12. Gendered Climate Change-Induced Human-Wildlife Conflicts amidst COVID-19 in Erongo Region, Namibia

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The risks of climate change for drier countries have become more pronounced. Small increments in temperature changes are considered to pose serious consequences for dry countries such as Namibia and Botswana, both of which have also experienced significant drought in recent years. In this chapter, we discuss climate change-induced human-wildlife conflicts (HWC) as they relate to gender, for communities in Erongo Region, west Namibia. We draw attention to the experiences of women as a vulnerable social group that is bearing climate change-induced HWC, and foreground how they are adapting to these pressures.

Setting the Scene

Namibia is one of the driest countries in southern Africa with a semi-arid climate characterised by low and highly variable rainfall (Bann and Wood 2012). The average annual rainfall for Namibia is 350mm, ranging from 50mm in the west to 650mm in the north-eastern part of the country. In addition to variable rainfall, Namibia experiences increased unpredictability in weather patterns associated with extreme events such as frequent floods and droughts (for consideration of climate and environmental change and stability over the longer timeframe of the last 150 years, see Rohde et al.'s chapter, this volume).

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During the period from 2002 to 2013 drought spells were recorded (Kapolo 2014; Schnegg and Bollig 2016). In the successive years from 2013 through to 2019 severe droughts were experienced, necessitating the country's president to declare a state of emergency in 2013, 2016 and 2019. Farmers lost close to 90,000 livestock between October 2018 and June 2019, due to severe drought (Shikangalah 2020).

The impacts of these recent droughts were felt on many sectors of the economy including agriculture, livestock, water, and conservation. While these impacts can be measured quantitatively and effects on the country's Gross National Product (GDP) can be pronounced nationally, qualitative impacts at local communities' levels are equally important if somewhat less visible.

For the wildlife and biodiversity conservation sector, direct impacts of droughts have been documented. For instance, a report by Kaula Nhongo observed for Erongo Region that in drought conditions thirsty elephants (*Loxodonta africana*) raid villages to eat crops and drink water from the storage tanks, describing how "elephants destroy houses, water points, gardens and fences and this has caused an uproar with most communities who are now threatening to take matters into their own hands" (Nhongo 2019: online). The implications are not only for the material well-being of the communities and/or the country at large, but can also lead to the loss of human lives. The encounter related below lays bare the reality of such experiences 'on the ground':

> [o]ne of the farmers, who is still haunted by a vicious encounter with an elephant, is 37-year-old Tjitemiso (nickname) who was attacked in 2017 while accompanying his friend home in the night. Tjitemiso and his friend crossed paths with the elephant which chased them into the bush. They tried to hide behind a tree, but the elephant discovered them. He managed to escape but his friend was trampled to death. Although he lived to tell the tale, his life will never be the same again. "I watched my long-time friend get trampled to death by an elephant, a picture that will remain with me for the rest of my life... the government needs to act" (Nhongo 2019: online).

And again,

> in 2017, a man in Omatjete villages was killed by an elephant on his way from visiting friends. This incident combined with others triggered

> this community to tender a petition to MET [Ministry of Environment and Tourism, now MEFT] to have elephants removed from the Daures Constituency (cited in Hartman 2017).

We interpret this incident as an example of climate change manifesting through drought-induced human-wildlife conflict (discussed further below). Namibia has been hailed for its progressive legislation and policies for wildlife protection, but events like this one may reverse the social acceptability of its conservation programme. Wildlife legislation in Namibia, through enactment of the Nature Conservation Amendment Act of 1996, allows for the involvement of local communities in Namibia's remaining communally managed areas if they organise themselves into formal organisations called conservancies (NACSO 2004; Weaver and Petersen 2008). Namibia's community-based conservation initiative has been further hailed for bringing economic benefits for communities and the country at large through tourism and conservation hunting alongside increased wildlife populations (Jacobsohn and Owen-Smith 2003; Bandyopadhyay et al. 2004; Lendelvo et al. 2012: Silva and Mosimane 2014).

