Producing elephant commodities for 'conservation hunting' in Namibian communal-area conservancies

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Abstract

Namibia's internationally acclaimed CBNRM program depends to a large extent on revenues generated from the trophy hunting of wild animals. The model is an important example of an increasingly 'neoliberal' global policy framework as applied to biodiversity conservation, its market-based approach and attendant socio-ecological effects having received in-depth engagement and critique from a political ecology perspective. Yet there remains a lack of detailed research concerning how these programs and their value frames are operationalized in practice. The article attempts to advance this literature through an empirical exploration of practices undertaken by diverse actors that work to produce and extract value from 'wild' natures, specifically elephants for 'conservation hunting' in Namibian communal-area conservancies. Conceptually, the article also contributes to an emerging body of work seeking to 'ecologise' political ecology, exploring the co-optation of lively elephants and other beyond-human entities in the production of economic value. 'Following' the elephant's interactions with other living entities, the article reveals the (non)human work and social practices that together 'labor' to produce commodified elephants that can be killed as trophies. We argue that 'undesirable encounters' such as crop raiding by elephants are both indicative of unequal power relations amongst CBNRM stakeholders and central to (re)producing dominant (neoliberal) value frames. The animal's spontaneous activities are co-opted into technocratic governance practices that legitimize the killing of elephants on environmental and economic grounds. In opening up the contested, contingent, and more-than-human nature of these social-ecological relations we also hope to contribute to possibilities for imagining more equitable and ecologically resilient conservation futures.

Keywords: Trophy hunting, elephants, CBNRM, neoliberal conservation, wild commodities, value, political ecology, more-than-human

Résumé

Le programme de gestion communautaire des ressources naturelles (CBNRM) de la Namibie, de renommée internationale, dépend dans une large mesure des revenus générés par la «chasse aux trophées» d'animaux sauvages. Le modèle est un exemple important d'un cadre politique mondial de plus en plus «néolibéral» appliqué à la conservation de la biodiversité. Il utilise une approche basée sur le marché et ses impacts socio-écologiques ont fait l'objet d'un engagement et d'une critique approfondis du point de vue de l'écologie politique. Pourtant, il reste un manque de connaissances sur la manière dont ces programmes et leurs cadres de valeurs sont mis en pratique. L'article tente de faire progresser cette littérature à travers une exploration empirique des pratiques entreprises par des acteurs (locaux) qui travaillent pour produire et extraire de la valeur des natures «sauvages», en particulier les éléphants pour la «chasse de conservation» dans les zones de

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conservation des zones communales de Namibie. Conceptuellement, l'article contribue également à une littérature émergente cherchant à «écologiser» l'écologie politique, en explorant la cooptation d'éléphants vivants et d'autres entités au-delà de l'homme dans la production de valeur économique. En suivant les interactions de l'éléphant avec d'autres entités vivantes, l'article révèle le travail (non) humain et les pratiques sociales qui, ensemble, «travaillent» pour produire des éléphants marchandisés qui peuvent être tués en tant que trophées. Nous soutenons que les «rencontres indésirables» telles que les pillages de récoltes par les éléphants indiquent des relations de pouvoir inégales entre les parties prenantes de la GCRN. Elles sont également essentielles pour (re) produire des cadres de valeur dominants (néolibéraux). Les activités spontanées de l'animal sont cooptées dans des pratiques de gouvernance technocratique qui légitiment le massacre des éléphants pour des raisons environnementales et économiques. Nous ouvrons la nature contestée, contingente et plus qu'humaine de ces relations socio-écologiques, dans l'espoir de contribuer aux possibilités d'imaginer des futurs de conservation plus équitables et plus résilients sur le plan écologique.
Mots clés: chasse aux trophées, éléphants, CBNRM, conservation néolibérale, produits sauvages, valeur, écologie politique, plus qu'humain

