic (CAR), Cameroon, and Nigeria; the drivers of herder-farmer violence in Nigeria and opportunities for effective conflict mitigation; and the complex relationship between transhumant groups and armed groups in the tri-border region of CAR, DRC, and South Sudan. The afternoon session identified data gaps and key questions that still need to be answered regarding transnational transhumance and emerging security and conservation concerns in the Sudano-Sahel, and attendees voiced interest in continued dialogue and cross-sector collaboration. A key conclusion of the meeting was the need to address the following broad lines of inquiry: 1) strategies to improve the compatibility of transhumant herding, livelihood practices of other local communities, and conservation management, 2) understanding of transhumant pastoralist seasonal movements in relation to the mobility and range distribution of key wildlife species, and 3) understanding transhumant pastoralist demographics, drivers, and direct and indirect impacts on wildlife.

ACKNOWLEDGEMENTS

USFWS would like to thank the expert panelists **Olubukola Ademola-Adelehin** (Search for Common Ground), **Paul Elkan** (Wildlife Conservation Society), **Jean Marc Froment** (African Parks Foundation), **Lisa Inks** (Mercy Corps), **Jimmie Mandima** (African Wildlife Foundation), **Mark Moritz** (The Ohio State University), **Paul Ronan** (Invisible Children), and **Matt Turner** (University of Wisconsin-Madison); the panel moderator, **Alexis Arieff** (Congressional Research Service); and the afternoon working group attendees (in-person and remote access) for their invaluable contributions to this important discussion.

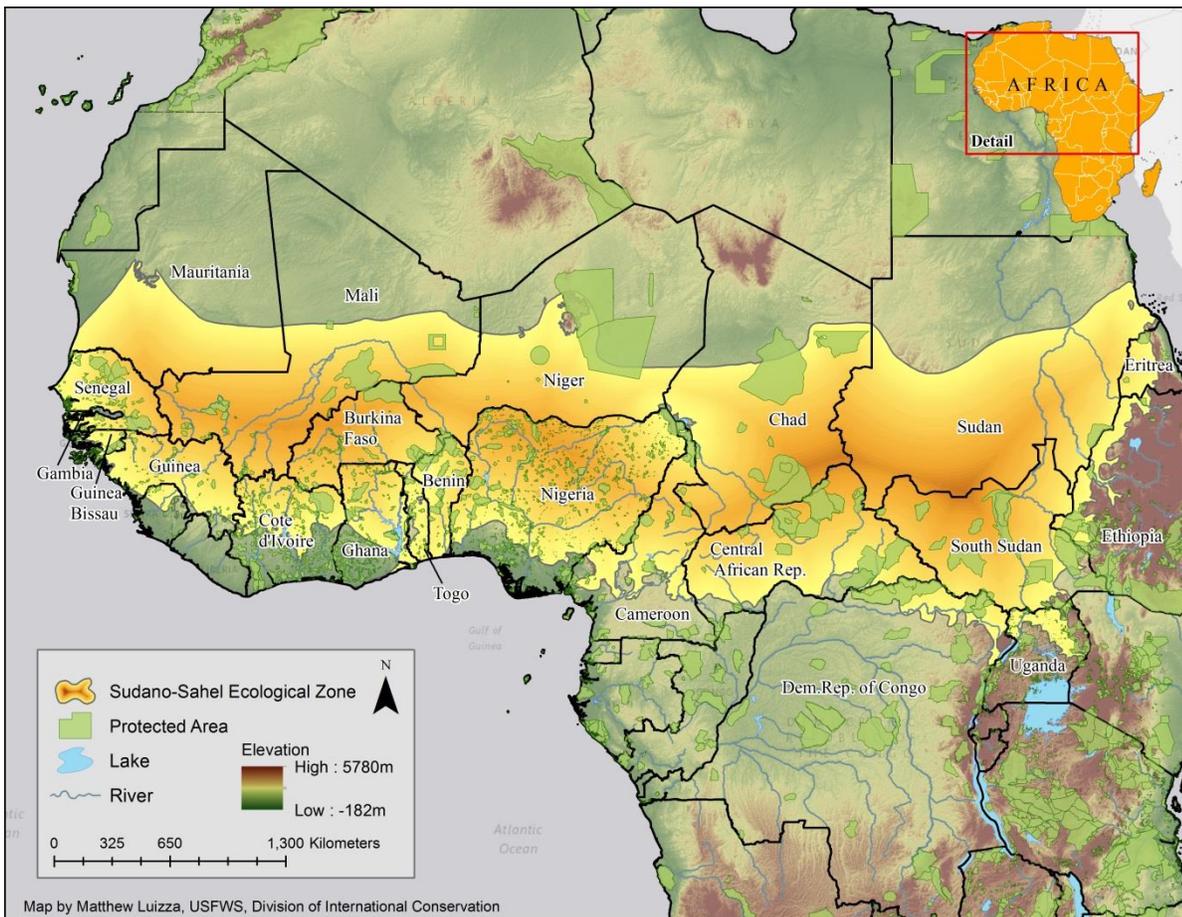
1. Background:

The Sudano-Sahel

Africa's Sudano-Sahel is a distinct bioclimatic and ecological zone made up of savanna and savanna-forest transition habitat that covers approximately 7.7 million square km of the continent. Rich in species diversity, the Sudano-Sahel region represents one of the last remaining intact wilderness areas in the world, and is a high priority landscape for wildlife conservation. It is home to an array of antelope species such as giant eland and greater kudu, in addition to African wild dog, Kordofan giraffe, African elephant, African lion, leopard, and giant pangolin (see Appendix for an additional list of Sudano-Sahel grazing and browsing mammals). This region is also home to many rural communities who rely on the landscape's natural resources, including pastoralists, whose livelihoods and cultural identity are centered around strategic mobility to access seasonally available grazing resources and water. Instability, climate change, and increasing pressures from unsustainable land use activities pose growing threats to the resilience of the Sudano-Sahel's iconic wildlife and rural people.



Giant eland. Photo courtesy of cuatrok77/Creative Commons license.



Map of Africa's Sudano-Sahel region.

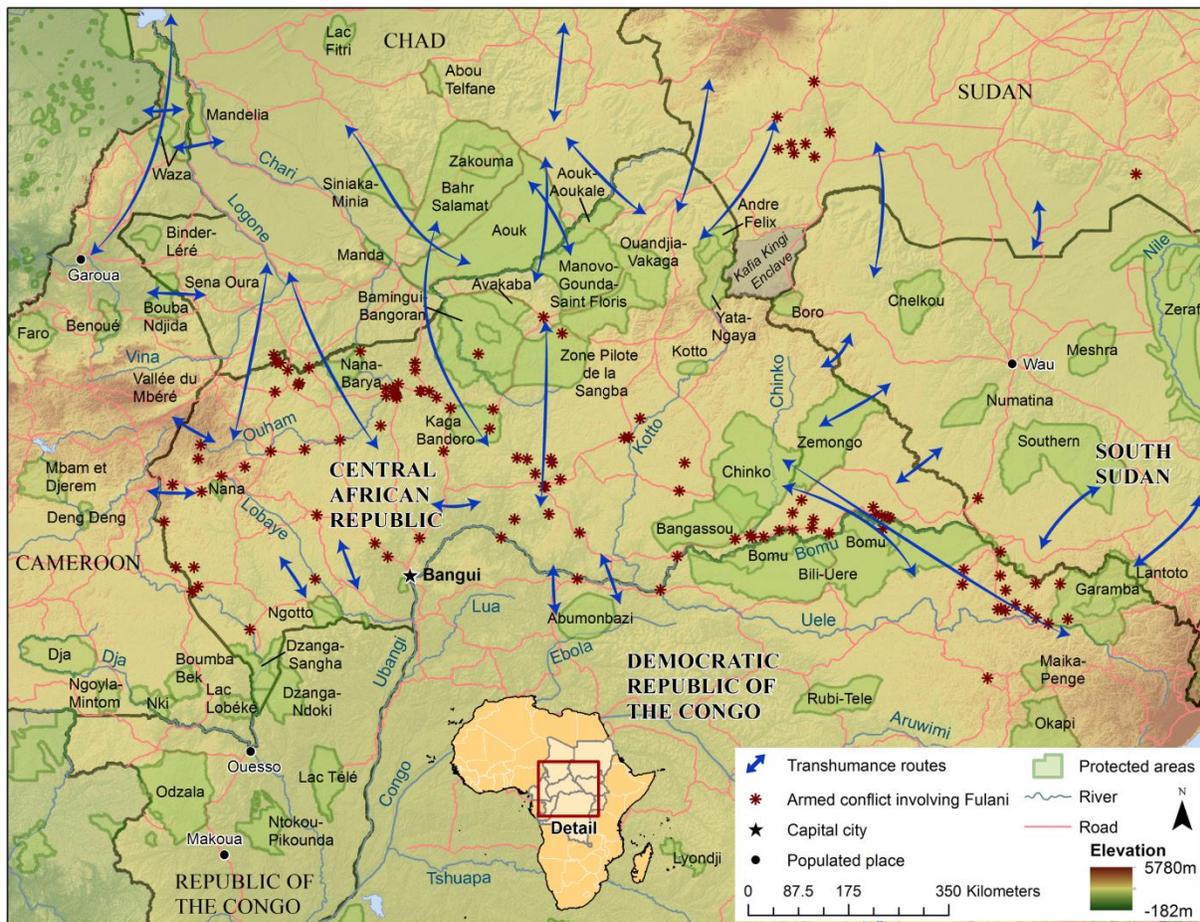
Why Transhumance?

