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A perfect storm? The impact of COVID-19 on community-based conservation in Namibia

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Abstract

We report on a rapid survey of five communal-area conservancies in Namibia to understand initial impacts on community-based conservation of national and international policies for dealing with the COVID-19 pandemic. Namibia's Community-Based Natural Resources Management (CBNRM) programme has been growing for over 30 years, with high economic reliance on tourism and conservation hunting. We review the interrelationships between COVID-19, CBNRM, tourism and hunting, and discuss our findings under eight interlocking themes: 1) disruption to management and regular operational processes of conservancies, including 2) effects on conservancy wildlife patrolling and monitoring; 3) losses of revenue and cash flow in conservancy business operations; 4) impacts on Joint-Venture Partnerships; 5) impacts on employment opportunities and local livelihoods; 6) effects on community development projects and social benefits, including 7) disruption to funded projects and programmes; and 8) lack of technical capacity regarding communication technologies and equipment. In our conclusion we discuss tensions between an assumption that normal business can or will be resumed, and calls for the COVID-19 pandemic to create an opportunity for global choices away from 'business-as-normal'. It is too early to tell what mix of these perspectives will unfold. What is clear is that communal-area conservancies must derive benefits from conservation activities in their areas that are commensurate with their role as key actors in the conservation of Namibia's valuable wildlife and landscapes.

Keywords: communal-area conservancies, Community-Based Natural Resource Management (CBNRM), conservation hunting, COVID-19 pandemic, Namibia, rural livelihoods, tourism, wildlife

1. Introduction

> "*COVID-19 is testing the years of investment in CBNRM across all thematic areas. If this global pandemic is not well managed both in Namibia and globally the CBNRM programme will be on the edge of falling apart, given the umbilical cord of the programme attached to conservation hunting and tourism.*"
> (Teo Ntinda, Namibia Development Trust (NDT), April 2020).

We report on a rapid survey conducted in April 2020 to assess the initial impacts of the COVID-19 virus and associated social distancing and travel restriction regulations on communal-area conservancies in Namibia. The survey investigated the effects of COVID-19 on community participation in, and benefits from, Namibia's Community-Based Natural Resources Management (CBNRM) programme. In doing so it provides some space for conservancy managers, committee members, residents and workers to share their experiences and perceptions of the first weeks of this unprecedented event.

Since independence, CBNRM has been a key contributor to economic development and environmental conservation in Namibia's rural communal areas (Biesele & Hitchcock 2011, Naidoo *et al.* 2016, Jacobsohn 2019). Following the proclamation of legislation to formalise Namibia's CBNRM programme in 1996, community-based conservation and tourism have succeeded in growing both income and capabilities for many rural Namibians, whilst also leading to sustained and increased wildlife populations in Namibia's communally-managed areas. Critical for this success is the establishment of conservancies in Namibia's remaining communally-managed areas, in which conservation practice is devolved to some extent to locally-run institutions that have rights to manage, utilise and benefit from local natural resources and wildlife (Snyman 2014, Naidoo *et al.* 2016, MET/NACSO 2018).

The location and tenure of these communal-area conservancies are an outcome of Namibia's specific historical circumstances. This history gave rise to a division 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 under communal forms of tenure and management (Sullivan 2018). Part of a broader movement towards CBNRM and diversified livelihood

possibilities in southern Africa from the early 1990s onwards (Fabricius *et al.* 2004), at the time of writing, Namibia has 86 registered communal-area conservancies, with some 227,941 people residing in these conservancies (MET/NACSO 2020).[1]

The unprecedented current pandemic of COVID-19 is forcing review of how conservation in rural areas can remain viable amidst such disruption, and how communal-area communities can continue to derive benefits from conservation activities (Kaelo *et al.* 2020). COVID-19 is already impacting the world's economies in many sectors (Ozili & Arun 2020) and community-based conservation is not spared. Although presumably a temporary measure, a primary current challenge for day-to-day conservancy work relates to social distancing, which affects the ability of managers and members to meet each other and thus impacts on community participation dimensions of CBNRM. Wildlife populations require ongoing management, including for population monitoring, protection and human-wildlife conflict (HWC). It is thus crucial to understand how the innovative models for wildlife management applied by different conservancies are affected by these new circumstances. Given the dependence of communal-area conservancies on hunting and tourism as their main sources of income, it is also critical to understand how the current international and national lock-down and travel ban is affecting these sources of income to conservancies and their inhabitants.

We proceed by first providing some background to the COVID-19 / CBNRM web of interconnections in Namibia's communal-area conservancies. We then report on our rapid response telephone survey with respondents in five of Namibia's communal-area conservancies (see Section 3 on methods, and Section 4 on findings). We close with a brief conclusion observing that present uncertainty arises in part from a tension between assumptions that normal business can or will resume, and calls for the COVID-19 pandemic to create an opportunity for global choices away from 'business-as-normal'.

2. Outlining the COVID-19 / CBNRM web in Namibia's communal-area conservancies

COVID-19 is a highly contagious disease caused by a newly evolved coronavirus (World Health Organisation 2020) which has caused an outbreak of respiratory illness globally (Sauer 2020). The human-to-human transmission of COVID-19 is believed to have emerged in China in December 2019. Early hypotheses of the spread of the virus are linked to a wet market (i.e. a market selling wildlife, fresh meat and fish) in Wuhan, China, from which it spread to nearly every country worldwide (Sauer 2020), prompting the World Health Organization (WHO) to declare the coronavirus (COVID-19) a global pandemic. As of 28 June 2020, some 9.8 million coronavirus cases have been confirmed worldwide, with 495,760 deaths in 216 countries (World Health Organisation 2020). Namibia has reported an increase in COVID-19 cases from 8 in March to 183 cases as of 28 June 2020 (The Namibian 2020). The high rate of transmission and the fact that no specific cure or treatment have yet been found is causing global anxiety.

The Namibian government declared a state of emergency and national lockdown in March 2020 with immediate effect (The Namibian 2020, Jantze 2020). The country's national borders were closed, and Namibia's National Parks were closed to tourists from 18 April to 5 May (CGTN Africa 2020). Travel within the country was restricted, social gatherings were banned, and social distancing was enforced (Jantze 2020). The restrictions prevented tourists from visiting Namibia and continue to reduce travel within the country, constraining gatherings of people in venues served by the hospitality industry (such as restaurants, bars, conference facilities and hotels).

