



PROGRAMME with ABSTRACTS

International virtual workshop, July 5-6 2022

Etosha-Kunene Conservation Conversations: Knowing, protecting and being-with nature, from Etosha Pan to the Skeleton Coast

hosted by the University of Cologne (Germany), Bath Spa University (UK) and the
University of Namibia



Proposed Outcome: Open-Access edited volume



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This workshop aims to provide a platform for a conversation on conservation policies and practices in 'Etosha-Kunene', taking historical perspectives and diverse natural and cultural histories into account. While Etosha National Park in the east of the area was declared according to a model of fortress conservation (protecting nature *from* people), the various conservancies and community forests west and north of it – established much later – followed a model of integrated conservation (protecting nature *with* people). Weaving the manifold histories, knowledges and practices of diverse actors together with various historical and contemporary conservation policies and practices will contribute to future conservation aspirations and practices of the region.

Recognising the diversity of histories, cultures, and natures in this internationally valued region can support laws and practices in biocultural conservation in Namibia and beyond. Literature review also indicates that there is vast empirical work covering the broader area of Etosha-Kunene that might be better connected so as to support a platform for informing 'conservation conversations' for this area.

Our overall aim for this workshop is thus to assist with generating ideas for the future design of conservation initiatives that more fully consider and integrate historical and cultural knowledge and diversity.

The two-day workshop is organised into an introductory panel and five themed panels à 90 minutes with 20 minutes for each paper followed by a broader discussion. The workshop closes with a plenary discussion. Please note that the time in the programme indicates GMT+2. The papers presented at the workshop will be published in an edited volume.





Workshop Programme

Etosha-Kunene Conservation Conversations: Knowing, protecting and being-with nature, from Etosha Pan to the Skeleton Coast 5-6 July 2022

DAY 1: Tuesday, 5th July 2022

10.00-11.00 (GMT +2) **Panel 1: Opening and overview**
Chair: Kletus Likuwa (University of Namibia)

Workshop Opening (15 min)

Ministry of Environment, Forestry and Tourism

The colonial history of nature conservation in Etosha-Kunene, its legacies and prospects for tomorrow (20 mins)

Ute Dieckmann (University of Cologne), Sian Sullivan (Bath Spa University), Selma Lendelvo (University of Namibia)

Language and assumptions surrounding Etosha (10 mins)

John Mendelsohn (Ongava Research Centre)

11.00-11.15 **Break**

11.15-12.45 **Panel 2: Landscape approaches and local knowledge in Kunene**
Chair: Sian Sullivan (Bath Spa University)

Exploring the drivers and natures of landscape approaches to conservation in Kunene Region, Namibia (20 min)

Selma Lendelvo (UNAM)

Building on the foundation of local empowerment and local knowledge for conservation of Highland elephants, Kunene Region, Namibia (20 min)

Michael J Wenborn (Faculty of Humanities and Social Sciences, Oxford Brookes University, UK); Roger Collinson (Independent consultant in Community-based Natural Resources Management and Wildlife Tourism, Namibia); Vincent Nijman (Faculty of Humanities and Social Sciences, Oxford Brookes University, UK);



Magdalena S. Svensson (Faculty of Humanities and Social Sciences, Oxford Brookes University, UK)

Connectedness with nature experience: perceptions of youth in the Kunene region on the protection of wildlife (20 min)

Likeleli Zuvee Katjirua (UNAM); Jeff Muntifering (Save the Rhino Trust); Selma Lendelvo (UNAM)

Discussion

12.45-14.00 Lunch Break

14.00-15.30 **Panel 3: People, lions and CBNRM**

Chair: †Kibagu Heinrich Kenneth | Uiseb (MEFT)

Integrating Remote Sensing Data with CBNRM for desert-adapted lion conservation (20 min)

John Heydinger (Lion Rangers Program/University of Minnesota Lion Center)

Use of the SMART system to monitor progress of the Lion Ranger programme in order to achieve community empowerment and lion conservation in Namibia's northwest (20 min)

Mathilde Brassine (Research Programme Coordinator, Lion Rangers Programme Administrator, Windhoek)

Investigating the spatial ecology of the human-lion interface in the communal conservancies' wildlife corridor between Etosha and Skeleton Coast, Northwest Namibia (20 min)

Uakendisa Muzuma (University of the Witwatersrand, Johannesburg)

Discussion

15.30 **End of day 1**

DAY 2: Wednesday, 6th July 2022

10.00-11.30 **Panel 4: Social lives of conservation in north-west Namibia**
Chair: Ute Dieckmann (University of Cologne)

Historicising the Palmwag Concession, north-west Namibia: colonial, Indigenous and conservation visions of an 'Arid Eden' (20 min)
Sian Sullivan (Bath Spa University, UK & Gobabeb Namib Research Institute, Namibia)