Protected areas across this landscape are dealing with an emerging challenge for human and wildlife security posed by transboundary movements of pastoralists and their livestock. Also known as **transnational transhumance**, this long-distance seasonal movement of cattle is increasing pressures on



Transhumant pastoralists in the Far North Region, Cameroon. Photo courtesy of Mark Moritz.

wildlife in the region as a result of a growing number of pastoralists and their herds illegally entering protected areas in search of resources and/or refuge from armed conflict. The phenomenon of transhumant pastoralism is not new to the region; cattle have been in Africa for thousands of years, and mobile pastoralists have crossed national borders in the Sudano-Sahel for as long as these territorial distinctions have existed on maps. However, as armed conflict continues to destabilize much of this landscape and natural resources are increasingly affected by droughts, pre-existing vulnerabilities that pertain to natural resource



Armed conflict involving Fulani pastoralists and transhumance routes in the transboundary landscape surrounding CAR. March 2010 - May 2017. Map by Matthew Luizza, USFWS.

access have become amplified, fueling abnormal transhumant migrations and resulting in increased threats to wildlife populations and rural communities, including pastoralists.

This has also produced an escalation in violent encounters between pastoralists and other actors, most often occurring at porous national borders where transhumance routes, armed non-state actors, and protected areas converge. This is of particular concern in the transboundary landscape surrounding CAR, where a lack of governance and escalating violent conflict is especially pervasive, holding local to global implications for human and environmental security.

Why is USFWS Interested?

USFWS has a mandate from Congress to provide technical and financial assistance to African countries to secure wildlife and their natural habitats and enhance natural resource governance that benefits people and wildlife. Built on the legacy of the Multinational Species Conservation Funds, which were established through Congressional Acts, and amplified through co-management with the U.S. Agency for International Development (USAID) of Central Africa Regional Program for the Environment (CARPE) biodiversity funds, USFWS has supported projects in the Sudano-Sahel since 1990 and has cultivated strong working relationships with an array of government and civil society actors. The protected areas supported by USFWS hold the last vestiges of wildlife in the region and are often the only places in the broader landscape where law enforcement and good governance



Richard Ruggiero, Chief of USFWS Division of International Conservation, providing opening remarks. Photo courtesy of USFWS.

provide security for people and wildlife. Since 2003, seventeen projects spanning CAR, DRC, Cameroon, Mali, Nigeria, and South Sudan have identified emerging challenges related to transhumance. At its core, this challenge is one of natural resource access, fueled by a lack of governance and exacerbated by the presence of an array of armed groups, with transhumant pastoralists being both the perpetrators and victims of armed conflict. USFWS recognizes that this is not solely a conservation issue, or a security challenge, or a development concern – it is all three – and requires multi-sector holistic solutions that incorporate and apply aspects from all three realms to this landscape-scale challenge that affects wildlife and people.

2. Presentations:

Eight expert panelists provided brief presentations on different aspects of transhumance from distinct framings, including conservation and human rights focused lenses, and from different geographic scales and contexts, including transboundary regional dynamics, individual countries, and localized case studies. Among other things, the presentations revealed the need to question overly-simplistic assessments of this complex issue, gain a better understanding of the relationships between transhumance and conservation threats, and better determine how transhumant pastoralists can be protected and brought into development and conservation processes without worsening local community tensions and relationships.

Jean Marc Froment: “Transhumant Pastoralism in Africa’s Sudano-Sahel and Guinea Biomes: Emerging Challenges for Human and Wildlife Security”.

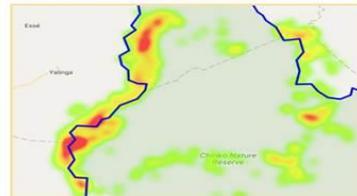
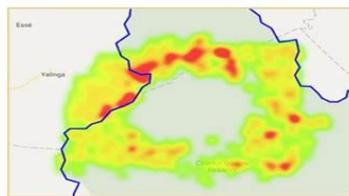
Contact: jeanmarcf@african-parks.org

Select Points:

- Demography and climate change trends are driving the transformation of land use and society across Africa, with the Sudano-Sahel experiencing a rapid increase in human and cattle population densities. This is amplifying pressure on dwindling resources and tension between communities. Without good governance this change cannot be managed.
- Africa is facing a crisis, with a frightening loss of biodiversity and a high demand for protein among people. Due to previous unsustainable harvests and the resulting lack of wildlife, large-scale poaching in much of the region is no longer occurring. Now, commercial bushmeat hunting is less important and more opportunistic in nature, and the main natural resource demand is for access to grass for cattle. Millions of cattle are looking for grass and herders are looking for or providing their own security. CAR and north DRC, some of the most volatile areas in the world, are the only places with space and abundant grazing.
- Good governance and effective engagement with transhumance is happening, as evidenced by the Chinko Project (CAR) and Garamba National Park (DRC). Continued support for such efforts at scale is critical, focusing on inclusive and good governance, law enforcement, and effective management of space and natural resources to ensure the security of humans and wildlife.



Law Enforcement



2015- Establish a group of Rangers able to face the challenges.

2016- At the peak of the dry season 2,000km² free of cattle and poaching sign.

2017- At the peak of the dry season close to 10,500km² free of cattle and poaching sign.



Further Reading: Bouché, P., P.C. Renaud, P. Lejeune, C. Vermeulen, **J.M. Froment**, et al. (2010). *African Journal of Ecology*. [Has the final countdown to wildlife extinction in Northern Central African Republic begun?](#)

Matt Turner: “Social organization and responses to transhumance in Sudano-Sahel West Africa”. Contact: mturner2@wisc.edu

Select Points:

- Livestock mobility is a multidimensional concept involving frequency and distances of movements within a period of time. Transhumance - the regular seasonal movements along a bioclimatic/ecological gradient greater than 40km - is one dimension.
- It is important to understand what we are talking about when we see a herd, especially where there is significant conflict between conservation and herder goals. Different categories exist including livestock husbandry (movement to pasture/water), markets (trekking to markets), and movements of contraband (wealth and meat to support different outlawed groups). New categories are also likely being created (e.g., Fulani militarization).
- Transhumant herders do not have much time for organized violence and crime. Conflict is often fueled by insider-outsider politics, such as a tendency to blame outsiders for current ills. Farmer-herder conflict increases with increased proximity of livestock to fields, and a lack of security and distrust of local authority often lead herders to flee situations of crop damage. In these cases, settled herders often play an important role as intermediaries and mediators.



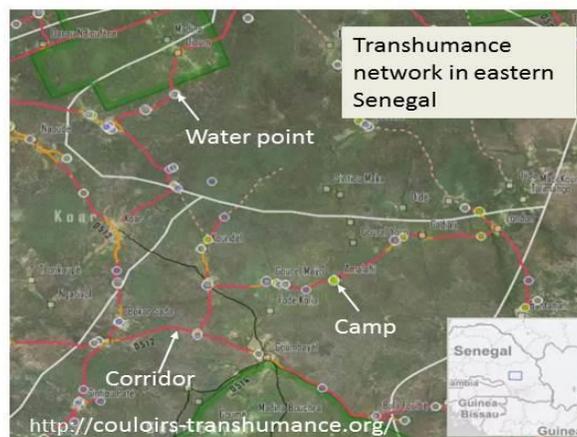
Mobility and Livestock Husbandry

A geography of home base (agriculture), camps, water points, and in cases of high agricultural pressure, movement corridors

Transhumance: regular seasonal movements along a bioclimatic/ecological gradient (> 40 km)

Shorter movements of camps around home base (less than 40km in distance)

Sedentary management around a single point (grazing up to 5 km from base)



Migration/Migratory drift: movements of home base often preceded by seasonal presence at new location.