These travel restrictions have clear impacts on the country's tourism industry, a priority strategic sector for the country's socio-economic development and employment (Kavita & Saarinen 2016) that has exhibited dramatic growth since independence. Under normal circumstances, tourism is Namibia's third largest sector in terms of Gross Domestic Product (GDP), contributing in 2015 around N$ 15.1 billion to the broader national economy (10.2 % of GDP) and providing 100,700 jobs (14.5 % of total employment) (Namibia Tourism Board 2016).[2] Since the onset of COVID-19, however, significant retrenchments of staff in major tourism and hospitality businesses have already occurred (Ngatjiheue 2020). Much of Namibia's tourism in communally-managed areas (as well as elsewhere), is linked to wildlife conservation and trophy-hunting (Naidoo *et al.* 2016). Through wages and salaries these businesses provide the greatest sources of cash income to households in communal-area conservancies (Long 2004, MET/NACSO 2018), although financial gains at household level remain limited with most conservancy collective revenue going towards operating costs (Silva & Mosimane 2013, Schnegg & Kiaka 2018). Data for 2018 from the Ministry of Environment and Tourism (MET, now Ministry of Environment, Forestry and Tourism, MEFT) and the Namibian Association of CBNRM Support Organisations (NACSO) (MET/NACSO 2020) indicate that: 38 conservancies were directly involved with tourism activities, including 61 joint-venture tourism agreements with enterprises employing 1,175 full-time and 50 part-time staff; conservancies hosted some 48 conservation hunting concessions with 159 full-time and 119 part-time staff members; and community-based conservation through conservancies and community-forests had a return of N$ 147 million, of which Joint-Venture tourism accounted for

[1] Figures held by the Namibian Association of CBNRM Support Organisations (NACSO) at http://www.nacso.org.na/conservancies#statistics, last accessed 25 June 2020.

[2] Currencies are currently quite volatile. At the time of first submission of this article, US$ 1=N$ 18.22 (19 May 2020), and at the time of revised submission US$ 1=NS$ 17.38 (25 June 2020) (figures from https://www.xe.com/).

approximately 64 % of cash income and in-kind benefits to these local institutions and their members. Paxton (2020) estimates that the general effect of the pandemic in Namibia will cause losses of N$ 55.3 million in annual tourism revenue and N$ 60.4 million in salaries to staff living in conservancies.

Conservancies in Namibia's remaining communal areas play a large role in supporting Joint-Venture (JV) tourism and hunting enterprises linked with wildlife conservation (MET 1995, MET/NACSO 2018). In turn, conservation in communal-area conservancies is primarily identified with conservancy employment (Snyman 2014, MET/NACSO 2018) as well as tourism and trophy-hunting incomes (Thakadu *et al.* 2005, Spiteri & Nepal 2008, Naidoo *et al.* 2016, Cooney *et al.* 2017, MET/NACSO 2018). These structural CBNRM interconnections mean that COVID-19 and its associated restrictions are precipitating a 'perfect storm'[3] of impacts deriving from these interconnections. Specifically, losses of tourism-related jobs and future opportunities in areas where tourism is one of few employers, may impact negatively on peoples' perceptions towards tourism and its links with conservation (Snyman 2014, Greenfield & Muiruri 2020). In addition, and international controversies notwithstanding (see summary in Koot *et al.* 2020), it has been shown elsewhere that if trophy-hunting (reframed in Namibia as 'conservation hunting'[4]) and associated revenue becomes non-viable, then this might have negative effects on both income and (attitudes to) wildlife populations (Cooney *et al.* 2017, Mbaiwa 2017). This might especially be the case in Namibia where conservation hunting has been observed to contribute higher incomes to conservancies than tourism in some cases (Naidoo *et al.* 2016)[5]. These circumstances also sit within a growing debate on the banning of wildlife trade so as to prevent future pandemics and which could potentially affect the export of hunting trophies, as well as discussions regarding COVID-19 recovery and how countries can rebuild their economies (Paxton 2020).

Associated socio-economic impacts may include reduced income to support social development projects and provide financial sustainability to compensate communities for losses incurred due to HWC, and reduced possibilities for diversified income-generation based on natural products, including the sale of crafts and indigenous plant products (Cole 2014, MET/NACSO 2018, 2020)[6]. From the perspective of wildlife conservation specifically, and given that a key part of conservancy employment relates to wildlife patrols and monitoring, connected concerns relate to the ability of community-based conservation organisations to safely sustain these activities (Namibia Economist 2020, Paxton 2020, Roth 2020, Shikongo 2020, Somerville 2020).

This brief review of literature suggests that the impacts of COVID-19 on the web of community-conservation enterprises and concerns will be severe, in both extent and magnitude. The remainder of this paper reports on the presently experienced and perceived implications of COVID-19 on communal-area conservancies, drawing on telephone interview material with respondents in five of the country's conservancies.

3. Research Methods

A semi-structured telephone interview survey with supporting WhatsApp communications was carried out by between 5th and 15th of April in five of Namibia's communal-area conservancies, drawing on principles for 'rapid rural appraisal' (Chambers 1984) in a time when the country's stage one lockdown meant that travelling and social interactions were prohibited. Our selected conservancies were King Nehale (Oshikoto, north-central), Ehirovipuka (Kunene, north-west), Tsiseb (Erongo, north-west), Wuparo (Zambezi, north-east) and Nyae Nyae (Otjozondjupa, east) (see Figure 1 and Table 1). They were selected to represent different regions in Namibia, as well as to allow us to build on demographic and other information already gathered for these conservancies through their inclusion in studies carried out recently by the University of Namibia[7]. We followed a 'snowball sampling' methodology (Monette *et al.* 2018) by calling focal people in our sampled conservancies who spoke to and led us to other committee, staff and community members, as well as a JV investor and lodge manager in Ehirovipuka and Wuparo conservancies respectively. This approach meant that

[3] A 'perfect storm' is a phrase used in English to describe a rare combination of events or circumstances that occur together, usually creating a very challenging situation.

[4] See, for example, https://www.conservationhunting.com/.

[5] In 2018 conservation hunting (including all cash income and meat distributed to conservancies and members) accounted for N$ 34,463,053, or 23.4 % of conservancies' cash income and in-kind benefits (MET/NACSO 2020). Note, however, that some care is needed in calculating monetary values for game meat from weight prices for meat from domestic livestock. These different kinds of meat may not be considered to have equivalent local values, and such calculations may thus over-estimate monetary values for game meat (see discussion in Sullivan 2018).