Environmentalities of Namibian conservancies: how communal area residents govern conservation in return (20 min)
Ruben Schneider (University of Aberdeen, UK)

The social life of water in rural Namibia (20 min)
Michael Schnegg (Universität Hamburg); Michael Bollig (University of Cologne); Diego Menestrey Schwieger (University of Cologne); Richard Dimba Kiaka (School for Field Studies, Kenya Programme)

Discussion

11.30-11.45 **Break**

11.45-13.15 **Panel 5: Etosha-Kunene ecologies**
Chair: Sian Sullivan (Bath Spa University)

20 years of research on fairy circles in north-west Namibia: lessons from pattern analysis, grass excavations, and ecohydrological feedbacks (20 min)
Stephan Getzin (Department of Ecosystem Modelling, University of Goettingen, Germany & Gobabeb Namib Research Institute, Namibia)

Investigating the impacts of giraffe (*Giraffa camelopardalis*) browsing on *Maerua schinzii* and *Boscia albitrunca* species in the Etendeka Concession Area, Namibia, and practical ways to protect these trees (20 min)
Kahii Maoveka (Etendeka Mountain Camp)

Assessing the extent of hybridization in mountain zebra (*Equus zebra*) and plains zebra (*Equus quagga*) populations using ecological and integrated genetic approaches (20 min)
‡Kibagu Heinrich Kenneth |Uiseb (MEFT, Namibia)



13.15-14.15 Lunch Break

14.15-15.45 Panel 6: After eviction and prospects for future conservation

Chair: Selma Lendelvo (UNAM)

After eviction: Tsintsabis resettlement farm, Namibia, in historical perspective (20 min)

Stasja Koot (University of Wageningen), Moses //Khumûb (tbc, Tsintsabis Trust)

Disputing land, territory and belonging in southern Kaoko's conservation landscapes (20 min)

Elsemi Olwage (Free-lance consultant, Namibia)

Thinking with relations: the Etosha National Park, the Hai||om, and prospects for future conservation (20 min)

Ute Dieckmann (University of Cologne)

Discussion

15.45-16.00 Break

16.00-17-00 PLENARY / DISCUSSION & Plans for Publication

Chair: Sian Sullivan



ABSTRACTS (sequence as per programme)

Panel 1: Opening and Overview

The colonial history of nature conservation in Etosha-Kunene, its legacies and prospects for tomorrow

Ute Dieckmann¹, Sian Sullivan², Selma Lendelvo³

¹University of Cologne, ²Bath Spa University, ³University of Namibia

In 1907, the German colonial administration proclaimed an area of north-western Namibia, as one of three Game reserves in German South-West Africa. This area, stretching from Etosha Pan in the east north-west into 'Kaokoveld' up to the Kunene River bordering Angola, was by no means an 'untamed wilderness' but inhabited by a number of indigenous groups speaking different languages, and a diversity of animal and plant species, waters, soils, and so forth. The situation was highly dynamic, in terms of mobility, shifting affiliations and alliances, and already co-shaped by early colonisation, trade, and mission. The proclamation of Game Reserve No. 2 can be seen as the beginning of a long and varied history of colonial nature conservation in 'Etosha-Kunene' with shifting objectives, policies and practices with tremendous influence on the human and beyond-the-human inhabitants of the area.

In this paper, we trace the history of nature conservation as embedded in the larger colonial enterprise, including "native policy" and settlement, foregrounding its spatial implications and considering the challenges posed by this colonial legacy for today's nature conservation endeavours.

Language and assumptions surrounding Etosha

John Mendelsohn (Ongava Research Centre)

Reporting on events and discussions on circumstances around Etosha are often misled by the use of inappropriate language and assumptions. The presentation will explore examples, in part to correct certain misconceptions and in other parts to generate both discussion and enquiry that should lead to more accurate information and understanding of Etosha's surrounds.



Panel 2: Landscape approaches and local knowledge in Kunene

Exploring the drivers and natures of landscape approaches to conservation in Kunene Region, Namibia

Selma Lendelvo (University of Namibia)

This study looks at the emerging landscape conservation approach, drawing from interviews with stakeholders and local people living and working in communities adjacent to the Etosha National Park. The communal area immediately to the west of the Etosha is primarily under community conservation through communal area conservancies which coincides with its historically known landscape combination of pastoralism and wildlife. The current legal community conservation approach in the Kunene region is primarily based on boundaries of a community or resource such as conservancies and community forests. However, a trend is noticeable in different parts of Namibia wherein landscapes that overlap these areas and communities are being considered, so as to create larger connected conservation areas that broaden access and benefits from natural resources. For example, there have been discussions in the past about developing a Kunene People's Park, and present proposals for an Ombonde People's Park and other landscape level initiatives are implemented by the MEFT with the support of the Environment Investment Fund (EIF) and the German Development Agency GIZ.