Further Reading: Turner, M.D., et al. (2014). *Human Ecology*. [The role of livestock mobility in the livelihood strategies of rural peoples in semi-arid West Africa.](#)

Olubukola Ademola-Adelehin: “Transformation of Agro-pastoralist Relationships in Nigeria: Implications and Opportunities to Engage through Civil Society Organizations”. **Contact:** bademola@sfcg.org

Select Points:

- Important drivers of pastoral movement include north to south migrations in the dry season to access forage, salt licks, and water, and south to north migrations in the wet season to escape livestock diseases.
- Access to land is the core issue regarding pastoral-farmer conflict in Nigeria’s middle belt. Throughout the country, land is closely associated with cultural identity, and this has produced an indigene (indigenous) versus settler dichotomy, with farmers viewing Fulani pastoralists as foreign settlers even when they have been present in a given location long before farmers.
- Drivers of conflict include a militarized response to conflict by the government, proliferation of small arms, youth unemployment, and biased media narratives that have further polarized communities. Current efforts and opportunities to mitigate violence exist, including community-based peace and security initiatives that address conflict and build trust, cultural understanding, and shared economic interests between farmers and herders.



A Fulani Ardo at a community dialogue event. March, 2017. Photo courtesy of Search for Common Ground.

Further Reading: Ademola-Adelehin, O. (2017). Testimony for the Tom Lantos Human Rights Commission. [Nigeria: Conflict in the Middle Belt](#).

Mark Moritz: “Impacts of Boko Haram on Transhumance in Cameroon”.

Contact: moritz.42@osu.edu

Select Points:

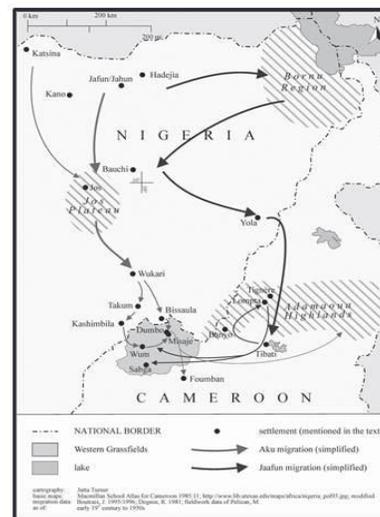
- Pastoralists use transhumance to exploit seasonal variability in the distribution of grazing resources and this takes pastoralists across national borders and creates social networks across these borders. The Chad Basin has several key resource areas (most notably flood plains), which attract large numbers of pastoralists in the dry season. This open-access system around Waza National Park in northern Cameroon has not produced a degraded system like Hardin’s “tragedy of the commons”. Rather, it has produced ideal free distribution, determined by the correlation between Normalized Difference Vegetation Index and the number of animals in camp.
- In Cameroon, elephant ivory is not funding Boko Haram: cattle theft is. Pastoralists suffer due to this insecurity and flee to new grazing areas with limited prior social contact. Parks like Waza and their buffer zones provide refuge and grazing for pastoralists. Pastoralists are often blamed for wildlife declines, however, this trend in parks has been ongoing in Cameroon since the 1970s, long before pastoral pressure.
- Insecurity is the problem, as it forces pastoralists to abandon habitual transhumance routes and strains the limits of these self-organizing complex adaptive systems.



1. INTRODUCTION

LONG-TERM PERSPECTIVE

- Historical studies of pastoral mobility in the Chad Basin show that there are no social, ecological or political boundaries.
- For example, in the last 100 years, pastoralists moved from the semi-arid savanna in Nigeria to the sub-humid and humid zones of Northwest Cameroon.



Boutrais, Jean. 1996. Hautes terres d'élevage au Cameroun. Paris: ORSTOM.

Further Reading: Moritz, M., et al. (2015). *Ecological Modelling*. [Simple movement rules result in ideal free distribution of mobile pastoralists](#).

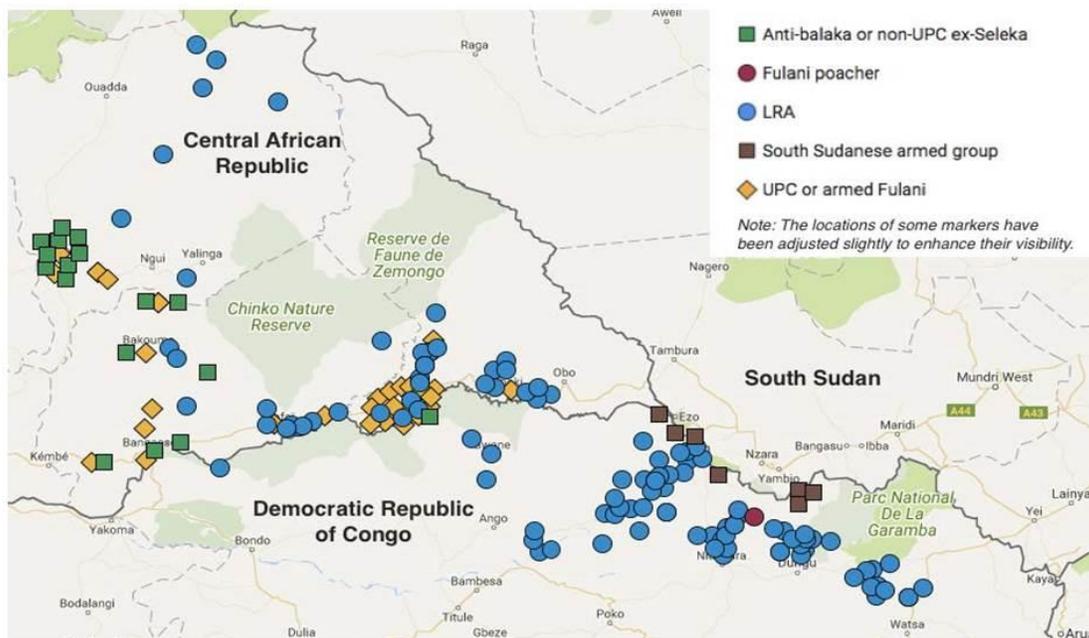
Paul Ronan: “Transhumance, armed conflict, and protection programming in the Mbomou-Uele border region”. **Contact:** paul@invisiblechildren.com

Select Points:

- Attacks on civilians are occurring at high rates in the unstable border region of southern CAR and northern DRC. In eastern CAR, more than 450 people have lost their lives due to recent conflict, and armed groups continue to push east. The peripheries of CAR and DRC are economically and politically marginalized, with a lack of credible state authority or law enforcement presence.
- There is a level of confusion among communities between the Lord’s Resistance Army (LRA) and transhumant pastoralists, referred to as Mbororo, with both groups viewed as a problem. From the Mbororo’s perspective, the LRA is predatory. Peace committees comprised of local stakeholders are extremely important for engaging pastoralist groups.
- Existing early warning systems provide important benefits for human and wildlife security in the region. Invisible Children is supporting expansion of communications between international borders (i.e., CAR and DRC) to alleviate barriers to security communications between local communities.



Attacks on civilians, 2017



Further Reading: Ronan, P., et al. (2017). [LRA Crisis Tracker Monthly Security Brief |July 2017.](#)

Jimmiel Mandima: “Integrated Landscape Conservation in Faro National Park, Cameroon and Bili Uéré Protected Area Complex in DRC and the Transhumance Context”.