Resumen

Namibia's internationally acclaimed CBNRM programme depends to a large extent on revenues generated from the trophy hunting of wild animals. The model is an important example of an increasingly 'neoliberal' global policy framework as applied to biodiversity conservation, its market-based approach and attendant socio-ecological affects having received in-depth engagement and critique from a political ecology perspective. Yet there remains a lack of knowledge concerning how these programmes and their value frames are operationalised in practice. The article attempts to advance this literature through an empirical exploration of practices undertaken by (local) actors that work to produce and extract value from 'wild' natures, specifically elephants for 'conservation hunting' in Namibian communal-area conservancies. Conceptually, the article also contributes to an emerging body of work seeking to 'ecologise' political ecology, exploring the co-optation of lively elephants and other beyond-human entities in the production of economic value. 'Following' the elephant's interactions with other living entities, the article reveals the (non)human work and social practices that together 'labor' to produce commodified elephants that can be killed as trophies. We argue that 'undesirable encounters' such as crop raiding by elephants are both indicative of unequal power relations amongst CBNRM stakeholders and central to (re)producing dominant (neoliberal) value frames. The animal's spontaneous activities are co-opted into technocratic governance practices that legitimise the killing of elephants on environmental and economic grounds. In opening up the contested, contingent, and more-than-human nature of these social-ecological relations we also hope to contribute to possibilities for imagining more equitable and ecologically resilient conservation futures.

Keywords: Trophy hunting, elephants, CBNRM, neoliberal conservation, wild commodities, value, political ecology, more-than-human

1. Introduction: CBNRM, hunting, and commodifying 'wild' nature

> It is plain that commodities cannot go to market and make exchanges of their own account.
> - Karl Marx, *Capital*.

Trophy hunting of wild animals is central to the conservation and development objectives of many African countries, including Namibia. Despite increasing opposition to the industry, fueled by the ongoing poaching crisis and recent killing of high-profile animals including 'Cecil' the lion and one of Africa's biggest bull elephants in Zimbabwe (BBC News, 2015; Godoy, 2020), trophy hunting remains big business. Over US$200 million are generated annually from trophy hunting in Africa, and in Namibia alone this figure amounts to over US$25 million (MacLaren *et al.*, 2019). The hunting of big game species such as elephants (*Loxodonta africana*) is a particularly lucrative enterprise, especially in the country's communal-area conservancies (see below). In Kwandu Conservancy, in Namibia's remote north-eastern Zambezi Region

(Figure 1), anyone wishing to hunt a trophy elephant must pay upwards of US$50,000 to do so. As the conservancy's treasurer put it: "The most valuable animal is the elephant, because they give a lot of income to the conservancy."

These revenue streams are facilitated through Namibia's internationally acclaimed program of Community-Based Natural Resource Management (CBNRM), which combines a harnessing of market mechanisms and decentralisation with arguments for rural development (Sullivan, 2006; Green & Adams, 2015; Horowitz, 2016). The program can be traced to the early 1980s, prior to Namibia's independence from South Africa, and against a backdrop of drought, civil war and illegal hunting of especially elephant and rhino in the north-west of the country. Forming the Namibia Wildlife Trust (NWT), concerned conservationists worked alongside government officials and traditional leaders to appoint 'community game guards' (CGGs) from the area, charged with monitoring wildlife, conducting anti-poaching patrols and carrying out conservation extension work within their communities in return for food rations (IRDNC, 2015). A small pilot ecotourism project was also implemented with primarily ovaHimba pastoralists in Purros on the Hoarusib River (Jacobsohn, 1995; Durbin *et al.*, 1997), requiring tourists to pay a fee to the local community as caretakers of their natural resources, including land and wildlife (Jacobsohn, 1998[1990]). The project proved successful in helping to recover wildlife numbers in the region, its community-led approach defying the political climate of the time, with active participation of local people in conservation activities beginning to nurture a vision of wildlife as a valuable social and economic resource (Owen-Smith, 2002). In 1990 these initiatives formed the kernel of a new NGO called Integrated Rural Development and Nature Conservation (IRDNC) that began a similar program of community-based conservation work in what was then Caprivi Region, now 'Zambezi' Region[2], in the north-east (Taylor, 2012; IUCN *et al.*, 2015; IRDNC, 2015).