[6] The harvesting of organically certified devil's claw (*Harpagophytum procumbens*) and *Commiphora* resin in particular generate income in the north-east and north-west respectively (Cole 2014). Craft production enabled by craft markets established by conservancies and linked with tourism provide a steady income to producers who are often women, with some N$ 1,748,405 generated in recent annual income (MET/NACSO 2020).

[7] Recent research activities in the study areas focused on in this paper include (a) work on Nyae Nyae Conservancy (Lendelvo *et al.* 2019), (b) gender and stakeholder assessment for a recent UNDP (United Nations Development Programme) and MEFT project on Human-Wildlife Conflict and Wildlife Crime in Namibia (2019) of which Tsiseb, Wuparo, Ehirovipuka and King Nehale are among the focal conservancies; (c) UNAM/MRC (University of Namibia/Multidisciplinary Research Centre) funded projects in 2018/9 on HWC in Wuparo and King Nehale Conservancies – work from both these latter projects has been submitted for publication.

Table 1: *Key characteristics of five surveyed communal-area conservancies, drawing on survey data and data held by the Namibian Association of CBNRM Support Organisations (http://www.nacso.org.na/conservancies, last accessed 25 June 2020).*

Conservancy	Region	Location	Neighbouring National Park (NP)	Date Conservancy Gazetted	Area (Km²)	No. Members	Management Structure	Traditional Authority (TA)	Income-generating activities
King Nehale	Oshikoto	North-central	Etosha NP	September 2005	508	5,069	20 Management Committee members from 10 conservancy centres – 60 % of the committee members are female	Ondonga TA, 2 reps. on conservancy committee	Tourism; hunting; craft shop; trophy hunting; own-use hunting; Kalahari melon seed harvesting
Ehirovipuka	Kunene	North-west	Etosha NP	January 2001	1,980	Approx. 1,426	Management Committee of 12 men; Executive Committee of six members; staff of five; Community Game Guards, one Field Officer and one Community Activator; wildlife monitoring using annual road-based count and Event Book monitoring system.	Two main TAs, Tjijahura TA and Muzuma TA with no reps. on conservancy committee	Trophy-hunting; own-use hunting; Tourism Concession fees
Tsiseb	Erongo	North-west	Dorob NP	January 2001	7,913	2,636	Management Committee of 12 men and four women; Executive Committee of six members; staff of three Game Guards, a Manager, an Office Clerk and a Cleaner; wildlife monitoring using annual road-based count and Event Book monitoring system	Dâure-Daman TA, 1 rep. on conservancy committee	Trophy hunting; own-use hunting; Joint-Venture tourism agreement with Brandberg White Lady Lodge; community campsite (Ugab Campsite); Information Centre with Daureb Crafts; semi-precious stone market; Daureb Mountain Guides
Wuparo	Zambezi	North-east	Mudumu NP and Nkasa Rupara NP	December 1999	148	1,027	Management Committee of two women and eight men; Executive Committee of six members; staff of seven Community Game Guards, a Manager, a Community Resource Monitor, a Treasurer and a Secretary; wildlife monitoring using annual count on foot and Event Book monitoring system	Mayeyi TA, 1 rep. on conservancy committee	Community campsite (Wuparo Campsite); trophy hunting; crafts; Rupara Environmental Centre
Nyae Nyae	Otjozondjupa	East	Khaudum NP	February 1998	8,992	3,156	Conservancy Board of six women and 13 men; Management Committee of six members; staff of ten Community Rangers, a CBNRM Field Officer, a Project Manager, a Public Relations Manager, four members of the water team, four Junior Teachers, a Pre-School Teacher and an Education Coordinator; wildlife monitoring using annual full moon count and Event Book monitoring system	Ju|'hoansi TA, no reps. on conservancy committee	Joint-Venture tourism agreements with Nyae Nyae Fly-In Camp and Nyae Nyae Safari Camps; community campsites; craft centre; trophy hunting; devil's claw (*Harpagophytum procumbens*) harvesting

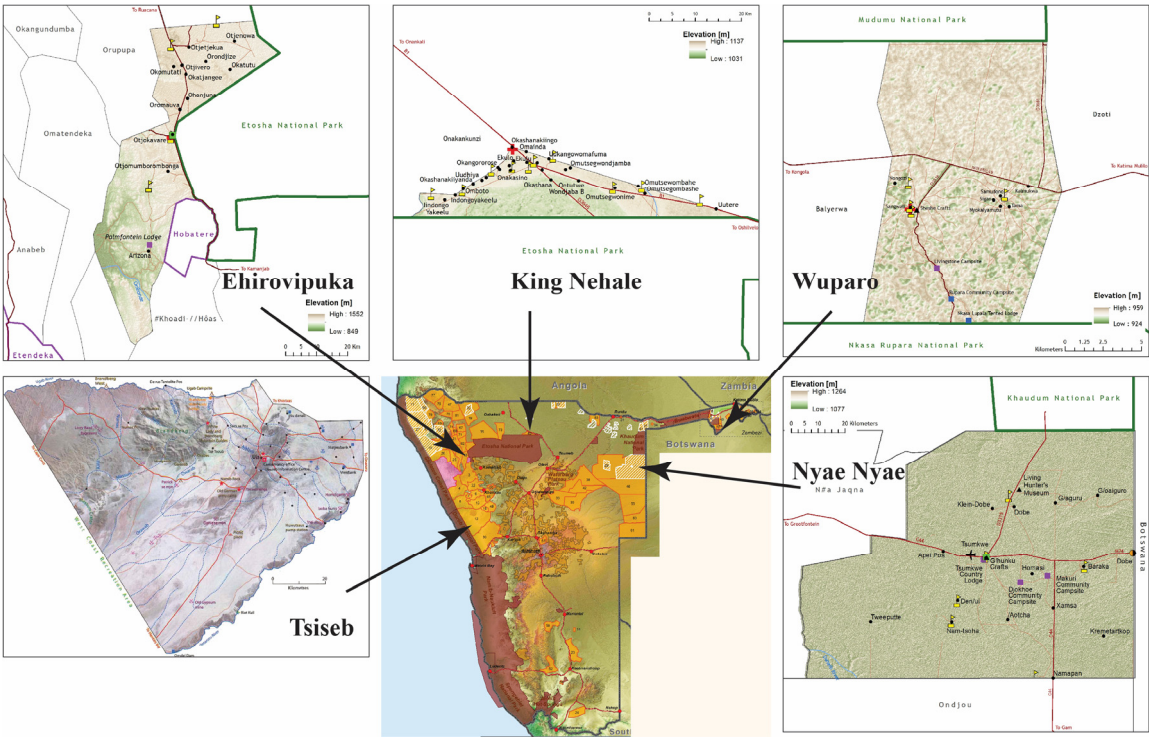

Figure 1: *Map showing the boundaries and location of the five studied conservancies. Adapted from information hosted by the Namibian Association of CBNRM Support Organisations (NACSO) (www.nacso.org.na).*