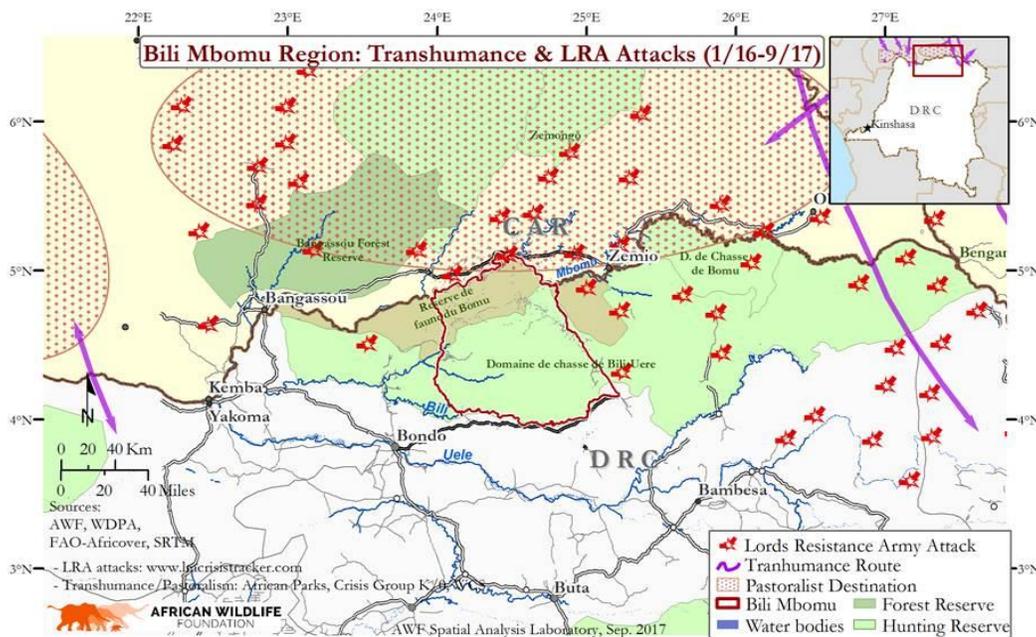
Contact: JMandima@awf.org

Select Points:

- The Faro (Cameroon) and Bili (DRC) landscapes are locations with exceptional biodiversity but face increased pressures from other land uses including illegal killing and trafficking of wildlife, artisanal gold and diamond mining, persistent insecurity due to transboundary movement of armed groups such as the LRA, and increased transhumance movements of Mbororo pastoralists.
- In the Bili landscape this conflict unfolds with uncontrolled annual fires set by local Azande herders for their cattle and with overgrazing and conflict between Azande and transhumant Mbororo pastoralists entering the region in search of forage for their livestock.
- Integrated landscape conservation is needed. This should involve participatory land use planning, effective land management, and innovative conservation enterprises and alternative livelihoods that address the triple bottom line of conservation, economic, and social impacts. For landscape-scale planning to be effective, transhumance must be considered and transhumant pastoralists taken into account as important stakeholders in this landscape.



Spatial Context of Transhumance in Bili



Further Reading: African Union (2010). [Policy Framework for Pastoralism in Africa.](#)

Lisa Inks: “Farmer-Pastoralist Conflict Management: Evidence from Nigeria and Mali”.

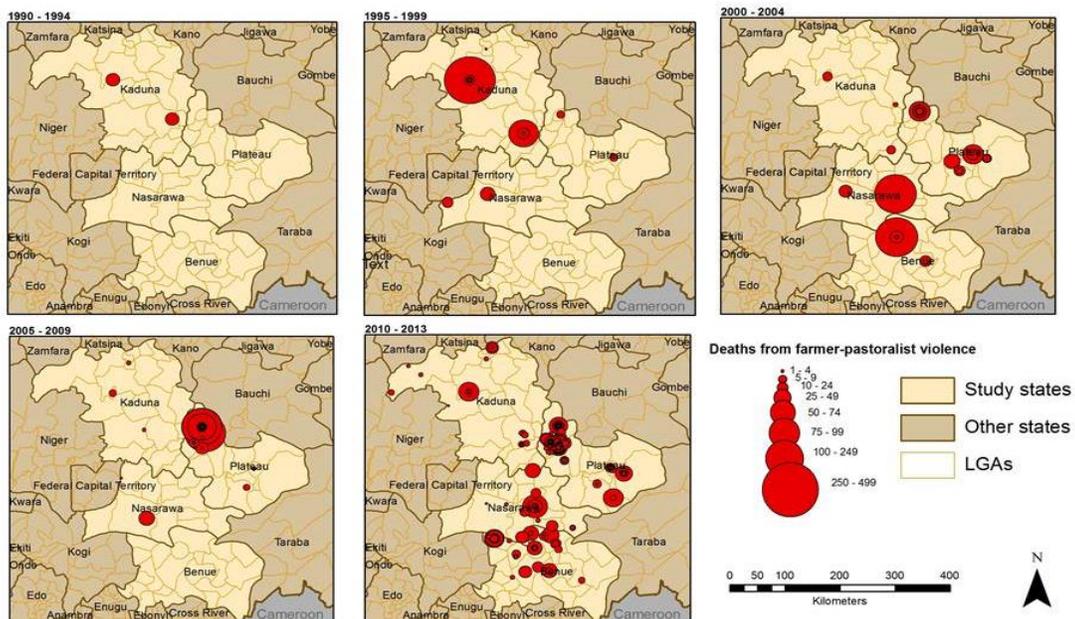
Contact: links@mercycorps.org

Select Points:

- Conflict between farmers and pastoralists is a growing problem in Nigeria and has major economic costs. In a scenario of peace, Nigeria could gain up to \$13.7 billion annually in total macro-economic progress, with an average household income increasing between 64% and 210%.
- The key objectives of Mercy Corps in Nigeria are to reduce farmer-pastoralist conflict, strengthen community capacity, and generate support for policy among local and national leaders through business research. Communities that have experienced conflict and are in a constant state of stress due to fear of conflict are likely to be less resilient and have fewer capacities to build peace and security. This fuels a cycle where the health of community peacebuilding capacities deteriorates over time.
- In Mali, violence has persisted or escalated in recent years. Religion is not a primary driver; rather, community support for youth participation in violence comes out of a sense of duty or quest for respect and a preference for rules of extremist violent groups over the unpredictability of exploitative governments.



The Growing Problem



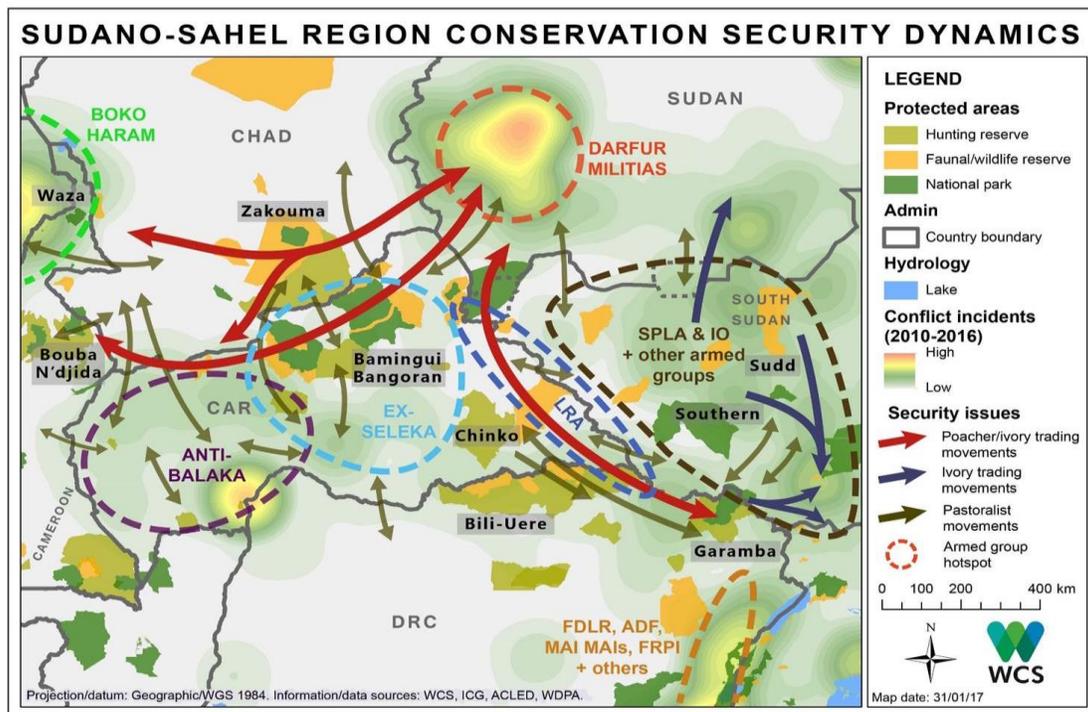
Further Reading: Richards, S., C. Dowd, and L. Inks (2015). [Conflict, Livelihoods, and Resilience: Community Capacities in Nigeria’s Middle Belt.](#)

Paul Elkan: “Transhumance, Conservation, and Security in the Sudano-Sahel Region”.