Battling the Triple Threat: Climate Change + Human-Wildlife Conflict + COVID-19 Pandemic

While communities in the conservation sector are already battling the impacts of climate change-induced human-wildlife conflict (HWC), the outbreak of the COVID-19 pandemic has greatly exacerbated the situation. As we have indicated, Namibia's frequent droughts over the past few years have encouraged the movement of wildlife such as elephant closer to human settlements, searching especially for water and resulting in competition with people for already scarce resources. As in Kenya, where climate change has also been observed to contribute to HWC, particularly with elephants (Mukeka et al. 2019), these combined circumstances have escalated HWC in communities in Namibia's communal-area conservancies.[1] Instead of revenues from conservation

1 The location and tenure of communal-area conservancies are an outcome of Namibia's specific historical circumstances. This history gave rise to a division

hunting and tourism being spent on addressing developmental challenges facing communities, they are being rerouted to address climate change-induced human-wildlife conflict.

Recent funding acquired from the Green Climate Fund through the Environmental Investment Fund of Namibia has thus been prioritising water infrastructure maintenance in the conservancies to address the current water situation for conservation and reducing human-wildlife conflict.[2] Apart from supporting water infrastructure, different insurance schemes have also been put in place to cover the cost of HWC in communities in Namibia, as well as globally (Leslie et al. 2019).

During 2020, already hard-hit revenues from the conservation and tourism efforts of local communities, became further severely affected by the outbreak of the COVID-19 pandemic, which halted the inflow of tourism and conservation hunting revenue into conservancies, because of the closure of international borders which disrupted tourism arrivals. These events seriously limited revenue inflow and slowed down conservation and monitoring interventions including addressing human-wildlife conflicts, thereby additionally increasing communities' vulnerabilities in rural, wildlife-rich areas (Lendelvo et al. 2020).

We trace these interconnections in more detail for two specific communal-area conservancies below, drawing on a survey with which we were involved.[3] This survey formed part of the project *Integrated Approach to Proactive Management of Human-wildlife Conflict and Wildlife Crime in Hotspot Landscapes in Namibia* (UNDP 2020), carried out for Namibia's Ministry of Environment, Forestry and Tourism (MEFT), and supported by the Global Environment Facility (GEF) through the United Nations Development Programme (UNDP).

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between surveyed freehold farms allocated to settlers by the country's colonial and apartheid governments, separated from areas forming so-called 'Native Reserves' and 'Homelands' where peoples autochthonous at the advent of colonial rule were constrained to live, and that have remained after independence under communal forms of tenure and management (Sullivan 2018).

2 Environmental Investment Fund of Namibia (EIF), CBNRM EDA Project (Eif.org.na, 2020), https://www.eif.org.na/project/eda1-project.

3 Lendelvo and Nghitevelekwa co-led the stakeholders' assessment and gender analysis for this project.

Local Experiences of Climate Change-Induced Human-Wildlife Conflict

Otjimboyo and Ohungu are communal-area conservancies located in the Erongo Region, west Namibia (see Figure 6). The two conservancies are registered and gazetted by the Namibian government and form part of the country's acclaimed Community-Based Natural Resources Management (CBNRM) Programme. The conservancies lie along major westward-flowing ephemeral rivers called the Ugab (!U‡gāb) and Huab (ǁHuab), whose riverine vegetation constitutes important habitat for different wildlife species, including the desert-adapted elephant and lion (*Panthera leo*) (MET/NACSO 2018), as well as for livestock.