Soon after independence the Namibian government moved to formalize this communal-area conservation initiative, enacting the Nature Conservation Amendment Act in 1996 which extended rights to legal and regulated wildlife use beyond freehold rangelands to communal area residents that formed management units called 'conservancies'[3] (Jones & Weaver, 2009). These rights include the "consumptive and non-consumptive use and sustainable management of game [...] in order to enable the members to derive benefits" (GRN, 1996: 24A (4)) and mitigate or 'offset' the costs of living alongside populations of large-bodied mammals such as elephants with a tendency to raid the crops of conservancy residents (Drake *et al.*, 2021). As with CBNRM programs elsewhere, the ethos of Namibia's program is that appropriate incentives to use natural resources sustainably will arise if these resources have sufficient economic value to local people, conferred through rights of use, benefit and management (Naidoo *et al.*, 2016). Unsurprisingly, given both intense NGO, donor and government effort to facilitate "…land acquisition for conservation in the non-formal sense" (Jones, 1999, p.47), as well as local uptake of conservancy establishment as a forum for expressing claims to land, historically marginalized communities have seized the opportunity to gain rights over natural resources (Sullivan, 2002; Bollig, 2016). There are now 86 communal conservancies covering just over 20% of Namibia's land area, encompassing almost 223,000 people (MET/NACSO, 2020). International donors including USAID, DfID, World Bank, KfW and WWF have contributed millions of US dollars to program development and maintenance.

[2] Namibia's Caprivi Region was re-named 'Zambezi Region' in August 2013 in an attempt to eliminate the names of former colonial administrators from Namibia's maps.

[3] Note that 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).