Contact: pelkan@wcs.org

Select Points:

- South Sudan’s conflict trajectory is rapidly changing and pastoral movements here are different from other parts of the Sudano-Sahel. It is important to know who you are dealing with and what politics are involved.
- Aerial surveys of northern CAR (in spring 2017) confirmed that this area, which was once known as one of the last large and pristine areas for wildlife remaining in Africa, is now deeply penetrated by transhumant pastoralists from Chad and Sudan and experiencing a major decline in wildlife populations. This has been fueled by insecurity and has resulted in a free-for-all of natural resource exploitation and further instability. Insecurity fuels similar trends in protected areas in Nigeria, Cameroon, and Chad, but these rangelands are much more limited, with the parks being some of the only suitable locations for livestock grazing.
- Transhumance contributes to insecurity, local conflicts, and armed conflicts. There is an urgent need to better understand the chain of ownership, wealth, socio-economics, influence, and politics in transhumant movements. Protected areas can provide centers of governance, security, and conflict mitigation (including with pastoralists). Engaging in spatial management of human behavior (restrictions, registration, and orientation of livestock movement) is needed, in addition to securing areas for recovering wildlife populations.



Further Reading: Elkan, P., et al. (2017). *Phys.org*. [Wildlife of northern Central African Republic in danger](#).

3. Afternoon Session Results:

The afternoon working group session identified data gaps and key questions that still need to be answered regarding transnational transhumance and emerging security and conservation concerns in the Sudano-Sahel. The session was split into two activities: 1) facilitated discussions in small groups to determine priority questions that still need to be answered, and 2) prioritization of those identified questions. This was done by way of an interactive activity, where in-person attendees were provided 10 stickers to affix to questions of their choice posted on the wall. Stickers were then summed for each question to determine priority lines of inquiry.



Afternoon session attendees discuss key questions that need to be answered regarding transnational transhumance. Photo courtesy of USFWS.

Individual questions were combined into categories after the event by the meeting organizer; a number of questions were multi-part and fell into more than one category. Question categories included the following:

- **Demographic data:** Questions regarding assessment of transhumant pastoralist herd sizes, determining identity of herd owners and herders, conducting wildlife counts in priority conservation areas, etc.
- **Process/governance questions:** Questions regarding mechanisms for engagement with stakeholders, reconciliation, conflict mediation, norms and institutions for governance, etc.
- **Spatially explicit data:** Questions regarding the origin and destination of transhumant pastoralist herds, location of wildlife strongholds, range, and movement patterns in the Sudano-Sahel region, etc.
- **Lessons learned:** Questions regarding relevant lessons learned from other geographic regions (e.g., East Africa), existing success stories within the Sudano-Sahel, etc.
- **Drivers:** Questions regarding the motivations for transhumance migrations.
- **Impacts:** Questions regarding the impacts of transhumance on wildlife and security, impacts of conflict and other drivers on the security of transhumant pastoralists, etc.

Question Categories	Sample Questions	
<i>Demographic data</i>	Who are the herders and who owns the cattle?	Who is responsible for wildlife poaching? Actual transhumant pastoralists vs. hired security?
<i>Process/governance</i>	How can linkages between community-based mechanisms and national/regional authorities and decision-making processes be constructively reinforced?	What is the status of local governance arrangements for transhumance across the Sudano-Sahel? And what is the land tenure status?
<i>Spatially explicit data</i>	What do we know about wildlife species mobility and range distribution (by taxa) and the interaction of these with human activities, including transhumance?	How/where are trypanocidal drugs (cattle vaccinations) being distributed in the Sudano-Sahel region and who are the distributors?
<i>Lessons learned</i>	What are the relevant lessons learned (methods/strategies) from East Africa that could be applicable here?	What positive case studies exist (e.g., a “non-conflict map”)?
<i>Drivers</i>	How do conflict and politics influence transhumance movements from security and natural resource management perspectives? How and why are these groups moving?	What are the social/psychological dynamics and economic opportunities for youth engaged in transhumance? Do they see a future in it?
<i>Impacts</i>	What impacts are other extractive industries having on transhumance and mobile pastoral communities?	What is the economic impact of transhumance and what is the proportionality of contributors?

A key conclusion of the meeting was the need to address the following broad lines of inquiry:

- Strategies to improve the compatibility of transhumant herding, livelihood practices of other local communities, and conservation management.
- Understanding of transhumant pastoralist seasonal movements in relation to the mobility and range distribution of key wildlife species.
- Understanding transhumant pastoralist demographics, drivers, and direct and indirect impacts on wildlife.

Meeting attendees additionally voiced interest in continued dialogue and cross-sector collaboration regarding this issue. Based on this interest, a transhumance working group is currently being organized.

Appendices

Speaker Bios



Olubukola Ademola-Adelehin - Pronunciation: Olubukola (Oh-loo-boo-coal-uh) Ademola-Adelehin (Ah-dem-oh-luh – Ah-dell-eh-heen) - is a Conflict Analyst at Search for Common Ground, the world’s largest dedicated peacebuilding organization. She is based in Abuja, Nigeria. Olubukola has over eleven years professional experience in peacebuilding and conflict prevention in Nigeria and a number of West Africa countries. She is experienced in using early warning system for conflict prevention and mitigation, enhancing the role of women in peacebuilding, mitigating agro-pastoralist conflict, conducting thematic conflict analyses, mitigating violence in electoral processes, as well as facilitating dialogue and collaboration among government actors, civil society organizations, security agencies, academia and communities for improved management of issues that could lead to violent conflict. Prior to her work with Search for Common Ground, she served as Program Manager for the West Africa Network of Peacebuilding (WANEP) in Nigeria. Olubukola holds a Masters Degree in Peace and Conflict Studies and certificates in professional peacebuilding and prevention.



Dr. Paul Elkan has worked for over 25 years on conservation, protected area management, and wildlife protection in the forests and savanna ecosystems of Africa. He is a Senior Conservationist with Wildlife Conservation Society and currently is Regional Director of WCS’s Sudano-Sahel Region program and Manager of WCS’s Conservation Aviation Fleet operating across Sub-Saharan Africa. Over his career, Paul has developed extensive experience and knowledge in designing and managing large complex programs supporting protected area management and security, wildlife law enforcement, community based conservation-security partnerships, conflict mitigation, land-use planning, extractive industry engagement, and inter-sectoral and interagency cooperation for protected area and sustainable natural resource management in conflict and insecure areas of Africa. Paul began his conservation work in Africa in 1990-93 as a US Peace Corp volunteer working in Cameroon. He then pursued a PhD in Conservation Biology at the University of Minnesota, researching bongo antelope and wildlife management in northern Republic of Congo. Over the past several years Paul has directly led aerial surveys of wildlife, livestock, and human activity in numerous countries across the Sudano-Sahel.



Jean Marc Froment is the Director of Conservation Development for African Parks Network, where he is responsible for the development of new projects in Central and West Africa. He graduated from the University of Liege (Belgium) where he got his MSc in biology and specialized in ecology and wildlife management. He has since devoted his life to wildlife conservation in Africa with a special interest in big, remote and sparsely populated ecosystems. He began his career in 1981 working for FAO and then for EC on the management of the protected areas of Northern Central African Republic. By his work in CAR in the 80's he brought an important contribution to the ban of the Legal Ivory Trade and to put the elephant in Annex 1 of the Washington Convention. He then moved as an independent expert for FZS in Garamba National Park (DRC) and thereafter to Agrer Consulting as a manager in protected areas and national parks in Dja in Cameroon and Odzala-Kokoua in Congo. He was responsible for the extension of the Odzala-Kokoua National Park. He joined African Parks in 2005.



Lisa Inks is currently Senior Peace and Conflict Advisor for Mercy Corps, where she leads research on violent extremism in West Africa and the Middle East and North Africa and supports peace and conflict programs globally. Her publications include “We Hope and We Fight”: Youth, Communities, and Violence in Mali, “Motivations and Empty Promises: Voices of Former Boko Haram Combatants and Nigerian Youth,” and a series of studies on farmer-pastoralist conflict in Nigeria. Prior to this role, she was the Director of Conflict Management Programs for Mercy Corps in Nigeria, where she oversaw the strategy and implementation of a portfolio of programs working at the intersection of peacebuilding, economic development, and governance. In addition to working as Monitoring, Evaluation, and Learning Advisor for Mercy Corps in Nigeria, she has worked as Monitoring and Evaluation Officer at IREX, as Program Manager for Global Nomads Group, and as a researcher for Search for Common Ground and Mercy Corps. She has a Master of Arts in Law and Diplomacy from the Fletcher School at Tufts University and a Bachelor of Arts from Indiana University.