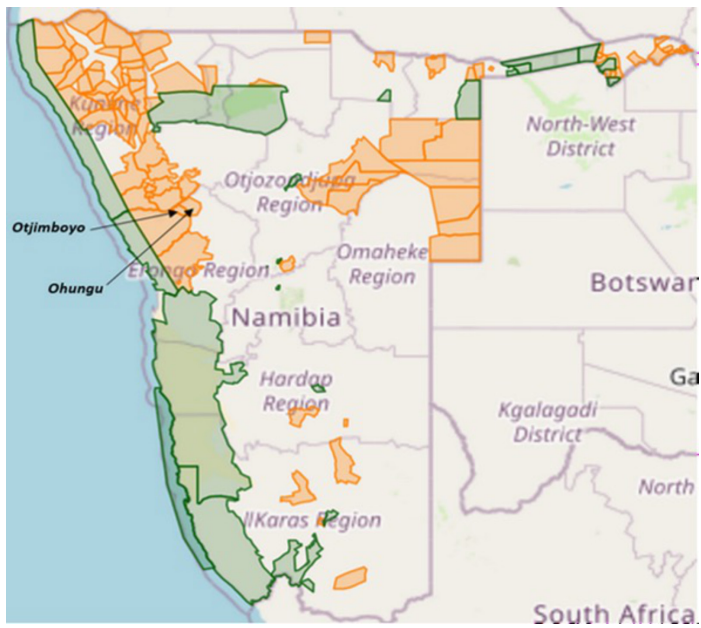

Fig. 6. Map showing the location of the Otjimboyo and Ohungu conservancies in Namibia, adapted by the authors from public domain image at http://www.nacso.org.na/conservation-and-conservancies. Areas shaded orange are communal-area conservancies; those in green are national parks and other state conservation areas. © NACSO, CC BY 4.0.

Because of their location in the driest part of the country, livestock farming rather than crop production is the primary source of local

livelihood, with conservancies relying on the same landscapes for wildlife conservation to diversify and strengthen local livelihoods (MET/NACSO 2018; Kamupingene et al. 2016). The post-independence conservancy approach was embraced by these communities to generate income from tourism and conservation hunting, and particularly to engage in organised wildlife conservation so as to reduce the cost of livestock predation by indigenous fauna amongst these pastoralist communities (MET/NACSO 2018).

Gender-Differentiated Experiences of Climate Change-Induced Human-Wildlife Conflict

Women in so-called developing nations are especially vulnerable to climate-related events such as droughts, a situation that is further exacerbated by existing cultural norms, unequal distribution of roles and responsibilities at household levels, and inequalities in access to, and power over, resources (Lendelvo et al. 2018; Yavinsky 2012). In addition, economic disparities between men and women at household levels in many rural communities in Africa persist, and are further exacerbated by the triple threat of climate change, HWC and the COVID-19 pandemic. Women in the communal area conservancies of Otjimboyo and Ohungu associate climate change with the interruption of natural patterns and events upon which culture and traditions are reliant (as similarly recorded in Sullivan 2002). Norms and practices within these communities are strongly connected with seasons because seasonal rainfall patterns drive productivity and thus the availability of different resources, including water and forage.[4] Climate change and the widening variability of climatic conditions affect human-wildlife conflict through their effects on food and water supply for wildlife. In particular, recurrent droughts and rising temperatures cause frequent food and water shortages for herbivores, and contribute to greater wildlife mobilities and the likelihood of contacts between wildlife, people and livestock (Mukeka et al. 2019).

4 Editors' note: for more detail regarding the implications of unpredictably varying rainfall on the dryland ecologies and production systems of west Namibia, see Sullivan (1996) and Sullivan and Rohde (2002).

Livestock farming (pastoralism) is both culturally important and provides wealth for households. Although livestock have traditionally been predominantly owned by men, women in the two conservancies also own mainly small stock, primarily goats, and some also own donkeys used for transport. In our survey, most women indicated that farming helps to generate income for the school education of their children, and to provide for their needs and provisions through sales or bartering. Donkeys are especially important for transportation, assisting in fetching water, taking people to key services such as hospitals and pension grant pay-points, and enabling them to attend social gatherings such as community meetings, funerals and weddings. In one of the interviews, a respondent shared that

> an elderly woman lost her donkey to predators [...] and after that it was a challenge for her to travel to the centre for her pension (pers. comm. Otjimboyo 2019).