Conservation and livelihoods in rural Kunene west of Etosha are dependent on natural resources that are widespread across landscapes or migratory. The common purpose of the landscape approach encompasses holistic utilization of the area that can preserve both natural resources and traditional livelihoods like pastoralism. This paper aims to understand the drivers towards the landscape level thinking among stakeholders and communities, particularly drawing from historical practices of value and meaning to people. During interviews, it was strongly felt that benefits seem to be broader when communities can access a larger landscape. Landscape approaches also tend to recognise the shared identity and common value to key features in the area by neighbouring communities, while strengthening collaborations among conservancies. Respondents also argued that the continuation of conservancy level management alone may lead to ecosystem fragmentation or separate people from places of value outside their conservancies. Not engaging in landscape conversation can even lead to disconnecting communities in the Kunene landscape in future, although it is not very clear how this approach could shift the power and control dynamics. Other respondents went further to indicate that open areas outside conservancies should be utilised through common agreement rather than in a disputed manner. However, the realization of landscape approaches is risky currently as it is not backed by any laws, although other respondents were of the opinion that the forthcoming Wildlife and Protected Areas Management Bill seems promising as a piece of legislation to support the formalisation of any landscape approach to conservation. Current arguments supporting landscape approaches are geared toward maximising benefits for communities from wildlife and tourism. This approach is also designed to recouple decoupled communities to allow for shared access to resources, allowing for collective preservation of traditional livelihoods and rural economy. The landscape design would also facilitate the



addressing of common and large-scale challenges such as climate change, degradation, HWC, wildlife crime and poverty.

Building on the foundation of local empowerment and local knowledge for conservation of Highland elephants, Kunene Region, Namibia

Michael J Wenborn¹, Roger Collinson², Vincent Nijman¹, Magdalena S. Svensson¹

¹Faculty of Humanities and Social Sciences, Oxford Brookes University, UK

²Independent consultant in Community-based Natural Resources Management and Wildlife Tourism, Namibia

The Northern Highlands are located in between Etosha National Park and Skeleton Coast National Park in the Kunene Region of northwest Namibia. The Highlands make up a remote, arid, mountainous landscape where elephants co-exist with rural communities. There has been detailed research on the desert-adapted elephants, to the west of the Highlands, for over 30 years, but minimal research on the populations of “Highland elephants” in the Northern Highlands. As part of our scoping for a research project on the Highland elephants, we have carried out two short studies: (i) consultation with game guards from 10 conservancies on their knowledge of Highland elephant populations, including detailed analysis of Event Book data on human-elephant conflict incidents reported in Orupupa Conservancy; (ii) brief case studies on six conservancies to assess lessons from the conservancy model. Our findings indicate that the past successes of the conservancy model in changing local attitudes to increase the perceived value of wildlife are currently being challenged. This is because of the increasing competition between the local people and wildlife over resources, particularly in the context of the severe drought years between 2013 and 2020 in the northwest of Namibia. The conservancy model empowers local communities to decide on the utilisation of the local wildlife and resources. The particularly high loss of livestock during the droughts of 2018-2019, and the decrease in revenues from the drop in tourism during the pandemic, have pushed many households to lower poverty levels. Feedback indicates that this is putting a strain on local perceptions on the value of wildlife. After 2019, many local people, who had lost livestock, set up vegetable gardens. Our consultations with game guards and analysis of Event Books has shown that this has increased incidents of human-elephant conflict and brought some incidents nearer to villages, which is also impacting local attitudes to elephants. There have been 20 to 30 years of monitoring activities by community game guards, with associated training by MEFT and wildlife NGOs. Our main finding is that the game guards have much more detailed knowledge, understanding and experience than expected. We conclude that there is a strong case for expanding roles of game guards to build the resource base for implementation of local management plans for conservation in the fragile landscape of the Northern Highlands, and to protect its unique population of Highland elephants and other wildlife.



Connectedness with nature experience: perceptions of youth in the Kunene region on the protection of wildlife

Likeleli Zuvée Katjirua¹, Jeff Muntifering² & Selma Lendelvo¹

¹University of Namibia, ²Save the Rhino Trust

Tourism in Namibia greatly contributes to the Gross Domestic Product of the country (GDP). Namibia is one home to some of the nearly extinct animals such as the black rhino (*Diceros bicornis bicornis*), and is also home to other animals like the lion (*Panthera leo*) and oryx (*Oryx gazella*) that draw tourists to Namibia. Geographically these animals are located in areas lived in by communities and managed as communal area conservancies. These conservancies are aimed at protecting these animals and at the same time catering and caring for the communities around them. Hence, not only in these conservancies but throughout the country, there are different organisations and campaigns to save these animals, such as Save the Rhino Trust and the Rhino Pride Campaign.