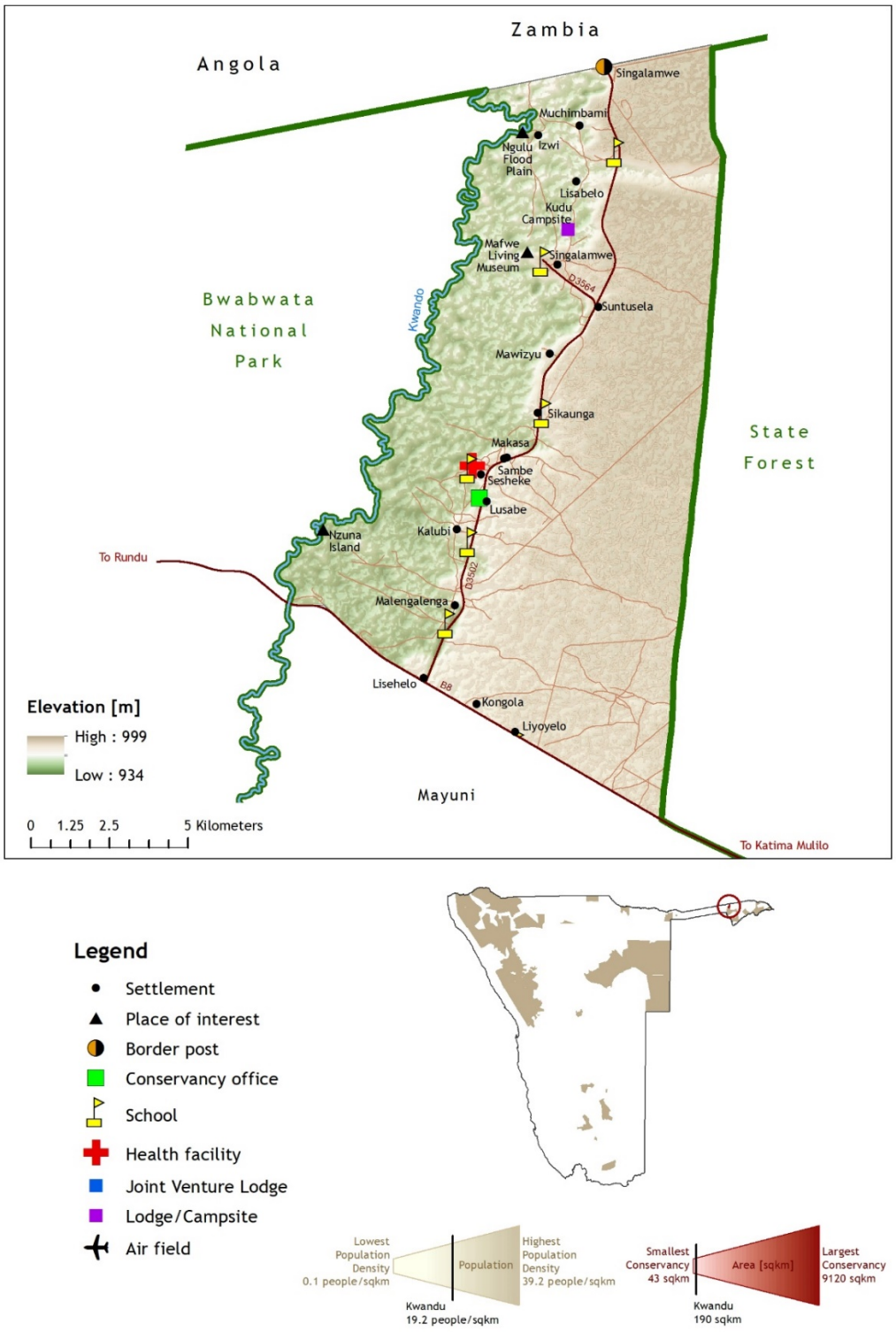

Figure 1: Kwandu Conservancy, indicating location in Namibia's Zambezi Region. Source: www.nacso.org.

CBNRM has been a key contributor to economic development and environmental conservation in Namibia's rural communal areas (Biesele & Hitchcock, 2011; Jacobsohn, 2019). The program is now central to the country's conservation and development goals and is generally recognized as having contributed to a strong recovery in wildlife numbers (IUCN *et al.*, 2015; Naidoo *et al.*, 2016). In particular, Namibia's elephant population is thought to have increased from around 7,500 at CBNRM's formal inception in 1995 to over 22,000 today (MET/NACSO, 2020), although we note that time series data from elephant surveys for Zambezi Region from 1989 to 2013 reportedly observed no trend in elephant population size (Robson *et al.*, 2017 in Drake *et al.*, 2021, p.9). CBNRM is an explicit rural development strategy in Namibia's long-term development framework, 'Vision 2030'[4]. In its most recent 'National Biodiversity Strategy and Action Plan' (for 2013-2022), the Ministry of Environment, Forestry and Tourism (MEFT), previously Ministry of Environment and Tourism (MET), states that sustainable use of Namibia's biodiversity shall be a key driver of poverty alleviation and equitable economic growth, particularly in rural areas (MET, 2014; GRN, 2014; MET/NACSO, 2020). COVID19, however, has severely affected these aspirations (Lendelvo *et al.*, 2020), the full effects of which are as yet unknown.

Namibia is thus committed to capitalizing on its wildlife through private sector enterprise in both ecotourism and consumptive use, notably trophy hunting[5] (Naidoo *et al.*, 2016). In response to international criticism of the latter from animal welfare groups and others, trophy hunting has recently been rebranded 'conservation hunting'[6] by the Namibian government and CBNRM stakeholders eager to distance the practice from 'sport hunting' concerned solely with the collection of exotic trophies.[7] They also make the link between sustainable 'offtake' and positive outcomes at species level, with conservation hunting described as producing "clear, measurable conservation and human development outcomes" (NACSO, 2015, p.16), although recent research raises concerns about the sustainability of elephant offtake rates in a case-study of Mashi Conservancy, Zambezi Region (Drake *et al.*, 2021). Whilst central to conservation models in much of southern Africa, conservation hunting is also controversial from ethical, environmental, and socio-economic perspectives (for summaries of debates, see Hannis, 2016; Koot *et al.*, 2020; Thomsen *et al.*, 2021).

The hunting of big game animals including elephants is central to the conservancy model (Naidoo *et al.*, 2016; Drake *et al.*, 2021; Thomsen *et al.*, 2021), and CBNRM, as currently envisaged, places a strong emphasis on realizing the full economic potential of these species (MET/NACSO, 2020). At the national level, economic returns from hunting and non-consumptive use of wildlife in conservancies increased incrementally since the program's inception, generating around US$9 million in 2018. In recent years tourism enterprises provided the greatest cash income at household level, whilst conservation hunting returned cash directly to conservancies and provided in-kind benefits such as game meat (MET/NACSO, 2020). It should be noted, however, that recent research for Zambezi Region suggests that only some 20% of value generated by the tourism and hunting sectors is captured at conservancy community level, largely in the form of staff salaries or investments in local infrastructure projects (Kalvelage *et al.*, 2020). Much of this income derives from the hunting of elephants, said to contribute over 50% of all conservancy hunting revenue on a national scale, and almost 70% in Zambezi's conservancies (IRDNC, 2015; Naidoo *et al.*, 2016).