The frequency of droughts experienced in these two communities has led to poor pasture in these areas, meaning that livestock are forced to travel long distances from homesteads, exposing them as prey to predators. Donkeys in particular were subjected to high mortalities or becoming vulnerable to predators due to limited food sources. A large proportion of the impacts of HWC during 2018 and 2019, for example, was linked to the devastating country-wide drought, which left many poor households destitute, and especially those which were female-headed (MET/NACSO 2018; Shikangalah 2020). Human-wildlife conflict has been found to exacerbate female-headed households' vulnerabilities and to negatively affect household wealth, as livestock ownership in these households tends to be characterised by low numbers and the inability to afford herders (Kamupingene et al. 2016).

Kamupinge et al. (2016) additionally report that: the common type of HWC incidents experienced in these communities include livestock predation, damage to property and attacks on and loss of human lives. Severe drought increases HWC as herders experience difficulties with kraaling animals; and these impacts are set in a context wherein Erongo region is also reported to have inherent water problems which have been aggravated by poor rainfall resulting in a receding water table and drying up of water bodies. Respondents in our study narrated that

during drought, cattle may travel long distances from villages (between 10 and 15 km) to where water can be found, and in most cases do not return home the same day. While men can go after the livestock or hire livestock herders, households headed by women are more affected by livestock losses as they are less likely to be able to leave their household to follow animals grazing large distances away (Sadie n.d).

Conversely, degradation of natural resources close to villages may mean that women and children must travel long distances and spend more time in the field in search of resources important to their livelihoods, such as firewood, mopane worms,[5] items for craft production products, and medicinal or edible plants. Drought enhances their fear of encountering dangerous animals such as elephants when travelling far from their homes.

These observations are set in a context wherein climate change is also believed to have disrupted wildlife movement patterns, resulting in different species frequently moving close to homesteads and their movement becoming unpredictable, either causing damage to property or livestock predation (MET/NACSO, 2018: 45). Farmers in Erongo Region are experiencing livestock predation, whilst those along the Ugab river area are more affected by elephant-related conflicts. Thus, "[p]eople in Erongo Region along the Ugab River landscape, had freedom of movement restricted to their homesteads, and they disappeared into their houses just at dusk for fear of their lives" (National Council of Namibia 2017).

Indeed, the presence of elephants is the HWC that communities fear the most. Although livestock predation is prevalent, predator conflict seemed to be more manageable. For example, not all women in our study expressed that predation is a problem, but most of them expressed that human-elephant conflict is a key concern, referring especially to the man killed by an elephant in Ohungu conservancy.

In addition to unpredictable wildlife movements, the presence of elephants makes women feel helpless and with little or no options, due to elephants moving up to homesteads in search of water and food. Human-elephant encounters may leave the poor more destitute as their property, including food storage facilities, gardens and infrastructure

5 Editors' note: caterpillars of the emperor moth *Gonimbrasia belina*.

such as fences and water points, is destroyed. Furthermore, women fear for their children and grandchildren when they go to school, look after livestock, or fetch water, in case they encounter wildlife.

Human-Wildlife Conflict Policy Compensation Scheme

The national HWC management policy compensation scheme is a control measure designed to mitigate against effects of human-wildlife conflict and is carried out by conservancies in collaboration with the MEFT and supporting NGOs. The scheme is perceived to be problematic, however, because in most cases compensation is delayed, does not provide market value of lost livestock, and does not reach all affected parties due to the nature of evidence required for compensation payments. To allow for compensation of lost livestock, the human-wildlife conflict policy regulations require evidence and reporting within twenty-four hours. For women in particular, to get this evidence within the timeframe is often impossible and a particular problem is that affected parties are often not able to provide evidence of the cause of death of their livestock, because incidents happen far from their home and at times evidence disappears before they discover the missing animal.