One of the most important key factors in protecting and preserving animals in these conservancies is the participation of community members in these areas. In order to gain participation from community members, awareness and knowledge about the importance of these animals and their rarity need to be exchanged. In the pre-survey “Connectedness with Nature Experience”, the aim was to understand the experience young community members have with wild animals, in comparison to domestic animals. The animals used in the survey were; rhinos, lions, oryx and goats. Thus, the survey illustrated that community members understand the importance of these animals and how they can benefit from them by assisting in their protection.

Conclusively, very little is known about the rhino. Almost half of the community members have never seen the rhino, but there is a clear understanding of how rare and beautiful it is; how dangerous it is and why is it important to save it from poaching. The lion is also known to be dangerous and beautiful: the majority of community members have seen the lion, for the reason that it is not as rare as the rhino. Similarly, the oryx is well spotted by community members; it also provides meat for communities through managed hunting, and they understand why the oryx needs to be protected. Whilst these wild animals need to be protected at a global level, nationally they are also Namibia’s pride, and are even pictured on Namibian bank notes. Lastly, the goat is seen as a source of ownership/pride. It provides employment, income, meat and milk. A goat is a valued possession, that also needs a lot of caring.



Panel 3: People, lions and CBNRM

Integrating Remote Sensing Data with CBNRM for desert-adapted lion conservation

John Heydinger (Lion Rangers Program/University of Minnesota Lion Center)

Community-based natural resource management (CBNRM) takes place at the intersection of protecting and being-with nature. CBNRM of the desert-adapted lions (*Panthera leo*) presents an array of cultural and scientific challenges to local communities living alongside lions, and often collides with CBNRM principles. Among the premier challenges to lion conservationists is rigorously monitoring lion movements in unfenced landscapes. Within the semi-arid and arid environments of northwest Namibia, monitoring challenges are compounded by low levels of information relevant to lion habitat-use and movement ecology in dryland areas. Technological advances in remote sensing are creating new ways for researchers and wildlife managers to monitor wildlife and other natural resources. Drawing on remote sensing data collected via satellite-GPS collars affixed to lions and via trail cameras placed in designated core wildlife areas within communal conservancies and government concessions, Heydinger discusses how remote sensing methods of carnivore monitoring are contributing to lion conservation on communal lands in Kunene. He emphasizes how these data are being incorporated into the Lion Rangers' program, a CBNRM initiative in which trained community conservationists take responsibility for monitoring lions and managing human-lion conflict on communal lands. The goal is integrating technologically sophisticated movement data with CBNRM principles and historically-informed perspectives stemming from Heydinger's other research, to catalyse community-centered management of lions on communal lands, contributing to sustainable livelihoods and in situ lion conservation.

Use of the SMART system to monitor progress of the Lion Ranger programme in order to achieve community empowerment and lion conservation in Namibia's northwest

Mathilde Brassine (*Research Programme Coordinator, Lion Rangers Programme Administrator, Windhoek*)

In the communal conservancies of northwest Namibia, a resilient population of desert-adapted lions (*Panthera leo*) continues to survive alongside individual farmers and communities which suffer poverty-oriented livelihood outcomes from Human-Lion Conflict (HLC), and other challenges exacerbated by the COVID-19 pandemic. The Lion Ranger programme, created in 2017, consists of 49 Lion Rangers who are Game Guards selected by their communities and employed by their conservancies and who have received additional training. They monitor desert-adapted lions through citizen science methods, prevent and respond to HLC incidents to decouple HLC from negative livelihood outcomes and work closely with their communities to provide education and awareness about lions and related natural resource challenges. The SMART (Spatial Monitoring and Reporting





Tool) system was first introduced into the programme in September 2021 to enable rapid collection and transfer of patrol data which helps assess Ranger activities in the field and monitor wildlife movements on an ongoing basis. The SMART system will support decision-making regarding lion conservation and management at a community-level.