Table 2: *Number and breakdown of conservancy respondents in telephone and WhatsApp survey between 5th and 15th April 2020, concerning the impacts of COVID-19 and associated policies on communal-area conservancies in Namibia.*

Conservancy	Respondents
Tsiseb	Telephone interviews with 15 community members at farms in all four zoned areas of the conservancy. Information was also solicited from 5 conservancy management committee members through a WhatsApp platform for the conservancy management committee.
Ehirovipuka	Telephone interviews with 15 community members of the conservancy and 5 conservancy management committee members, plus telephone interview with Joint Venture investor.
Wuparo	Telephone interviews conducted with 5 respondents from the conservancy, including the conservancy chairperson, a lodge manager, two lodge/campsite staff and one senior game guard.
Nyae Nyae	Telephone interviews with the conservancy manager, two management committee members and five conservancy members.
King Nehale	Telephone interviews conducted with 15 community members and 3 conservancy management committee members.

Table 3: *Series of interconnected questions forming the basis for the semi-structured telephone interview survey with conservancy respondents.*

#	Question
1	What changes has COVID-19 brought about in the operations of your conservancy?
2	In what way has this pandemic affected conservancy members?
3	How is the management of the conservancy and monitoring of wildlife affected?
4	How are conservancy staff members operating? What has happened to the staff of campsites and lodges?
5	How is the conservancy management communicating with the staff and members?
6	How are hunting and tourism establishments affected at present?
7	How is the implementation of funded projects affected by COVID-19?
8	What measures did the conservancy put in place to protect staff and members against COVID-19?
9	What are the capacity constraints faced by the conservancy to manage wildlife, staff, and members during this time?
10	What are the major present challenges to the conservancy?
11	What kind of support is the conservancy currently receiving to address some of these challenges? And from whom?
12	What kind of urgent assistance does the conservancy require from the government and other partners?

perspectives were shared through multiple calls and other telephonic exchanges (e.g. through WhatsApp) by 72 respondents in total, as indicated in Table 2. We asked these individuals a series of interconnected questions regarding how conservancies are responding to the COVID-19 crisis, and how national and international policies for dealing with the crisis are impacting on them (see Table 3). A qualitative data analysis technique of coding interviews for themes and subthemes was used. Eight key themes stood out in our review and analysis of this interview material (see Section 4) which we clarify by using selected anonymised transcript quotes to illustrate each of these themes (these are slightly edited in some places for clarity). We have elected to foreground the realities and perceptions for respondents 'on the ground' through including transcripts that sometimes make apparently similar points. In doing so we illustrate systemic aspects of COVID-19 impacts across the different settings of our five sampled conservancies, as well as the ways that subtle differences of experience and perception amongst our rural area respondents are also apparent.

4. Findings

The primary impacts of policy responses to COVID-19 suggested by our telephone survey with conservancy management committee members, staff and conservancy members are summarised in Table 4. Each of these key interrelated impacts are elaborated in more detail below where we also identify ways in which conservancy managers and committees have attempted to respond to the unforeseen challenges of present circumstances.

Table 4. *Common impacts of COVID-19 and associated policies on five sampled conservancies, April 2020.*

Impacts	Key specific issues
1. Disruption to management and regular operational process of conservancies	Cancellation of management meetings. Cancellation of the Annual General Meeting (AGM). Cessation of recruitment and training of new staff members. Lack of preparedness and proactive strategies.
2. Effects on conservancy wildlife patrolling and monitoring	Reduced wildlife patrolling and monitoring leaving conservancies vulnerable to illegal wildlife hunting (poaching). Increased incidents of Human-Wildlife Conflict (HWC) (linked with reduced patrols), with reduced reporting and investigations. Reduced joint wildlife monitoring and anti-poaching patrols between the conservancy and the Ministry of Environment, Forestry and Tourism (MEFT).
3. Losses of revenue and cash flow in conservancy business operations	The ban on international travel has disrupted tourism, trophy hunting and community-based enterprises causing losses of income for conservancies. Tourists and hunters have cancelled bookings. In some cases tourists have had to be refunded for cancelled bookings. Loss of income, challenging the financial sustainability of conservancies.
4. Impacts on Joint Venture partnerships	Due to a lack of income, some investors are unable to settle the full amount of guaranteed fees to conservancies, as per Joint Venture agreements. Uncertainty amongst conservancies and Joint Venture partners regarding the implications for legal agreements, partnership futures, and the way forward. A halt of social benefits, cash dividends for conservancy members, and game meat distribution, causing income and food insecurity.
5. Impacts on employment and local livelihoods	Temporary closures of tourism and hunting enterprises has resulted in laying off employees and cutting costs including salaries and wages. Loss of employment and income-generating activities have impacted local livelihoods, including through reduced shoot-and-sell hunting.
6. Effects on community development projects and social benefits	Community developments projects have been disrupted. Conservancy funds are being used for core operational costs, with insufficient funds to invest in community development projects.
7. Disruption to donor-funded projects and programmes	Most community projects are donor-funded, and some projects have been put on hold until further notice.
8. Lack of technical capacity for communication technologies and equipment	Communication barriers as a result of poor telecommunications network coverage are negatively affecting communication between management and communities, at a time of increased COVID-19-related reliance on telephone communication between conservancy committee members and conservancy members. Unable to participate in education activities *per se*. Misinformation and lack of information regarding the outbreak of the pandemic, generating fear and confusion in rural populations.

4.1 Disruption to management and regular operational processes of conservancies

Unsurprisingly, all interviewees indicated that the pandemic has disrupted the regular management and operation of conservancies. Recommendations for social distancing and working from home so as to curb the spread of the virus resulted in the cancellation of management and conservancy meetings. Since conservancies are social institutions requiring the participation and consent of community members over management decisions, social distancing requirements constitute a large impact on the day-to-day running of conservancies. Annual General Meetings (AGM) were particularly affected due to the prohibition of gatherings throughout the country (Namibia Legal Information Institute 2020), especially given that the quorum required for decisions to be valid is 70 people for some conservancies. CBNRM

policies encourage communities to participate meaningfully in conservancy matters and natural resources management (Blackie & Ricart Casadevall 2019), and this participation is seriously challenged by present circumstances.