Dr. Jimmiel Mandima is a Director for Program Design and Partner Relations at the African Wildlife Foundation (www.awf.org). Jimmiel has worked in conservation for more than 25 years, the bulk of which were in southern Africa where for 17 years he played different research and program leadership roles based in the Zambezi Valley with the University of Zimbabwe and AWF respectively. He currently plays a representational role for AWF in Washington DC with all partners while providing program design backstopping for AWF's Africa wide program, serving as the point person for CARPE and other initiatives. Jimmiel earned his MSc and PhD degrees from the University of Eastern Finland.



Dr. Mark Moritz is an Associate Professor in Anthropology at the Ohio State University and has conducted research with pastoralists in the Far North Region of Cameroon since the early nineties. His interdisciplinary research focuses on management of common-pool resources, ecology of infectious diseases, and regime shifts in coupled human and natural systems.



Paul Ronan is the Director of Research and Policy at Invisible Children. He also manages the LRA Crisis Tracker, a project that tracks armed group activity along the border of eastern CAR and northeastern DRC and provides analysis to policymakers, conservation and humanitarian personnel, and affected communities. Paul travels frequently to CAR, DRC, South Sudan, and Uganda, frequently collaborating with civil society leaders in all four countries. He has authored numerous reports related to the armed group activity in the region, and is a frequent contributor to media outlets, Congressional briefings, and think tank forums. Prior to joining Invisible Children, he worked for nearly a decade with The Resolve LRA Crisis Initiative



Dr. Matt Turner is a Professor of Geography at the University of Wisconsin Madison with over 30 years of experience working in Sudano-Sahelian Africa. His areas of expertise include rangeland ecology, pastoral livelihoods, and environmental governance. He has worked extensively on different types of Fulani transhumance systems in Mali, Senegal, and Niger.



Moderator: Alexis Arieff is a Specialist in African Affairs at the Congressional Research Service, where she analyzes policy issues regarding North, West, and Central Africa for Members of Congress and their staff. In 2015, Alexis was detailed to the State Department as a policy advisor to the U.S. Permanent Representative to the United Nations. She previously completed a detail to the Office of the Under Secretary of Defense for Policy as a regional director for West Africa in 2010, and served as an international election observer in Guinea in 2010 and in Tunisia in 2011 and 2014. Before joining CRS full-time in 2009 as a Presidential Management Fellow, Alexis worked as a researcher on Africa at the Committee to Protect Journalists; as a research fellow at the International Crisis Group's West Africa field office in Dakar, Senegal; and as a contributing writer for Freedom House. In 2008-2009, she was a Fulbright Scholar in Guinea, based in Conakry. Alexis received a BA from Brown University and an MA in international relations from Yale University.



Dr. Richard Ruggiero is Chief of the Division of International Conservation within the U.S. Fish and Wildlife Service (USFWS) International Affairs program, where he oversees the Regional and Species Programs. Richard has worked for USFWS for nearly 20 years and has led staff to produce significant growth and recognition of USFWS as a leading force in African conservation. He came to USFWS after 17 years in Africa and several other international and domestic positions. His first position in Africa was as a Peace Corps volunteer in the Central African Republic 1981-85, which he followed with a year as a wildlife security expert. Following two years directing the School for Field Studies in Kenya, Richard worked in Zimbabwe on the CAMPFIRE Programme before a six-year stay in the forests of Republic of Congo, where he focused on protected area development, professional training, community conservation, applied research, and wildlife security. Richard holds a Ph.D from Rutgers University, where he specialized on behavioral ecology of the elephants in Northcentral Africa.



Dr. Matthew Luizza is an American Association for the Advancement of Science (AAAS) Science and Technology Policy Fellow hosted at the U.S. Fish & Wildlife Service (USFWS) International Affairs program and Associate Faculty at Colorado State University's Natural Resource Ecology Laboratory. Bridging a social science background in environmental politics and community-based natural resource management with a natural science background in applied ecology and conservation geography, his work has spanned Ethiopia, Kenya, Alaska, and the U.S. Intermountain West, looking at the relationships between human behavior and the environment. This includes exploring the integration of local and indigenous knowledge with geospatial tools for improved environmental governance, assessing the social and ecological benefits of community-based conservation initiatives, and most recently, understanding the drivers and conservation and security impacts of long distance cross border cattle migrations in Africa's Sudano-Sahel. Matthew received a PhD in Ecology with a specialization in Human-Environment Interactions and an MA in Political Science from Colorado State University.

Full list of Questions (Afternoon Session)

Category	Question	# of Stickers
Process/ Governance	What strategies can be employed to strengthen extant or new forms of social organization in transhumance systems to improve the compatibility of livestock husbandry, farming, and wildlife conservation?	12
Demographic data	Who are the herders and who owns the cattle?	10
Spatially explicit data	What do we know about wildlife species mobility and range distribution (by taxa) and the interaction of these with human activities, including transhumance?	10
Process/ Governance	What is the status of local governance arrangements for transhumance across the Sudano-Sahel? And what is the land tenure status?	9
Process/ Governance	What is the best way to engage national governments on issues around transhumant pastoralism and human and wildlife security?	9
Lessons learned	What relevant lessons can be learned from East Africa?	9
Demographic and spatially explicit data	What are the countries of origin, identities of owners, and number of livestock, in addition to the financial circuits associated with transhumant cattle husbandry?	8
Process/ Governance and Drivers	In the areas receiving expanded numbers of transhumance herds, what are the push-pull factors attracting herds to the area and what are the changing social relations among transhumance groups, between them, and other actors?	8
Process/ Governance	How can we establish capacity to collect reliable data and information over time on dynamics of transhumance in relation to key drivers like climate change, insecurity, etc., to objectively deploy appropriate strategic interventions?	7
Impacts	What is the economic impact of transhumance and what is the proportionality of contributors?	7
Drivers	What are the social/psychological dynamics and economic opportunities for youth engaged in transhumance? Do they see a future in it?	7
Process/ Governance	How can linkages between community-based mechanisms and national/regional authorities and decision-making processes be constructively reinforced?	6
Process/ Governance	How can the number of cattle be minimized and how can elites be encouraged to store their wealth in other ways?	5
Process/ Governance and Drivers	What is the status of the different pastoral codes in West Africa, and how do they influence the current conflicts?	5
Drivers	How do conflict and politics influence transhumance	5

	movements from security and natural resource management perspectives? How and why are these groups moving?	
Other	Is the Sudano-Sahel green or degraded? Is there an overgrazing crisis in the region?	4
Process/ Governance	How can we make better investments in pastoralism?	4
Other	What is the state of understanding of commercialized transhumance in the Sudano-Sahel region?	4
Impacts	What impacts are other extractive industries having on transhumance and mobile pastoral communities?	4
Process/ Governance	Is managing transhumance a realistic objective? If not, what are other strategies?	4
Drivers	How should the greater Sudano-Sahel region be further subdivided by what is driving conflict and pastoral movements?	4
Process/ Governance	What are the roles/responsibilities of humanitarian organizations (pastoralists are often excluded as it is assumed they are the progenitors of insecurity)?	4
Other	What is the relationship of the Sudanese Army with ivory traffickers and the livestock trade?	3
Demographic data and Drivers	What are the political, military, ethnic, and religious identities of cattle owners and what are the motivations impacting human/cattle movements?	3
Lessons learned	What lessons can be learned from East Africa (i.e., Kenya, Uganda, and Ethiopia) in regards to mobile pastoralism and safeguarding protected areas and livestock markets/supply chains?	3
Process/ Governance	What training is needed for protected area staff so they better understand transhumant issues?	3
Process/ Governance	How are the decisions of transhumant pastoralists made? Can they be influenced?	3
Demographic and spatially explicit data	Who owns the livestock, what is their country of origin, and what are their lucrative ends?	3
Other	How can the negative impacts of aid be minimized and the benefits maximized?	3
Other	How are five year funding cycles best executed? Where is the data to plan on?	3
Spatially explicit data and Drivers	How/where are trypanocidal drugs (cattle vaccinations) being distributed in the Sudano-Sahel region and who are the distributors?	2
Process/ Governance	What are the best processes for transboundary agreements and effective management and control of transhumance, and for what end?	2
Other	What are the gaps in knowledge, including signs and signals of escalation of conflict or changes in rangeland ecology?	2
Lessons	What positive case studies exist (e.g., a “non-conflict map”)?	2