Investigating the spatial ecology of the human-lion interface in the communal conservancies' wildlife corridor between Etosha and Skeleton Coast, Northwest Namibia

Uakendisa Muzuma (University of the Witwatersrand, Johannesburg, South Africa)

Protected areas (PAs) are essential for conserving large carnivores, with their large-ranging behaviour to meet their basic ecological needs. However, large carnivores also occur outside PAs and have shared landscapes with humans for millennia. The Namibian government officially introduced the community-based natural resources program (CBNRM) in 1996. It aims to devolve wildlife conservation practices and benefit local people inhabiting communal areas. The program has achieved remarkable successes via sustainable harvesting through hunting, tourism and meat consumption and has encouraged the coexistence of wildlife and rural communities on communal land. Through practice and collaboration with various stakeholders, residents learn to coexist and benefit from nature. However, because the program is built upon human-wildlife coexistence, human-lion (*Panthera leo*) conflict (HLC) is also present. This has been a pressing challenge, particularly regarding people's coexistence with dangerous animals such as lions. Although the CBNRM program has achieved initial success, less emphasis has been placed on understanding how humans, livestock, and wildlife use the shared landscape. The omission of monitoring human settlement encroachment and livestock movement into demarcated wildlife areas in communal conservancies is of great concern. Muzuma will discuss his research project, which focuses on remote sensing of lion and goat movement using satellite-GPS collars. He will focus on understanding goat (*Capra aegagrus hircus*) movement ecology within the wildlife areas. Information collected on goat movement within wildlife areas will be used to better manage the shared landscape in the corridor between Etosha and Skeleton Coast National Parks. His emphasis is more on the lion-goat space use to contribute to evidence-based goat spatial habitat use in the communal conservancies, to ensure appropriate deployments of HLC mitigation measures.



Panel 4: Social lives of conservation in north-west Namibia

Historicising the Palmwag Concession, north-west Namibia: colonial, Indigenous and conservation visions of an 'Arid Eden'

Sian Sullivan (Bath Spa University, UK, and Gobabeb Namib Research Institute, Namibia)

The Palmwag Tourism Concession comprises some 550,000 hectares of the Damaraland Communal Land Area (as delineated in the Communal Land Reform Act, 2002) in Kunene Region, north-west Namibia. To its west lies Skeleton Coast National Park. Otherwise, the Concession is situated within a mosaic of differently designated communal lands to which diverse qualifying Namibians have access, habitation and use rights: namely, Sesfontein, Anabeb and Torra communal area conservancies on the Concession's north, north-east and southern boundaries, with Etendeka Tourism Concession to the east.

Established under the pre-independence Damaraland Regional Authority led by Justus ||Garoëb, Palmwag Concession lies fully north of the vet fence/'Red Line' that marches east to west across Namibia. In colonial and apartheid times, this demarcation curtailed the expansion into north-west Namibia of freehold commercial farmland owned by, or leased to, white settler farmers. In doing so, it contributed to the retention of populations of valued and charismatic wildlife in this area, including so-called desert elephant (*Loxodonta africana*), lion (*Panthera leo*) and black rhino (*Diceros bicornis bicornis*). The Palmwag Concession is particularly celebrated for sustaining the largest population of black rhino outside a protected area, an artefact of a colonial history in which imported firearms aided the removal of these animals throughout southern and central Namibia. Tourism establishments now hosted by the Concession are amongst those supplying income to the various communal area conservancies on the Concession's boundaries. The area is also considered critical as part of a connected conservation landscape and wildlife 'corridor' extending west from the iconic conservation territory of Etosha National Park towards the Skeleton Coast.

Drawing on archive research, interviews with key actors linked with the Concession's history, and heritage mapping with local elders through much of the Concession's terrain, this paper aims to place the Concession more fully within the historical circumstances and effects of its making. In doing so, competing and overlapping colonial, Indigenous and conservation visions of the landscape are explored for their roles in empowering specific types of access and exclusion. Envisioned, commodified and marketed today as a wilderness and 'Arid Eden', the paper opens up ways that local and historical constructions of the landscape intersect with, and sometimes contest and remake, this vision.



Environmentalities of Namibian conservancies: how communal area residents govern conservation in return

Ruben Schneider (University of Aberdeen, UK)

This paper examines how communal area residents in north-west Namibia experience, understand, and respond to their conservancies. Following Foucault's (2007) governmentality concept and specifically its 'environmentality' variant (Luke 1999, 2011; Fletcher 2010, 2017), it frames conservancies as localised global environmental governance institutions which aim to modify local people's behaviours in conservation- and market-friendly ways. Based on yearlong ethnographic fieldwork across four conservancies, it reveals how local communities culturally demystify, socially re-construct, and ultimately govern a global, neoliberal institutional experiment in return. First, the paper highlights the divergent ways in which local people experience the pivots of the conservancy system characterised by benefits and a sense of ownership over natural resources. While it confirms stark experiential discrepancies and distributional injustices, it cautions against a simplistic affirmation of the conservation dictum that 'those who benefit also care'. In contrast, the paper argues that experiences of neoliberal incentives like ownership and benefits are only a limited predictor of local conservation practices. The extent to which local people cooperate or resist conservation does not only depend on the global modes of governance that conservancies aim to localise, but, first and foremost, on the local structures, desires, and agencies through which they operate on the ground. In the context of Namibian conservancies, this 'friction' (Tsing 2005) between global and local ways of seeing and being in the world produces novel, hybrid environmentalities that are characterised by what Bayart (2009) calls "the politics of the belly". Examining the nature and effects of this hybrid environmentality, the paper reveals that community area residents seek to opportunistically work the conservancy system to their maximum advantage, for example by continuing banned livelihood activities or even capturing the conservancy itself. Despite near universal participation in the politics of the belly and its "regime[s] of economic accumulation and social inequality" (Bayart 2009: xlix), communal area residents try to obscure their own malpractices, while protesting against those of others. This highlights the accountability gap within conservancies which not only entrenches local inequalities but effectively transfers frictions between global and local environmentalities to the community level where they have the potential to develop into protracted intra-community conflicts. The accountability gap is traced back to conservancies' reliance on an unbridled neoliberal environmentality which includes neither an external, structural incentive against capture, such as a credible threat of government intervention, nor sufficient space for alternative environmentalities to meaningfully develop.