The conservancy manager of Wuparo Conservancy indicated that in response to these circumstances they had implemented a door-to-door consultation and information-sharing mechanism. Whilst effective for communication purposes, this was ineffective for community decision-making and the AGM quorum and thus, as Wuparo conservancy manager described, "decisions about anything are currently on hold". Some conservancies such as Nyae Nyae indicated that the lack of preparedness regarding the pandemic resulted in reactive decision-making caused by fear of the pandemic. For instance, a decision was taken to close the conservancy office without proper discussion or consultation with the communities and staff, leading a Nyae Nyae respondent to state that:

> "*Communication to the staff was made improperly by the management, with the decision of office lockdown without identification of how essential services will be sustained. The staff were not informed in full detail of why the conservancy should lockdown, only in general from ongoing news about the pandemic which the staff members at least knew about. The decision of office lockdown was taken abruptly, in the absence of others including the conservancy manager."*

The King Nehale Conservancy management committee understood that the requirement to halt any type of meetings, received in an official letter, was a direct mandate from the MEFT. Coupled with fear of contracting the virus, the conservancy decided to become dormant, with the exception of making payments to staff members:

> "*In line with the Minister of Environment, Forestry and Tourism directive in a letter dated 26 March 2020 to communal conservancies prohibiting face-to-face meetings (including planning meetings and management committee meetings), management has been put on hold until the situation normalises. There is fear among the committee too, of contracting the virus, thus most of our activities are at a halt, because prevention is better than cure and the risk is too high to try keep operating.*"

Respondents also thought that government and responsible institutions delayed sending out clear, truthful and timely information to conservancies regarding the pandemic. This meant they had to rely initially on information from the media and word of mouth to make decisions, which resulted in making reactive decisions.

4.2 Effects on conservancy wildlife patrolling and monitoring

This latter point is compounded by the ways that social distancing resulted in a reduced number of game guards patrolling and monitoring wildlife populations, with conservancy respondents voicing concern that these policies may be leaving conservancies vulnerable to wildlife crimes. At the time of our survey, King Nehale Conservancy had only one game guard patrolling the conservancy, and Wuparo, Tsiseb and Ehirovipuka conservancies had divided their game guards into small groups of two to three game guards with allocated duty posts to work from. Game guards themselves are fearful of contracting the virus, and their safety is also compromised by having fewer guards in a context in which poachers are always armed. A management committee member of King Nehale Conservancy thus indicated that:

> "*The only active game guard has been advised to avoid interaction with other conservancy members. The conservancy fear is that they cannot afford to be held responsible for any staff contraction of illness or death, should this happen by compelling staff to go to work as usual.*"

The mobile community game guard system is an important way in which conservancies contribute to conservation, not only through monitoring of natural resources such as wildlife, but also through improved flows of information and communication between the conservancy office, leaders and membership. It is often through community game guards that communities can voice their concerns, receive clarification on issues or make a report to the conservancy. Given the present relative absence of community game guards, conservancy management committees are assuming that local hunters or 'poachers' may be taking advantage of the pandemic to carry out 'wildlife crime' and poaching activities:

> "*There have been cases of poaching recorded in Amilema and Omboto among other places, and in areas adjacent to the conservancy area alongside Etosha National Park. The conservancy is being challenged by a lack of patrolling vehicles and poachers are using the COVID-19 fear and lockdown as an opportunity for their damaging practices.*"
> (Respondent in King Nehale Conservancy)

The Wuparo Conservancy management committee also indicated that some gunshot incidents had been heard in the conservancy, and patrolling has shown that local hunters are using dogs as an escort to assist hunting. What was not indicated clearly in our interviews is whether or not joint wildlife monitoring and anti-poaching patrols between the conservancy and MEFT have been reduced.

Additionally, some conservancy members, especially those whose conservancies are located adjacent to Etosha National Park (King Nehale and Ehirovipuka), indicated that since the pandemic and lockdown measures they are subject to frequent occurrences of HWC incidents, but that reporting and investigations of such incidents is ineffective. Generally, villages near National Parks and tourism areas suffer greater damage through HWC than others (Lendelvo *et al*. 2015). Conservancy interviewees expressed the following concerns:

> "*At the moment the conservancy does not have enough human resources to effectively monitor wildlife and investigate human-wildlife conflict incidents. The conservancy Acting Coordinator is regularly receiving HWC victims at the office from all over the conservancy. In the absence of the three game guards whose employment is halted due to lockdown, communities will unfortunately continue suffering from HWC with no one to investigate their HWC incidents. Nor will they be on the alert for the possible presence of predators in the area for proactive actions.*"
> (Respondent in King Nehale Conservancy)

> "*HWC is increasing on a daily basis. As we speak, poaching remains a thorn in the flesh as our monitoring intensity is reduced [due to the lockdown]. Only today I attended a HWC case of a leopard that killed five goats, two dogs, two cats and some poultry in a kraal and around the vicinity of the lodge premises.*"
> (Manager, Tsiseb Conservancy)

> "*Last week a lion killed 15 cattle from the community, and the people themselves killed the lion. We are suffering a lot from HWC and with this COVID-19, people cannot report such cases and there is no one to investigate so that they can be duly compensated for the loss they suffer.*"
> (Member of Ehirovipuka Conservancy)

These impacts are sometimes occurring in a context in which conservancies claim that MEFT has not been compensating communities for HWC, despite reports being made, thus:

> "*The Ministry of Environment, Forestry and Tourism have not contributed to the scheme for three years now even though farmers are incurring losses.*"
> (Respondent in Wuparo Conservancy)

4.3 Losses of revenue and cash flow in conservancy business operations

As described in Section 2, tourism and hunting operations are major income-generating activities for communal-area conservancies in Namibia. Loss of income to conservancies due to COVID-19 and associated policy responses was thus expressed in our interviews as a major issue of concern. The ban on international travel has disrupted the generation of income from trophy-hunting and community-based enterprises (including lodges, campsites and craft shops), causing losses of income for conservancies, their inhabitants and Joint-Venture Partnerships. All conservancy management interviewees with conservancy-associated tourism enterprises indicated that they have experienced cancellations of accommodation and hunting bookings, and in some cases tourists who paid in advance had to be refunded. The King Nehale Conservancy is also concerned about reduced income from their shoot and sell quota which they anticipate will be limited due to the COVID-19 restrictions combined with the effects of recent drought on wildlife populations.