Namibian CBNRM has both played a part in the consolidation of an increasingly 'neoliberal' global policy framework and contributed an important example of its application to biodiversity conservation. By 'neoliberalism' we refer to a theory of political economic practices centered on individualism, privatization of state enterprises and assets, international trade liberalization, and the reduction of regulations considered to reduce market growth and efficiency (Sullivan, 2006; Bakker, 2015). Neoliberalism has permeated the arena

[4] https://www.npc.gov.na/vision-2030/, last accessed 10 July 2020.

[5] There are six types of consumptive wildlife use permitted in Namibia under varying conditions: (i) shoot-and-sell, (ii) trophy hunting, (iii) biltong hunting, (iv) management hunting, (v) shooting for own use, (vi) live capture and sale (Maclaren *et al.*. 2019). This study focusses on trophy hunting, now framed as 'conservation hunting', because of its high economic value and importance to communal conservancies.

[6] This rebranding follows an international movement to frame trophy hunting in this way. See https://www.conservationhunting.com/.

[7] Although we note that CBNRM research in Namibia does continue to use the term 'trophy hunting' as, for example, in Thomsen *et al.* (2021).

of conservation and natural resource governance, with global environmental problems such as biodiversity loss and climate breakdown said to derive largely from market failure and a lack of societal recognition of nature's economic value. The logic of neoclassical economics is thus increasingly applied to diverse aspects of nature including forests and wild animals, to make this 'wild nature' visible economically as, for example, monetised 'ecosystem services' and 'natural capital' (Gomez-Baggethun *et al.*, 2010; TEEB, 2010; Natural Capital Coalition, 2016). In these processes the state becomes a market facilitator for trade in alienated nature conservation commodities, and provides regulatory and supportive structures for the transfer of public goods to private sector actors (Castree, 2008; Fletcher, 2010; Büscher *et al.*, 2012).

With its market-based approach to resource governance and conservation, CBNRM has faced criticism around some of its social and environmental effects (Blaikie, 2006; Dressler *et al.*, 2010). At times this critique can appear strongly focused on global power structures rather than the situated practices of local actors involved (although for Namibian CBNRM specifically see Silva & Mosimane, 2014; Gargallo, 2015; Silva & Motzer, 2015; Schnegg & Kiaka, 2018; Koot, 2019; Lubilo & Hebinck, 2019). Despite the salience of market-based conservation, then, there remains a lack of detailed research regarding how these programs and their inherent value frames are operationalised in practice. In response to this knowledge gap, this article offers an empirical exploration of practices undertaken by diverse actors working to produce and extract value from biophysical 'wild' natures (cf. Fredrikson *et al.*, 2014; Bracking *et al.*, 2019) by investigating the production of trophy elephant commodities in conservation hunting in Kwandu Conservancy, Zambezi Region. In doing so, the article responds to Kay & Kenney-Lazar's (2017) call to consider more-than-human actors in processes of capitalist value production. It builds on recent work seeking to 'ecologise' political ecology (Collard & Dempsey, 2017; Barua, 2019) by considering the (de)stabilizing role played by agentic elephants in the making and assembling of economic value.

The article's main argument is that commodified trophy elephants are produced for 'conservation hunting' in Namibia through creative combinations of the spontaneous activities of elephants, human labor and socio-technical practices. The latter include the calculative technologies deployed by humans to count elephants and codify knowledge, and are dependent on utilitarian constructions that conceptually pacify elephant vitalities and unruliness. The article thus elucidates how elephant behaviors such as crop-raiding are co-opted into technocratic governance practices in the process of making elephants as commodities that can be exchanged in commercial transactions.

The next section situates this study in an existing body of critical nature-society scholarship. It further discusses the conceptual approach adopted, one which attempts to sustain a productive tension between political ecology and more-than-human geographies. Section 3 provides a critical analysis of elephant commodity production processes in Kwandu Conservancy, north-east Namibia, before concluding in Section 4 with a summary of our argument and some directions for future research.