Finally, the paper argues that conservancies should no longer displace, but instead promote alternative environmentalities that reflect indigenous beliefs, intrinsic values, and non-dualistic ontologies. To the extent that neoliberal logics remain, the paper calls for additional oversight, support, mediation and, if necessary, re-regulation of conservancies. As forewarned by both Foucault (2008) and Ostrom (1990), if inequality is to be opposed, neoliberal environmentality has to be kept in check, irrespective of whether it works through global or local networks.



The social life of water in rural Namibia

Michael Schnegg¹, Michael Bollig², Diego Menestrey Schwieger² and Richard Dimba Kiaka³

¹Universität Hamburg, ²University of Cologne, ³School for Field Studies, Kenya Programme

Since Independence, water management has profoundly changed in rural Namibia. Inspired by global environmental policies, the government transferred the responsibility for water to local user groups. In so doing, the state urged communities to develop CBNRM institutions that follow Elinor Ostrom's famous design principles. This was seen as a scientifically grounded guarantee to enable cooperation around a collective good—water, in this case. More than 25 years later, none of these institutions still exist. At the same time, many people who have water share it. A close look at the social structure helps to explain why this is so. Sharing water is embedded in other domains, including sharing food, pastures, and ancestries. One issue with CBNRM theories is that they assume no cooperation, and that cooperation must be built through formal institutions and around a particular good (e.g., water, wildlife, forests). However, in rural communities it appears to be the other way around. Cooperation—and conflicts—are already present and any new domain of sharing (e.g., water) fits into the existing social forms. Therefore, formal institutions are neither necessary nor do they maintain tenable social relationships. To develop a more sustainable water policy, the institution theory on which it is based must take into account that cooperation does not need to be established from scratch and, along with conflicts, is already a fully-formed aspect of rural social landscapes.

Panel 5: Etosha-Kunene ecologies

20 years of research on fairy circles in north-west Namibia: lessons from pattern analysis, grass excavations, and ecohydrological feedbacks

Stephan Getzin (Department of Ecosystem Modelling, University of Goettingen, Germany, and Gobabeb Namib Research Institute, Namibia)

The fairy circles (FCs) of Namibia are one of nature's greatest mysteries. Millions of these barren patches extend over vast areas along the eastern Namib where rainfall is highly stochastic, both spatially and temporally. The annual *Stipagrostis* grasses germinate only when sufficient rainfall has fallen at a site. Then, the barren desert transforms within one or two weeks into a green carpet and the FCs stand out as a striking polka-dot pattern.

The first research on FCs was undertaken in the late 1970s by G.K. Theron in the Kunene, proposing that *Euphorbia damarana* shrubs could be the cause of the FCs. Many other causal agents such as burrowing rodents, termites, ants, abiotic gas or plant competition for soil water have been proposed until today. I made first contact with the fairy circles in the late 1990s when I was a student at the University of Namibia. During my vacations, I volunteered in the IRDNC project (Integrated Rural Development and Nature Conservation) at Wêreldsend. It was in those times when I also accompanied the current IRDNC director, John Kasaona, in the Marienfluss and Hartmann's Valley to undertake boundary negotiations for the new Marienfluss conservancy. In early 2000, I participated in an expedition to the FCs of the Giribes, Marienfluss, and Hartmann's Valley and published one of



the early studies on that subject. Since then, I have seen many hypotheses on the origin of fairy circles come and go. Having specialized in spatial ecology during my Ph.D., I lead-authored many studies on FCs with a particular focus on their spatial “behaviour”. In recent years, we have also found FCs in Australia, and have found unusually shaped FCs in the Giribes. We also re-examined the old Euphorbia hypothesis after more than forty years.

In this talk I will give an overview on the topic of fairy circles with a particular focus on their spatial patterns, on grass excavations, and biomass-water feedbacks. This talk will include detailed field investigations during the rainy seasons from 2020 to 2022. My talk will emphasize that the right timing of fieldwork is critical because the grasses complete their life cycle within only a few weeks.