As a result of the loss of income, conservancies are relying on savings from previous years to cover operational costs, including staff salaries, leading to fears that any further loss of income will seriously challenge the financial sustainability of conservancies. The implication is that conservancies will require large amounts of external financial assistance if they are to operate as before. These fears are illustrated in the following excerpts from interview transcripts:

> "*The conservancy is worried about the commitment from an operator to conduct hunting. Guaranteed payment was a safety net for conservancies. Since the lockdown was declared, nothing has been sold in the conservancy craft shop (Tulongeni Craft Shop). The conservancy also used to sell their crafts at various trade fairs, SME (Small and Medium Enterprises) exhibitions, festivals, etc. which at the moment is not the case, resulting in loss of income to members.*"
> (Respondent in King Nehale Conservancy)

> "*Hunting is badly affected. Presently all hunting permits have been withheld until lockdown is over. Most hunters to the conservancy are from European countries which are the most affected by the pandemic. As the lockdown continues there might be a drop to the annual income [of the conservancy] from hunting.*"
> (Respondent in Nyae Nyae Conservancy)

> "*The conservancy has no proper income. There is some money but we are not certain if it will cover all the necessary costs. If COVID-19 happens to cease after two months the hunters will be on a continuous hunting spree which will chase away animals and this will, in turn, be a problem for the conservancy.*"
> (Respondent in Wuparo Conservancy)

> "*As a conservancy, we are faced with cash flow problems as our sources of income are from tourism and hunting. Due to COVID-19, our projected cash-flow will be affected. As of now we will no longer have funds for the field operation and payments of employees and the office administration. We have projected a loss of N$ 170,000 [during 2020] due to COVID-19.*"
> (Respondent in Ehirovipuka Conservancy)

4.4 Impacts on Joint-Venture Partnerships

According to Zambrano & Potma (2020), the COVID-19 pandemic affects tourism alongside conservation concerns, such that tourism and conservation are affected in parallel with the closure of tourism and hunting activities causing losses of income and investments for conservancies and conservation efforts. Some investors were noted to be unable to settle the full amount of guaranteed fees to conservancies, as per signed agreements. Moreover, the conservancy and Joint-Venture Partnerships (JVP) with hunting operators and lodge investors are uncertain about future partnerships, given that continuity requires broader economic stability.

Fears regarding the sustainability of JVPs were apparent amongst our conservancy respondents. Concerns were expressed, for example, that the current JVP between the Gondwana Collection investor and King Nehale Conservancy might be adjusted in a way that would negatively affect the conservancy. The JVP investor with Ehirovipuka is also reportedly uncertain about their December 2020 payment for this year's business.

4.5 Impacts on employment opportunities and local livelihoods

These impacts have begun to be felt on the ground. The temporary closure of tourism and hunting enterprises which were primary avenues of employment for conservancy inhabitants has resulted in sending employees on unpaid leave, laying off contract employees, and cutting costs including salaries and wages. All the conservancies during the period of data collection in April 2020 indicated a reduction in employee's salaries by 50 %. Given that salaries in the tourism and trophy-hunting industries are often already quite low (Stamm 2017, Hewitson 2018), this reduction is devastating.

Although no conservancy employees have yet been retrenched as a result of the virus, there is fear of future retrenchment of conservancy staff members should pandemic circumstances persist, thus:

> "*A few staff are making sure that the daily operations of the campsites and lodge are afloat, but with time the lodges might have to close down. The management of the lodges and campsites might be forced to let the remaining few staff leave work and return only after the operations are back to normal.*"
> (Respondent in Tsiseb Conservancy)."

> "*It will be worse if the pandemic continues for longer as the conservancy will lose income, workers will be retrenched, poaching will drastically increase, community livelihoods will decline while poverty and hunger will increase, and JV agreements are likely to be terminated.*"
> (Respondent in King Nehale Conservancy)

> "*The Joint Venture Partner has let some staff members go because the owner is not able to pay the salaries of the staff members.*"
> (Respondent in Ehirovipuka Conservancy)

The above statements signal both the importance of tourism and hunting incomes for local livelihoods and wildlife conservation, and their vulnerability to disruption due to international circumstances. According to McNamara *et al.* (2015), the trophy hunting season in Namibia lasts for 10 months each year, starting on 1 February and ending on 30 November, although hunting months and quotas vary from conservancy to conservancy. Taking into consideration three months without hunting and the cancellation of future hunting bookings, some conservancies have expressed concern about the loss of trophy-hunting related incomes specifically, while others are hopeful that the remaining months of the season might yield positive outcomes. Impacts on local livelihoods at household levels are reportedly becoming evident, and conservancy contributions towards livelihoods through cash dividends and game meat distribution to members may be negatively affected if trophy-hunting and tourism do not recover. In keeping with Namibia's CBNRM model, concern was also expressed by respondents that if local conservancy/conservation-linked incomes and livelihoods are severely affected for an extended period of time, people may begin illegal hunting as a means of generating livelihoods.

4.6 Effects on community development projects and social benefits

Four of the five conservancies indicated they had community development projects and social benefits planned for this year (2020), but that these initiatives have been halted due to present COVID-19-related circumstances. Funding has been disrupted and the use of conservancy funds as investments in these projects (MET/NACSO 2018) is considered non-viable due to uncertainty regarding the sustainability and recovery of tourism and trophy-hunting following the pandemic. Members of the conservancies raised these concerns:

> "*The pandemic has disrupted ongoing projects, for instance, the water and electrification projects that were at present under construction. The disruption has been a disappointment to the members as they anticipated being able to light up their homes with electricity before the end of the year. Project extension is now inevitable and projects might take longer than envisioned as most of the financing will have been depleted through operational activities, and the possibilities of replenishing this finance are dependent on trophy hunting.*"
> (Member, Wuparo Conservancy)

> "*Subsequently, an amount of N$ 578,382 was approved by the AGM during 2019/2020 for community benefit distribution through community development projects, support to HWC Self Reliance Scheme, community hall establishment, supporting the San community with shelter provision and support to their school-going children, earth dam excavation, etc. With COVID-19 the above projects will no longer materialise. The official opening ceremony of the JV lodge [with Gondwana Collection] has also been postponed until further notice.*"
> (Member, King Nehale Conservancy)

> "*We had plans this year to give seeds to farmers and start a community garden, as well as starting the people-park wildlife core-area with women involved in conservation. There was also some ongoing construction at the lodge. All this has been stopped due to COVID-19. Due to the drought we faced in recent years our wildlife has died, and the hunting quota was also reduced. Now COVID-19 is adding to these problems. After this we cannot generate money like before.*"
> (Member, Ehirovipuka Conservancy)

The King Nehale Conservancy additionally indicated that additional income expected from a traversing rights concession[8], for which a contract was to be signed with the operating company before May 2020, will not be forthcoming as the contract has been postponed. The Nyae Nyae Conservancy indicated that plans for village water point maintenance for ongoing water supply at villages, especially for reported water faults, will be difficult to fulfil due to reduced incomes.