Further, whilst the HWC management policy makes provisions for cash compensation, this might not be the ideal form of compensation for affected parties who may prefer direct replacement of the lost animal(s). Services such as electricity and provisions such as household feeding schemes may instead go a long way to assist communities affected by climate-induced or -exacerbated HWC. Electricity helps to keep elephants away, leading people in the community to start using light-based deterrents to chase away elephants, especially at night (Shaffer et al. 2019). More protection and/or compensation in terms of repairs for properties and water infrastructure damaged by elephants are needed to prevent the reported situation that

> the little income we have left, is what we use to repair some damages caused by elephants to get water for households, livestock, and even to protect our people (female respondent, Ohungu Conservancy).

For women, fencing off villages or households to prevent elephants from invading villages and homesteads may be desired. In this context, women also remain disadvantaged in terms of accessing information to enable them to make informed decisions or benefit from opportunities. Men tend to be more mobile, networked, connected and are likely to access information quicker than women in these contexts. A situation of minimal information shared among women tends to create fear, affecting their day-to-day livelihood activities such as gathering firewood, fetching water, caring for and sending children to schools and/or harvesting foods and medicines.

Conclusion

In addition to changes in land use, climate change is among the key factors predicted to cause losses of natural resources during the coming decades in southern Africa (Biggs et al. 2008; Kupika et al. 2017; Khalife 2020). National and international efforts have provided crucial information for planning, formulating policies, and implementing programmes aiming to address climate change. For about twenty-five years, Parties to the United Nations Framework Convention on Climate Change have congregated to deliberate on the risks of climate change, but with limited substantial outcomes that make a difference on the ground for the most affected communities at risk in dryland countries such as Namibia. Communities at local levels experience climate change in different ways. For the Otjimboyo and Ohungu communal area conservancies of Namibia's Erongo Region, their tale is one of the intersecting effects of climate change, HWC, and now, COVID-19.

While the impacts of these phenomena are felt broadly, they are also gendered. Women in these communities are finding it difficult to adapt to the effects of climate change due to limited opportunities, combined with already existing inequalities and vulnerabilities. The combination of climate change and HWC presents complexity for women farmers by negatively impacting their farming and household economy. There is a need for regular support with gardening and income opportunities to supplement their vulnerable livestock farming. Regarding the fear of lack of awareness about the presence of problem animals and other relevant information, an early warning system using simple technology

is needed. Such a system might use existing communication structures in the conservancies to bring forth information warning of the proximity of problem animals and HWC incidents. Diversified means of information sharing, such as using local leadership structures, social grouping, media (mainly the radio) and mobile phones, could assure that most people are reached, irrespective of gender, age, and other social categories.

As world leaders, scientists and civil societies gather at COP26 in the hope of finding the best solutions to climate change, let us remember the local communities in the remotest parts of our planet: communities such as those inhabiting the Otjimboyo and Ohungu conservancies in rural Namibia. Let us also remember that climate change impacts are differentiated and that the most vulnerable social groups—women, the poor, and others—tend not to be present at international negotiations such as the UNFCCC COPs to share their experiences of dealing and living with the impacts of climate change in their daily lives. This chapter is intended as a short communiqué to foreground the types of concerns women in rural dryland communities might wish to voice if they were able to be present at COP26.

References

Bandyopadhyay, Sushenjit, Michael N. Humavindu, Priya Shyamsundar, and Limin Wang, *Do Households Gain from Community-Based Natural Resource Management? An Evaluation of Community Conservancies in Namibia* (Washington, DC: The World Bank, 2004).

Bann, C., and S. C. Wood, 'Valuing Groundwater: A Practical Approach for Integrating Groundwater Economic Values into Decision Making—A Case Study in Namibia, Southern Africa', *Water SA*, 38(3) (2012), 461–66, https://doi.org/10.4314/wsa.v38i3.12.

Biggs, Reinette, Henk Simons, Michel Bakkenes, Robert J. Scholes, Bas Eickhout, Detlef van Vuuren, and others, 'Scenarios of Biodiversity Loss in Southern Africa in the 21st Century', *Global Environmental Change*, 18(2) (2008), 296–309, https://doi.org/10.1016/j.gloenvcha.2008.02.001.