learned		
Process/ Governance	How should humanitarian assistance be used regarding transhumance?	2
Demographic data	Are cattle numbers growing or being concentrated in the Sudano-Sahel region?	2
Spatially explicit data, demographic data, and Drivers	How do we gain information on changes in transhumance spatial patterns and increasing cattle numbers in the Sudano-Sahel and why those changes are occurring? Who is in the best position to gather these data?	1
Process/ Governance	Specifically in CAR, could delineation of specific migratory corridors to regulate the movements of large cattle herds help to reduce the conflicts between herders and resident communities?	1
Other	How do those in power (corruption) destabilize the system, process of grievance?	1
Other	How is insecurity influencing society?	1
Drivers	How does movement of refugees (and internally displaced people) impact transhumance and conservation?	1
Process/ Governance	What is the role of the international community in addressing issues of transhumance?	1
Process/ Governance	What is known about the process of militarization of transhumant pastoralists?	1
Lessons learned	What are the relevant lessons learned (methods/strategies) from East Africa that could be applicable here?	1
Demographic data	What extent of cattle herds are owned by wealthy people or warlords?	1
Demographic data	Who is responsible for wildlife poaching? Actual transhumant pastoralists vs. hired security?	1
Process/ Governance	What models can we employ at scale that help us address natural resource degradation and insecurity at the same time?	0
Other	How do we deal with context-specific issues related to transhumance?	0
Process/ Governance	How can good governance be achieved? How to start? How to trickle down from good governance to on the ground action?	0
Process/ Governance	How can herders be professionalized?	0
Process/ Governance	How can absentee/shadow owners of cattle in conflict areas be engaged?	0
Other	How do we understand the different/conflicting narratives of the “greening of the Sahel” and “Sahelian degradation”?	0
Process/ Governance	What will it take to foster lasting regional and other cross-jurisdictional collaboration to harmonize transhumance with other land uses/practices, including biodiversity conservation, in order to optimize ecosystem services in this resource-rich area?	0

Process/ Governance	How can external support to community-based early warning systems and local conflict mediation mechanisms help communities continue to adapt to be inclusive of transhumant groups?	0
Process/ Governance	What are the proper roles for/balance of protected area law enforcement and community engagement?	0
Other	How can we capture accurate data when many do not want to share? Should we question existing data sets (e.g., cattle population numbers)?	0
Process/ Governance	Can we create cattle management areas?	0
Other	What are local perceptions of pastoralists?	0
Other	How are fisheries related to transhumance?	0
Other	What security conditions are needed to support successful conflict resolution?	0

Participant List

#	Name	Title	Organization/Program
1.	Bukola Ademola-Adelehin	Conflict Analyst	Search for Common Ground
2.	Angelo Amoussou	Assistant Program Director, Parks Forests and Nature	National Agency for the Promotion of Heritage and the Development of Tourism
3.	Joanna Anyanwu	Fellow/Conflict Stabilization Officer	Department of State
4.	Conrad Aveling		Independent
5.	Andrew Bisson	Livestock Advisor	USAID, BFS
6.	Alexis Arieff	Specialist, African Affairs	Congressional Research Service
7.	Natasha Calderwood		Conservation International
8.	Kenneth Cameron	Program Officer	USFWS
9.	Daphne Carlson Bremer	Biologist	USFWS
10.	Colleen Castle		Department of the Interior
11.	Sophie Grange-Chamfray		Zoological Society of London
12.	Dirck Byler	Chief, Africa Branch	USFWS
13.	Toni Condon	Executive Director	African Parks
14.	Dan Coil	Senior Special Agent	USFWS
15.	Ani Cuevas	Program Officer	USFWS
16.	Paul Elkan	Senior Conservationist	Wildlife Conservation Society
17.	Jean Marc Froment	Director of Conservation Development	African Parks

18.	M. Niamir Fuller	Consultant	Consultant
19.	Halae Fuller	Consultant	Consultant
20.	Michelle Gadd	Program Officer	USFWS
21.	Belen Garcia		Rescate International
22.	Nancy Gelman	Program Officer - Africa	USFWS
23.	Charlotte Germain-Aubrey	ESP	MCC
24.	Jennifer Glover		Virginia Tech
25.	Rebecca Goodman	Coordinator	ABCG
26.	Michelle Haynes	Chief, Eurasia Branch	USFWS
27.	Tatiana Hendrix	International Affairs Specialist, Central Africa	USFWS
28.	Raffael Hickisch		WildCru
29.	Tracy Hruska		UC Berkeley
30.	Naftali Honig	Anti-Poaching Information Coordinator	African Parks
31.	Kenneth Honsinger		USFWS
32.	Craig Hoover	Chief, DMA, IA	USFWS
33.	Lisa Inks	Senior Peace and Conflict Advisor	Mercy Corps
34.	Louise Johnson		WAVE Action
35.	Amy Jonach		USFWS
36.	Christopher Jordan	Nicaragua Program Director	Global Wildlife Conservation
37.	Yula Kapetanakos	Senior Analyst	USFWS
38.	Martial Kiki		University of Florida
39.	Saverio Krätli		IUAES Commission on Nomadic Peoples
40.	Sally Lahm	Africa & Madagascar Conservation Officer	Rainforest Trust
41.	Janet Lawson	Environment Officer	USAID
42.	William Lazaro	Intern	Africa Biodiversity Collaborative Group
43.	Thomas Leuteritz	Chief, Branch of Conservation Science Policy, DSA	USFWS
44.	Paulette Lloyd		Department of State
45.	Matthew Luizza	AAAS Science & Technology Policy Fellow	USFWS
46.	Jimmie Mandima	Director of Program Design	African Wildlife Foundation
47.	Alastair McNeilage	CARPE Senior Technical Advisor	USAID
48.	Mark Moritz	Associate Professor	Ohio State University
49.	Matt Muir	Team Lead, Central Africa	USFWS

50.	Nick Parker		U.S. Army National Ground Intelligence Center
51.	Jesse Patterson	Program Specialist	USAID
52.	Jeremy Radachowsky	WCS Mesoamerica Director	Wildlife Conservation Society
53.	Lauren Risi	Senior Program Manager	Wilson Center
54.	Stephanie Romanach		USGS/DOI-ITAP
55.	Paul Ronan	Director of Research and Policy	Invisible Children
56.	Heidi Ruffler	Outreach Specialist	USFWS
57.	Richard Ruggiero	Chief, DIC	USFWS
58.	Devinder Sadana		ICAR
59.	Michael Schlitzer	IRTM Contractor	USFWS
60.	Eugene Sivigny		USFWS
61.	Katie Smith	Policy Research Associate, Global Affairs and Partnerships	Search for Common Ground
62.	Russ Stanford	Office of Law Enforcement	USFWS
63.	Matt Turner	Professor	University of Wisconsin-Madison
64.	Alden Whittaker	Grants Management Specialist	USFWS
65.	Liz Williamson	Faculty of Natural Sciences	University of Stirling
66.	Kim Kim Yee	Land Team Leader	USAID
67.	Damon Yeh	Biologist, Eurasia Branch	USFWS
68.	Truman P. Young		UC Davis
69.	Brooke Stearns Lawson		USAID

Status of grazing and browsing mammals in the Sudano-Sahel zone with emphasis on Sudano-Sahel antelopes. Table by Kate Nowak, USFWS. IUCN/CITES/CMS categories: CR (Critically Endangered), EN (Endangered), VU (Vulnerable), LC (Least Concern).