Given these circumstances assistance is sought, especially to support planned community development projects and operation costs:

> "*Over the next 2 years, and while the Government is looking at communal conservancy relief packages for during and post COVID-19, NGOs and MEFT should take full responsibility to fund the activities mentioned so as to allow conservancies to mitigate impacts of COVID-19.*"
> (Respondent in King Nehale Conservancy)

> "*The Government or any good Samaritans and NGOs need to assist us with a little income as a fall-back plan for jobs lost, as this could result in many illegal activities such as poaching that could disturb conservancy operations.*"
> (Respondent in Wuparo Conservancy)

> "*Now we are relying on money paid by the investor in the sustainable wildlife trust to pay the game guards. If the investor stops paying this money we don't know how we will pay the game guards, and also if the money from the social security payments does not come through, we don't know how we will survive as a conservancy, so we need serious help.*"
> (Respondent in Ehirovipuka Conservancy)

4.7 Disruption to donor-funded projects and programmes

Four of the five sampled conservancies indicated that COVID-19 has led to donor funding by institutions such as the Worldwide Fund for Nature (WWF), European Union, Integrated Rural Development and Nature Conservation (IRDNC) and the Indian government being put on hold until further notice. In contexts where donor grants are linked to community development projects, a shortfall in financing can be one of the hindrances to achieving community development projects (Gachui 2017). Funded projects related to community development and mitigating HWC are reportedly disrupted although not cancelled:

> "*The pipeline funded by the European Union is also negatively affected.*"
> (Respondent in King Nehale Conservancy)

> "*One of the paused projects of substantial importance is that of the Lion Proof Kraals funded by WWF and envisioned to start soon – although there is no intention of cutting or cancelling it. Also, the Predator*

[8] A concession in which the concession holder enjoys exclusive rights to tourism income gained from traversing over a tract of land.

Scheme providing income for every carnivore spotted in the conservancy (for example on a game drive) has been put on hold due to the travel ban, as it was dependent mostly on funding from tourists."
(Respondent in Wuparo Conservancy)

"*Projects we were anticipating such as human-wildlife projects to establish solar water taps for elephants, Geopark to work with small miners, and an irrigation project to strengthen food security for communities: some of these have been put on hold while others are cancelled due to the outbreak of COVID-19.*"
(Respondent in Tsiseb Conservancy)

"*We had a project which was to be funded from India to establish a people-park core wildlife area to fight illegal hunting. There was also a project funded by UNDP to assist with HWC. These have now stopped, and during COVID-19 we are also experiencing high incidents of illegal logging and harvesting of our forest timber and the collection of firewood: we need funding and assistance to stop this.*"
(Respondent in Ehirovipuka Conservancy)

Before the outbreak of the pandemic, some conservancies indicated they were already experiencing challenges which have been exacerbated by the pandemic, as summarised in Table 5. For instance, King Nehale Conservancy had shortages in conservancy staff members, including a conservancy coordinator and game guards, which have been exacerbated by the pandemic as the conservancy was unable to proceed with the recruitment process for vacant positions. Similar reports were received from Wuparo Conservancy.

Table 5: *Summary of findings from the Conservancies. Key: X = effect indicated, - = not indicated.*

Conservancy	Shortage of conservancy staff	Disruption of hiring, staff training, and assessments	Community projects	Lack of HWC offsets from the MEFT	HWC and poaching a serious concern	The projected loss of income due to COVID-19
King Nehale	X	X	X	-	X	X
Ehirovipuka	-	-	X	X	X	X
Tsiseb	-	-	X	-	X	X
Wuparo	X	X	-	X	-	X
Nyae Nyae	X	-	X	-	X	X

Conservancy	External support acquired during COVID-19
King Nehale	National COVID-19 precautionary advice.
Ehirovipuka	No external support, the conservancy provided the community members and staff with sanitisers.
Tsiseb	No external support, Conservancy provided the members and staff with sanitisers and advise on social distancing and permitted staff to work from home.
Wuparo	The Ministry of Health and Social Services has provided training to the communities on COVID-19.
Nyae Nyae	Formed a COVID-19 Task Force between Nyae Nyae Conservancy,Tsumkwe TUCSIN, Namibian Police Force, Ministry of Health and Social Services, Community Churches and Tsumkwe Constituency Office, to raise awareness, provide information on COVID-19, distribute soap for basic hand washing and encourage social distancing behaviour among members at different villages.

Amidst the pandemic, three of the five conservancies indicated that prior to and during the data collection period the conservancies had not received any external assistance to curb the virus. Some conservancies relied on the national news for information on COVID-19 precautionary advice, while others had to improvise and buy their own sanitisers and masks to distribute to the conservancy communities. Wuparo Conservancy indicated that support was received from the Ministry of Health and Social Services, providing communities with training and information mobilisation on COVID-19, but this was not enough as they lack hand sanitisers and have thus requested assistance in the form of the donation of water tanks and soap for game guards to use in the field. The committee noted that the conservancy was not financially stable enough to cover additional costs, given that the conservancy has already organised a cost-cutting strategy to keep the conservancy functioning.