2. The nature of value and commodities

The production of value and nature

We build on a vast body of work in critical nature-society scholarship exploring relations between value, nature and labor. We take a political ecology approach in analyzing the (capitalist) social relations of production and exchange that produce and transform natures, through the making of economically valued commodities (Smith, 2008). The environmental-social dialectic central to political ecology is representative of its Marxian theoretical underpinning. In Marx's critique of classical political economy he argued that value is produced via social relations, encapsulated in his 'labor theory of value' (LToV) which holds that a commodity's objective value is the embodiment of the average socially necessary labor time taken to produce it (Marx, 1974). Commodities produced by human labor in combination with "the spontaneous produce of nature" (Marx, 1974, p.50) may have 'use value' as well as 'exchange value', the latter most often expressed in price or monetary form, and permitting trade with other commodities. Although a commodity's 'price' varies due to changes in supply and demand, its 'value' remains constant, representative of a quantity of human labor utilized to produce it. Nevertheless, Marx states that these value relations are obscured in the 'fetishized' commodity form under

capitalism, which transforms subjective relations between people and the rest of nature into apparently objective relations between money and things (Saed, 2019).

Nature-society geographers have drawn on Marx's historical materialist approach in their studies of environmental change, degradation and (in)justice (Harvey, 1996). At the same time, political ecologists have embraced the cultural/linguistic turn in the social sciences, moving beyond economic processes to assert the roles of language and ideas in the social construction of reality and 'nature' (Castree, 2011), emphasizing variety in how societies give the world meaning through 'representations' that are reflexively linked to 'material reality.' Such representations are contingent and contested, expressing relations of inequality and reflecting specific and intersecting social identities connected with, for example, class, race, sex, gender identity and sexuality. Feminist and postcolonial theories and politics have thus become part of the core of political ecology, due to their shared connections with poststructuralism and post-positivist understandings of nature and associated knowledges, and their sensitivity to ontological framings as inseparable from structural power relations (Blaser, 2013; McCarthy *et al.*, 2015; Burman, 2017; Sullivan, 2010, 2017a).

Critical social science engagement with 'neoliberal conservation' (Sullivan, 2006; Igoe & Brockington, 2007; Büscher *et al.*, 2012) has explored the way in which natures are used, transformed, and 'saved' in and through the expansion of 'green capitalism.' Drawing on Latour, Sullivan (2013) argues that nature framed and calculated as 'natural capital' becomes a fetishized object charged with objective power via institutionalized expert agreement and technical practices. This labor works to create abstract(ed) exchangeable commodities from conserved material natures, transforming use-values into exchange values and units for sale in varied ecosystem services markets. Yet the process is beset with contradictions, and political ecologists also argue that market prices are unable to fully represent nor incorporate the complex ecologies and (non)human labor involved in their production (Collard & Dempsey, 2013; Huber, 2018). Detrimental environmental impacts are exacerbated by increasing inequality (as shown for biodiversity by Mikkelson *et al.*, 2007), and neoliberalism understood as a class project of 'accumulation by dispossession' clearly has no need to benefit the rural poor in order to prosper (Harvey, 2005, 2007; Dempsey & Robertson, 2012; Matulis, 2014). Numerous studies have also shown how nature's commodification can create new kinds of territorialization that exclude local people, whilst concealing complex connections with other living beings (Bracking *et al.*, 2019).

Namibian CBNRM, and the program's reliance on market mechanisms, is part of this transformation of human labor and varied beyond-human natures into marketable commodities. This is a process dependent on the abstraction and measurement of charismatic species such as lions and elephants able to generate monetary value in international markets, that often downplays and demotes non-economic use-values of importance to local livelihoods, as well as other socio-natural values (Sullivan, 1999; Lapeyre, 2015; Hewitson, 2018). At the same time, program objectives such as social empowerment and collective action may falter as the pursuit of external investment and profit takes hold. Some analyses highlight the inability of the program to address deeper structural inequalities, and the growing influence of corporations and international agencies in decentralized governance and business structures, in which local communities act as increasingly dependent 'service-providers' for international consumers largely from the Global North (Sullivan, 2002, 2006; Hewitson, 2018; Kalvelage *et al.*, 2020). Added to elite capture in contexts of market liberalization, case studies point to elite dominance and the inability of participants to use acquired financial capital to significantly improve their economic position (Vargas Del Rio, 2014; Silva & Motzer, 2015; Bollig, 2016; Thomsen *et al.*, 2021). Financial value accruing to tourism and trophy hunting businesses is reliant on the provision of 'wild nature' by communal-area conservancies, whose portion of received income goes primarily towards conservancy operating costs with somewhat meagre disbursements at household level (Suich, 2013; Mosimane & Silva 2015; Hewitson, 2018; Schnegg & Kiaka, 2018; Kalvelage *et al.*, 2020; Drake *et al.*, 2021). A conservation model dependent on income from wealthy international tourists and trophy hunters is also vulnerable to international circumstances, as illustrated by the recent coronavirus health pandemic and associated travel restrictions (Lendelvo *et al.*, 2020).