Family	Common name	Scientific name	IUCN / CITES / CMS	Countries in Sudano-Sahelian zone where present	Population trend & estimate	Movement patterns	Notes (incl. on genetics & threats)
Bovidae	Dama gazelle	<i>Nanger dama</i>	CR / I / I	Chad, Mali, Niger; now only present at 5 sites: S. Tamesna (E. Mali); Air massif & Termit/Tin Toumma N.N.R. (Niger); Manga region & Ouadi Rime Ouadi Achim Faunal Reserve (Chad)	Decreasing; <50 mature individuals	Nomadic	Uncontrolled hunting, expanded livestock grazing; make long-distance movements & small groups could be nomads rather than subpops.
	Addax	<i>Addax nasomaculatus</i>	CR / I / I	Termit/Tin Toumma (Niger) last viable pop; also in Djourab sand sea (Chad)	Decreasing; <100 indiv.	Nomadic	Poaching; disturbance from oil exploration; ‘most desert-loving large ungulate’ (Newby 2013)
	Hirola or Hunter’s hartebeest	<i>Beatragus hunteri</i>	CR / Not listed	Endemic to NE Kenya & SW Somalia; translocated population in Tsavo East NP	Decreasing	Full migrant	Hunting, competition with cattle and disease incl. rinderpest, drought, habitat loss
	Nile lechwe	<i>Kobus megaceros</i>	EN / Not listed	Only in Sudan & Ethiopia in Sudd & Machar-Gambella wetlands; Zeraf Reserve most important PA for this spp. (Fay <i>et al.</i> 2007)	Decreasing; >50% decline in last 21 yrs (3 generations)		Oil exploration & exploitation in Sudd; civil war; constrained by large numbers of cattle
	Dorcas gazelle	<i>Gazella dorcas</i>	VU / CITES III in Algeria & Tunisia / CMS I only NW	Formerly entire Sahelo-Saharan region but now in decline in almost all range states	Decreasing; largest current pops. in Chad (esp. Ouadi Rime-Ouadi Achim Faunal Reserve), Niger (Air-Tenere National Nature	Highly mobile; needs shade (Fay <i>et al.</i> 1990)	Overhunting & habitat degradation (from overgrazing by livestock & drought)

			African pops		Reserve & Termit Massif-Tin Toumma) and horn countries.		
	Red-fronted gazelle	<i>Eudorcas rufifrons</i>	VU / CMS I	W NP (Niger, BF, Benin); Waza NP (Cameroon); Zakouma (Chad); Dinder NP (Sudan)	Decreasing; 25,000 (East 1999)	Seasonal	Favorite shade trees destroyed by camel herders who use them to feed camels & goats
	Topi, Korrigum (FR), Tiang	<i>Damaliscus lunatus</i> spp. <i>jimela</i> (<i>topi</i>), <i>korrigum</i> (<i>korrigum</i>), <i>tiang</i> (<i>tiang</i>)	VU / Not listed	Topi has disappeared from Mali, Mauritania, Mozambique, Senegal, The Gambia, Burundi, now found in Virunga, Queen Elizabeth, Akagera, Mara, Serengeti; 98% of Korrigum found in W-Arly-Pendjari (BF, Niger, Benin), Waza & Benoue (n. Cameroon) & no longer in Mauritania, Mali, Senegal or The Gambia & vagrant (if that) in Nigeria & W. Chad; tiang in PAs esp. Zakouma, Salamat Faunal Reserve & Aouk hunting areas (Chad), N. CAR, Sudan to SW Ethiopia & extreme NW Kenya	Decreasing; 93,000 topi, 75,000 tiang (although 2007 WCS aerial surveys suggest >155,000) and 3000 korrigum (species total ~300,000, East 1999)		
	Giant eland / Derby's eland	<i>Tragelaphus derbianus</i> ; <i>T. derbianus gigas</i>	VU/ Not listed	Cameroon, CAR, Chad, DRC, Guinea, Mali, Senegal, S. Sudan, Sudan; ssp. <i>derbianus</i> found mostly in Niokolo-Koba NP, Senegal.	Decreasing; 15,000-20,000 & likely stable in CAR & Cameroon in areas where human pop. densities low, although declining across entire range	Nomadic (“in search of young <i>Isoperlinia</i> shoots”; Fay et al. 1990)	One of most sought-after antelope trophies (hunting thought to contribute positively to their conservation)

	Roan antelope	<i>Hippotragus equinus</i>	LC / Not listed	Largest pops in Arly-Singou and Nazinga, BF (>7,370) & Waza NP & hunting zones of N. province, Cameroon (>6,070); also Niokolo-Koba (Senegal), Mole in Ghana, Pendjari, Benin	Decreasing; 76,000 w/ two-thirds of pop. declining in e.g. Comoe, Arly-Singou & Cameroon's N. province.	Wet season dispersal (Fay et al. 1990)	Poaching & loss of habitat mean they are mostly limited to PAs; Western ssp. <i>koba</i> is genetically sep.
	Hartebeest	<i>Alcelaphus buselaphus</i>	LC / Not listed	Benin, BF, Cote d'Ivoire, Ghana, Guinea, Guinea Bissau, Mali, Niger, Nigeria, Senegal, Togo; Cameroon, CAR, Chad, DRC; Ethiopia, Kenya, S. Sudan, Sudan, Uganda	Decreasing; 363,000 (East 1999) but varies a lot depending on which hartebeest (e.g. Swayne's in Ethiopia est. at <800 indiv.)		
	Waterbuck	<i>Kobus ellipsiprymnus</i>	LC / Not listed	Nikolo-Koba, Comoe, Arly-Singou & Nazinga, Mole & Bui, Pendjari, NPs & hunting zones of N. Province, Cameroon, Omo-Mago-Murule (Ethiopia)	Decreasing; ~200,000 (95,000 Defassa & 105,000 common), East 1999		Wide elimination from former range mainly due to hunting (Spinage 2013)
	Kob	<i>Kobus kob</i>	LC / CMS II both at level of spp. & ssp. <i>leucotis</i>	Benin, BF, Cameroon, CAR, Chad, DRC, Cote d'Ivoire, Ethiopia, Ghana, Guinea, Guinea Bissau, Mali, Niger, Nigeria, Senegal, S. Sudan, Togo, Uganda	Decreasing; Once one of most abundant antelopes in W. and C. Africa; white-eared (ssp. <i>leucotis</i>) has smallest range around Sudd where it is still the most numerous; est. 500,000 to 1 mil	Relatively sedentary	Unsustainable hunting (this sp. is highly susceptible to hunting); habitat loss; droughts; disruption of flooding regime e.g. Maga dam on Logone floodplain, Cameroon; rinderpest; cause for concern for esp. Buffon's kob (VU)
	Greater kudu	<i>Tragelaphus strepsiceros</i>	LC	CAR, Chad, DRC, Ethiopia, Kenya; across northern part of its range some of the strongholds are: Zakouma NP, Awash	Stable; est. 482,000 (East 1999)		Hunted for horns and high-quality meat; can survive long periods without water (Owen-Smith)

				NP, Baringo, northern Laikipia & Tsavo			2013)
	Oribi	<i>Ourebia ourebi</i>	LC / Not listed	Benin, BF, Cameroon, CAR, Chad, DRC, Cote d'Ivoire, Ethiopia, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Mali, Niger, Nigeria, Senegal, S. Sudan, Sudan, Togo, Uganda	Decreasing	Sedentary (Fay et al. 1990)	Agricultural settlement, livestock, increased hunting for meat; ~92% decline in Comoe NP, Cote d'Ivoire because of poaching (relatively resilient to hunting)
Elephantidae	African elephant	<i>Loxodonta africana</i>	VU / split I & II (only I in this zone) / CMS II	Mali; Car, Chad, DRC; ETC	Decreasing	Highly peripatetic in Mali; most pops. transboundary	Poaching for ivory; negative interactions with people; loss of habitat incl. corridors; oil exploration / noise pollution; roads
Giraffidae	Giraffe	<i>Giraffa camelopardalis</i> spp. <i>peralta</i> and <i>antiquorum</i> (also spp. <i>camelopardalis</i> in S. Sudan & Ethiopia)	VU / Not listed	West African giraffes (<i>Giraffa c. peralta</i>) limited to isolated population in SW Niger (categorized as EN in 2008. In Caf, <i>G. c. antiquorum</i> found in Cameroon, CAR, Chad, DRC, S. Sudan.	Decreasing; est. 97,562 indiv.		Habitat loss, civil unrest, poaching (for e.g. tails), ecological changes incl. climate
Hippopotamidae	Common hippopotamus	<i>Hippopotamus amphibius</i>	VU / II / Not listed on CMS	Not common in W. Africa; Nigeria and Niger contain ~400; Korup NP; between 150 and 1500 in CAR	Decreasing; 125,000-148,000 total but in W. Africa est. at ~7,000 spread over 19 countries; Largest declines in DRC		Illegal and unregulated hunting for meat and ivory (canine teeth); habitat loss; civil unrest in DRC (Hillman Smith <i>et al.</i> 2003)

Note: Many estimates cited on the IUCN website come from East 1999.

Scimitar-horned oryx	<i>Oryx dammah</i>	Extinct in the wild*		No confirmed evidence since early 1990s*.
----------------------	--------------------	----------------------	--	---

*25 individuals reintroduced into the Ouadi Rimé-Ouadi Achim Game Reserve in Chad (Summer 2016).