Generally, in study plots that received grass-triggering rainfall most recently, the roots of the dead grasses in FCs were in 100% of the cases undamaged, root-shoot ratios were significantly greater, and the roots were as long or even longer as those of the matrix grasses outside of the FCs. This shows that drought stress caused grasses in the FCs to invest into roots to reach the percolating water. The results also demonstrate that the cause of the grass death in FCs was not induced by termite herbivory. The continuous soil-moisture measurements demonstrate that the matrix grasses strongly depleted the upper soil water of the FCs after rainfall, which explains why most grasses cannot establish and quickly die in the FCs. Overall, our findings suggest that grass death in fairy circles is induced by ecohydrological feedbacks and that FCs are an emergent pattern resulting from plant self-organization.

Investigating the impacts of giraffe (*Giraffa camelopardalis*) browsing on *Maerua schinzii* and *Boscia albitrunca* species in the Etendeka Concession Area, Namibia, and practical ways to protect these trees

Kahii Maoveka (Etendeka Mountain Camp)

This study was conducted on the impacts of giraffe (*Giraffa camelopardalis*) browsing on the important pollinator trees *Maerua schinzii* (Ringwood tree) and *Boscia albitrunca* (Shepherd’s tree) within the Etendeka Concession area, Western Namibia. Historically, giraffe populations have been amplified here through translocations designed to enhance the tourism product. The Concession is located in the Mopane savannah, semi desert and savannah transition vegetation zones. Due to browsing by giraffe, *Maerua schinzii* and *Boscia albitrunca* trees developed a distinctive shape with only a small, round, high-up canopy of leaves above a very high browse line. Giraffe are known to be the tallest land animal. They are selective browsers. Direct observation of giraffes feeding in the field indicated that they browse on leaves and twigs at different heights, depending on how high up they can reach, with males browsing on tall trees and females seeming to prefer to bend their necks down to browse on lower trees and shrubs. A total of six plant species were observed browsed by the giraffes. The feeding preference was *Terminalia prunioides*. The observation of giraffe feeding on *Salvadora persica* may indicate nutritional stress but this observation is inconclusive. The study also explored five different techniques to protect these trees from further browse damage by giraffes.





Assessing the extent of hybridization in mountain zebra (*Equus zebra*) and plains zebra (*Equus quagga*) populations using ecological and integrated genetic approaches

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Biodiversity loss is occurring at a rapid rate due to anthropogenic changes to the natural environment. The impacts of human activities are observed at all levels of biodiversity from modification of ecosystems to the extinction of species and the loss of genetic diversity, whereas human alteration of the physical landscape and species distribution can affect gene flow and introgression by influencing the degree of contact between groups of individuals. Large herbivore species are increasingly restricted to fenced protected areas, a situation that limits their opportunities for dispersal and their access to natural water sources. This restricted movement may lead to genetic consequences including disruption of gene flow, inflation of inbreeding, and loss of rare alleles supporting local adaptation and genetic fitness.

Many protected areas located in Africa make use of artificial water points to provide water for wildlife in the dry season. Availability of vital resources such as water may alter wildlife distribution as some herbivores no longer need to migrate, and become localized. This localization may cause rapid population increase of water-dependent species such as the zebra, increasing competition with more vulnerable low density species and interspecies interaction.

Etosha National Park, a large protected area in Namibia, is home to two zebra species, Hartmann's mountain zebra (*Equus zebra*) and plains zebra (*Equus quagga*). Mountain zebra are restricted to the dolomite ridges in the far western section of the park while plain zebra occur throughout the park. Etosha National Park was once a large connected landscape of about 80,000 km² at the time of its proclamation in 1907 with its size now reduced to 22,000 km². In addition to the reduction in size of the park, artificial water points were established in the 1950s to improve wildlife viewing experience of the tourists, while the park boundary fences covering over 850 km was erected in the 1970s blocking wildlife dispersal beyond the park boundaries. There are over 100 perennial watering points in the Park, including artesian springs, contact seeps and 55 boreholes. Historically, the overlap in range of the two zebra species was limited, as plains zebra confined their movements to the southern and eastern edges of the Etosha Pan during the dry season, and to the open plains west of the Pan during the rainy season. Mountain zebra in the park are restricted to the rocky and mountainous western section of the park, and the west of the park into the escarpment. However, with the artificial provision of perennial water sources throughout the park, plains zebra expanded their range and now overlap extensively with the mountain zebra range in the west. The extended overlap in range of the two previously geographically separated species in Etosha creates a potential conservation problem in the form of hybridization between the two species as the movement of mountain zebra to the west is restricted by the park boundary fence, while the two species interact at waterholes, and sometimes are observed grazing together. Plains zebra occur at higher density throughout the park compared to the mountain zebra.