The Nyae Nyae Conservancy also indicated that the conservancy is experiencing shortages in funds in the conservancy's reserve account, and the management was not sure as to how funds could be mobilised to provide membership benefits and conservancy operational costs. The conservancy described disruptions in its service delivery and social responsibilities like transportation for sick people to the clinic. It indicated that the conservancy had joined the programme by the University Centre for Studies in Namibia (TUCSIN) in Tsumkwe, Namibian Police Force, Ministry of Health and Social Services, Community Churches, and the Tsumkwe Constituency Office, to form a task force responsible for village mobilisation amidst the pandemic. Although the task force was still in the planning stages during our data collection period, the conservancy requested that to fight the virus, they needed to be assisted with sanitiser equipment to help prevent its spread. They recommended that relevant information be shared on large display platforms by the Ministry of Information and Communication's media crew, and on radio stations in all Namibia's different languages. As discussed above, this is to help prevent the spreading of misinformation about the pandemic. Tsiseb and Ehirovipuka Conservancy

management expressed major concerns around the lack of technical capacity to draw up funding proposals and requisitions prior to and amidst the COVID-19 pandemic.

4.8 Lack of technical capacity for communication technologies and equipment

A specific concern raised by some respondents is that a lack of proper communication technologies and equipment, especially official platforms, is leading to the sharing of misinformation. This aspect is linked especially with reliance on secondary information platforms such as social media and word of mouth from neighbours, which has caused fear and confusion about the pandemic in rural communities. Indeed, at the initial outbreak of the pandemic, the sharing of false information on social media regarding COVID-19 outbreaks and remedies in Namibia, prompted Namibia's United States of America's country director for Diseases Control and Prevention (CDC) to write a press release warning the public against being compelled by such myths (Kavhu 2020).

Given the constraints on physical gathering and meetings, conservancies have had to devise different mechanisms to continue communicating with mobile phones and apps such as WhatsApp proving essential in this regard:

> "*We mostly use our mobile cell phone to communicate through WhatsApp, Facebook, or emails so that each member and staff is updated with what's happening.*"
> (Respondent in Tsiseb Conservancy)

Conservancy leaders indicated that communication has been challenging, however, due to poor network coverage in most rural areas, which makes working from home ineffective and often impossible. Other conservancies indicated that regardless of the availability of mobile phones poor network coverage makes communication problematic. Others felt that they lacked the capacity to communicate through mobile phones to the full conservancy population, stating that it is costly as the management committees have to utilise their personal income to buy airtime or data in order to make phone calls to update everyone:

> "*Not everyone can participate through the phone, some people respond late as response rates differ from person to person and for one to have a decision the conservancy is required to call everyone which isn't plausible considering the number of members in the conservancy.*"
> (Respondent in Wuparo Conservancy)

> "*Lack of communication gadgets and means (such as laptops, 3 or 4 Gs, electricity at staff homesteads) remains a constraint for the conservancy coordinator to effectively communicate with stakeholders. The management committee are volunteering and do not even get airtime allowances to advance active communications during this time. In addition to their existing struggles, COVID-19 requires extraordinary commitment from them to pull through the pandemic.*"
> (Respondent in King Nehale Conservancy)

Respondents in Ehirovipuka Conservancy stated that they experience network problems and only a few people in the Conservancy have access to smart phones, while Nyae Nyae is mostly inhabited by the marginalised Ju|'hoansi San people with a low literacy rate and very limited access to any kind of mobile phones.

5. Conclusion

Our rapid survey of information for five conservancies indicates (unsurprisingly) that the state of emergency in 2020 associated with COVID-19 and linked regulations has caused major disruption to Namibia's CBNRM programme. The effects of the pandemic on tourism and hunting operations were felt by conservancies across the country, bringing out vulnerabilities linked with CBRNM's dependence on these two interconnected sectors as well as seriously hindering conservancy management and operational plans. Given that the recovery time after such disease outbreaks has in the past averaged around 19.4 months, it can be assumed that these impacts on travel and tourism will continue for some time, even after the lockdown is lifted (Paxton 2020). Namibia's MEFT has already responded by aiming to strengthen the resilience of community-based conservation and livelihoods in Namibia. A one-off emergency fund of around N$ 26 million to support conservancies and community forests has been mobilised from both national and international partners, including the Environmental Investment Fund of Namibia (EIF), Nedbank Namibia, Namibian Chamber of Environment (NCE), B2Gold, World Wildlife Fund, German Corporation for International Cooperation (GIZ) and the KfW banking group.[9] The fund is particularly directed towards ongoing conservation activities such as the payment of wages for game guards including lion and rhino rangers, Human-Wildlife Conflict interventions and some governance aspects.

It is worth noting that the present COVID-19 pandemic is perhaps a once in 100-year event, and our observations here need to bear this in mind. At the same time, many analysts and commentators express concerns that unprecedented anthropogenic disruptions to habitats may increase the likelihood of future pandemics, for example, through increasing

[9] See http://www.ccf-namibia.org/

the possibility that diseases may 'jump' from animal hosts to humans (Madhav *et al*. 2018). An argument also made is that the present pandemic is, or should be, a call not to return to 'business as normal' once the spread of the virus is in decline (for example, Friends of the Earth International 2020). Such calls are made partly in recognition that the hyper-mobility underscoring 'ecotourism' and other forms of 'high-end' nature consumption is a contributor to planetary habitat alterations linked with climate change.

Namibia's conservancy economy, with its systemic dependence on international travel and profitable business ventures, might be able to fully resume after COVID-19. For it to do so, conservancy business partners will need to be able to survive the pandemic so that their wealth-generating activities can be directed towards providing employment in wildlife-related tourism enterprises, as well as honouring Joint-Venture agreements with conservancies. At the same time, a real concern precipitated by the pandemic is the question of how conservation will remain viable in Namibia's communal-areas if these radically disrupted circumstances continue, given current CBNRM policy that tightly couples conservation activity with local receipt of tourism and hunting incomes.

The disruption of 'business as usual' may also be 'an opportunity to question inherited assumptions, refine existing models, and improve conservation practices' (Kaelo *et al.* 2020). Possibilities here include engaging more deeply with the unsustainable inequities that also thread through the CBNRM model as currently designed, as well as with the broader environmental and social implications of a model that relies on expanding international air travel and high-impact lifestyles. The livelihoods and autonomy of communal-area conservancy residents need to be invested in, in ways that might imply more systemic redistribution of resources and investments in diversified livelihood structures that are perhaps less dependent on tourism and hunting incomes. Clearly, though, it is too early to know what the outcomes of present circumstances will be, even in only a few months' time. The COVID-19 pandemic is perhaps the greatest test to date of the resilience of Namibia's CBNRM model. It is certainly a key moment for research to assist with documenting how conservancy staff and members understand and respond to the challenges they now face. We hope the rapid survey reported in this article is useful in this regard.

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