Hartman, Adam, 'Elephant Kills Man in Erongo' (Namibian.com, 2017), https://www.namibian.com.na/161622/archive-read/Elephant-kills-man-in-Erongo.

Jacobsohn, Margaret, and Garth Owen-Smith, 'Integrating Conservation and Development: A Namibian Case-Study', *Nomadic Peoples*, 7(1) (2003), 92–109.

Kamupingene, Gift, Sikala Elma, Obong'o David, and Gabayi Princess, *Assessment of Impacts and Recovery Needs of Communities Affected by El Niño-Induced Drought in Kunene, Erongo and Omusati Regions of Namibia* (Rome: Food and Agriculture Organization of the United Nations, 2016), http://www.fao.org/3/a-i6604e.pdf.

Kapolo, I. N., 'Drought Conditions and Management Strategies in Namibia', *Windhoek: Namibia Meteorological Services* (2014), 1–9.

Khalife, Sawsan, 'Climate Change Impact on Natural Resources and Migration Across the Regions of Africa' (Thesecuritydistillery.org, 2020), https://thesecuritydistillery.org/all-articles/climate-change-impact-on-natural-resources-and-migration-across-the-regions-of-africa.

Kupika Olga L., Gandiwa Edson, Kativu Shakkie and Nhamo Godwell, 'Impacts of Climate Change and Climate Variability on Wildlife Resources in Southern Africa: Experience from Selected Protected Areas in Zimbabwe', *Intechopen* (2017), 1–23, https://doi.org/10.5772/intechopen.70470.

Lendelvo, Selma, Faith Munyebvu, and Helen Suich, 'Linking Women's Participation and Benefits within the Namibian Community Based Natural Resource Management Program', *Journal of Sustainable Development*, 5(12) (2012), 27–39, https://doi.org/10.5539/jsd.v5n12p27.

Lendelvo, Selma, Margaret N. Angula, Immaculate Mogotsi, and Karl Aribeb, 'Towards the Reduction of Vulnerabilities and Risks of Climate Change in the Community-Based Tourism, Namibia', in *Natural Hazards—Risk Assessment and Vulnerability Reduction*, ed. by José Simão Antunes do Carmo (IntechOpen, 2018), https://doi.org/10.5772/intechopen.79250.

Lendelvo, Selma, Mechtilde Pinto, and Sian Sullivan, 'A Perfect Storm? The Impact of COVID-19 on Community-Based Conservation in Namibia', *Namibia Journal of Environment*, 4 (2020), 1–15, http://www.nje.org.na/index.php/nje/article/view/volume4-lendelvo/43.

Leslie, Sam, Brooks Ashley, Jayasinghe Nilanga, and Hilderink Femke, 'Human Wildlife Conflict Mitigation: Lessons Learned from Global Compensation and Insurance Schemes', *HWC SAFE Series. WWF Tigers Alive* (2019), 1–50, https://wwfeu.awsassets.panda.org/downloads/wwf_human_wildlife_conflict_mitigation_annex.pdf.

MET/NACSO, *The State of Community Conservation in Namibia—A Review of Communal Conservancies, Community Forests and Other CBNRM Activities* (Annual Report 2017) (Windhoek: MET/NACSO, 2018), http://www.nacso.org.na/sites/default/files/State%20of%20Community%20Conservation%20book%20web_0.pdf.

Mukeka, Joseph M., Joseph O. Ogutu, Erustus Kanga, and Eivin Røskaft, 'Human-Wildlife Conflicts and Their Correlates in Narok County, Kenya', *Global Ecology and Conservation*, 18 (2019), e00620, https://doi:10.1016/j.gecco.2019.e00620.

NACSO (Namibian Association of CBNRM Support Organisations), *Namibia's Communal Conservancies: A Review of Progress and Challenges in 2003* (Windhoek: NACSO, 2004).