Panel 6: After eviction and prospects for future conservation

After eviction: Tsintsabis resettlement farm, Namibia, in historical perspective

Stasja Koot (University of Wageningen (and Moses ||Khumûb? tbc.)

After being evicted from Etosha National Park in 1954, many Hai||om Bushmen (San) became farm workers. Having lost their lands under colonialism and apartheid to nature conservation and large-scale agriculture, many remained living in the margins of society at the service of white farmers, conservationists or the South African Defense Force. After Independence in 1990, an important strategy of the Namibian land reform policy included the resettlement of marginalised people on farms specifically allocated for this purpose. Resettlement farms became important policy means to address historically built-up inequalities: new land divisions should also benefit the 'previously disadvantaged'. However, these policies have in practice continually overlooked the most marginalised, including Bushmen groups. This paper addresses this history, and the Namibian resettlement process, as an important building block of post-colonial and post-apartheid land reform and development after the country's independence. It does so by critically analysing the case of the Tsintsabis resettlement farm, just over a hundred kilometres east of Etosha. Following David Mosse, we pay specific attention to the '(un)implementability' of the resettlement policy: based on the rationale that resettlement should provide marginalised groups with opportunities to start self-sufficient small-scale agriculture and various other development initiatives, we describe the case history of Tsintsabis and its surroundings, where Hai||om (and to a lesser degree !Xun) Bushmen lived long before 1990, many as former evictees from Etosha. Development here has proven highly problematic: agricultural support from the government has been limited while income-generating activities (a bakery, a tourism project, construction jobs) have mostly revealed intra-community tensions, discrimination of Bushmen and local elitism, often instigated through 'outside' politically and economically powerful actors. Problems such as HIV/Aids, alcohol abuse, violence, in-migration, a lack of public services and ethnic tensions have grown throughout the years. Moreover, novel pressures currently arise: land in and around Tsintsabis is continually abducted by more powerful groups and 'high officials' hold private meetings to request Hai||om to 'de-ethnicize'; denying their ethnicity so that they cannot claim land anymore (in response to a current Hai||om land claim, including on Etosha). This paper shows important lessons about the resettlement policy in Namibia by positioning it in a broader historical, national and political-economic context. We argue that resettlement policy cannot be considered 'implementable' in Tsintsabis because it is subordinated to stronger cultural and political economic forces within Tsintsabis and from the outside.



Disputing land, territory and belonging in southern Kaoko's conservation landscapes

Elsemi Olwage (Free-lance consultant, Namibia)

Abstract. Since the onset and mapping of conservancies in north-western Namibia's communal rangelands from the late 1990s onwards, they have been closely entangled with contestations over land and territory. As studies have shown, this has been for various reasons, including the primacy placed on fixing territorial boundaries and membership, the insecurities in land tenure generated by the transition period during the first-decade post-independence, and the multiple and overlapping claims to land by different groups across conservancies. In recent years, conservancies have also been legally mobilised to contest the land rights and settlement of some households. Drawing on research conducted during 2014 to 2016 on a land and grazing dispute in southern Kaoko in the central Kunene region, this paper takes a closer look at some of the complexities at stake. In particular, I show how local institutions governing land access and shared pastures were under pressure, driven by widespread drought, regional migrations, population growth, the legacies of colonial borders and rule, and larger territorial disputes between competing Traditional Authorities. This paper then argues that conservancies and state courts have become key technologies mobilised in an attempt to reclaim local agency and authority, including in a context of a post-independence shift towards more centralised and state-driven land governance and growing political fragmentation. And finally, I reflect on the implications of this for enacting fairness and justice, intragroup relations, and for conceptions of territory and belonging.

Thinking with relations: the Etosha National Park, the Hai||om, and prospects for future conservation

Ute Dieckmann (University of Cologne, Germany)

The Etosha National Park in Namibia has been since centuries (at least) inhabited by Hai||om, a group of (former) hunter-gatherers. In 1907, Etosha was proclaimed as a game reserve; Hai||om were still allowed to live in the area until they were expelled in the 1950s due to then-dominant ideas of fortress conservation and the need for labour outside the protected area. In recent years, Hai||om have been provided with several resettlement farms by the Namibian government as a reaction to the land dispossession they experienced due to colonial nature conservation initiatives. In this paper, I explore the various relationships of Hai||om with the land, with human and other-than-human beings before their eviction from Etosha. I argue that within this relational framework the eviction implies a social deprivation which was only inadequately addressed with resettlement decades after relocation. Finally, I suggest alternative paths for compensation and argue that indigenous ontologies need to be taken seriously in the context of nature conservation.