National Council of Namibia, *Report of the Standing Committee on Habitat on the Motion on Human-Wildlife Conflict to Zambezi, Oshikoto, Oshana, Ohangwena, Omusati, Kunene, Kavango East, Kavango West, Erongo Regions and Benchmark Study to Tanzania and Zimbabwe from 09 September—05 October 2017* (Windhoek: National Council of Namibia, 2017), pp. 1–38, http://parliament.na/index.php/archive/category/187-report-2017?download=8455.

Nhongo, Kaula 'Feature: Drought Exacerbates Human-Wildlife Conflict for Namibia Rural Communities' (Xinhuanet.com, 2019), http://www.xinhuanet.com/english/2019-03/05/c_137871079.htm.

Sadie, Yolanda, 'Human-Wildlife Conflict and Wildlife Conservation' (Accord.org.za, 2019), https://www.accord.org.za/conflict-trends/human-wildlife-conflict-and-wildlife-conservation/.

Schnegg, Michael, and Michael Bollig, 'Institutions Put to the Test: Community-Based Water Management in Namibia during a Drought', *Journal of Arid Environments*, 124 (2016), 62–71, https://doi.org/10.1016/j.jaridenv.2015.07.009.

Shaffer., L. Jen, Kapil K. Khadka, Jamon Van Den Hoek, and Kusum J. Naithani, 'Human-elephant Conflict: A Review of Current Management Strategies and Future Directions', *Frontiers in Ecology and Evolution*, 6 (2019), 1–12, https://doi.org/10.3389/fevo.2018.00235.

Shikangalah, Rosemary N., 'The 2019 Drought in Namibia: An Overview', *Journal of Namibian Studies: History Politics Culture*, 27 (2020), 37–58, https://namibian-studies.com/index.php/JNS/article/view/8635.

Silva, Julie, and Alfons Mosimane, '"How Could I Live Here and Not Be a Member?": Economic Versus Social Drivers of Participation in Namibian Conservation Programs', *Human Ecology*, 42 (2014), 183–97.

Sullivan, Sian, 'Towards a Non-equilibrium Ecology: Perspectives from an Arid Land', *Journal of Biogeography*, 23 (1996), 1–5.

Sullivan, Sian, '"How Can the Rain Fall in This Chaos?": Myth and Metaphor in Representations of the North-West Namibian Landscape', in *Challenges for Anthropology in the 'African Renaissance': A Southern African Contribution*, ed. by D. LeBeau and R. J. Gordon (Windhoek: University of Namibia Press, 2002), pp. 255–65.

Sullivan, Sian, 'Dissonant Sustainabilities? Politicising and Psychologising Antagonisms in the Conservation-development Nexus', *Future Pasts Working Paper Series*, 5 (2018), https://www.futurepasts.net/fpwp5-sullivan-2018.

Sullivan, Sian, and Rick Rohde, 'On Non-equilibrium in Arid and Semi-arid Grazing Systems', *Journal of Biogeography*, 29(12) (2002), 1595–618, https://doi.org/10.1046/j.1365-2699.2002.00799.x.

UNDP, *Integrated Approach to Proactive Management of Human-wildlife Conflict and Wildlife Crime in Hotspot Landscapes in Namibia* (Na.undp.org, 2020), https://www.na.undp.org/content/namibia/en/home/library/environmental-and-social-management-framework--esmf-.html.

Weaver, L. Chris, and Theunis Petersen, 'Namibia Communal Area Conservancies', in *Best Practices in Sustainable Hunting—A Guide to Best Practices from Around the World*, ed. by Rolf D. Baldus, Gerhard R. Damm, and Kai-Uwe Wollscheid (Budakeszi: International Council for Game and Wildlife Conservation, 2008), pp. 48–55.

Yavinsky, Rachel, 'Women More Vulnerable Than Men to Climate Change' (Prb.org, 2012), https://www.prb.org/women-vulnerable-climate-change/.