Applying a combined Marxian and critical political ecology analytical lens to human-environment relations in CBNRM spaces can help with understanding how huntable elephant commodities are (co)produced with and extracted from the biophysical world (Kay & Kenney-Lazar, 2017). It can also shed light on the contested nature of this commodification process and its consequences for local livelihoods. The processes

which render complex ecologies into tradeable commodities are not only economic relations and social activities; they are also contingent upon beyond-human activities and lifecycles. In this respect, Marx's somewhat rigid conceptualization of labor and value might hinder a more detailed understanding of the 'work' of nonhumans including elephants in producing (and subverting) nature's commodification. It is for this reason, that we now turn to more-than-human and relational approaches that emphasize the 'lively' nature of these 'wild commodities.'

Assembling economic value with and from natures

Posthumanistic approaches attending to the materiality of nature and redistributing agency to 'other than human' actors have sometimes been criticized for their lack of political engagement with capital and the economic/power relations constituting the world (Whatmore, 2002; Tolia-Kelly, 2012; Cresswell, 2012). In response, an emerging body of work seeking to 'ecologise' political ecology explores the co-optation of lively other-than-human entities in the production and circulation of capitalist value, emphasizing the co-constitution of the economic and ecological whilst focusing on the inequalities generated by capital accumulation (Collard & Dempsey, 2017; Barua, 2019). Barua (2019) thus explores the activities of beyond-human entities as 'metabolic', 'affective' and 'ecological' 'labor', with each of these 'labor categories' dependent to varying degrees upon an organism's biological and ecological capacities and behaviors.[8] Arguments that come into play here concern how, like the unwaged (re)productive labor of humans (especially of women), this animal 'work' is hidden behind the fetishized and often intangible commodity – for example, a 'wilderness experience' or a 'carbon credit' – only coming to light when actual practices of value creation are explored (Haraway, 2008; Barua, 2019).

The dynamic and generative capacities of animals linked with these practices are fundamental to capitalism's valorisation processes, and to their identity as 'officially valued' commodities (Collard & Dempsey 2013, 2017). At the same time, multifarious 'encounters' between things can forge relations and produce value that is not necessarily reducible to exchange in monetary form (Fredriksen *et al.*, 2014). Relational 'encounter value', for example, derives from contingent relationships between humans and other-than-human entities (Haraway, 2008), and the lifeworlds of individual animals affects and shapes the possibility of capitalist capture of their activities (Ginn, 2014; Barua, 2017). Drawing on Whatmore & Thorne's (2000) earlier writings on wildlife topologies, the relational geographies of elephants specifically have been described in terms of 'modes of companionship' with other species. Lorimer (2010, p.492) thus notes how their unfixed bodies 'bear traces of multimillenial histories and multinational geographies of movement, captivation and conflict.' This notion of elephants moving through a complicated, folded, world is taken further by Barua (2014, p.560) who argues that these 'cosmopolitan' creatures are social and spatial 'conduit[s] for connectivity', their material and affective agency knitting far-flung epistemic communities together in conservation assemblages.

Against this background, the methodology adopted in this study incorporates material and perceptive 'following' of elephants through a specific conservation hunting assemblage, in order to understand empirically how valued 'trophy' commodities are produced. Taken from Deleuze & Guattari's (1987) notion of *agencement*, the term 'assemblage' refers to the relational coming together and spatial ordering of disparate entities through which actions occur (DeLanda, 2006; Muller, 2015). Assemblage is often labelled an 'after-ANT' (i.e. Actor-Network-Theory) concept, due to ANT's similar concern for the more-than-human aspects of the socio-material world, and its orientation towards how entities articulate whilst retaining their individuality and heterogeneity (Latour, 2005; Anderson & McFarlane, 2011; Muller & Schurr, 2016). Assembled relations are contingently obligatory rather than logically necessary amongst actants that are at all times involved in (de)territorializing

[8] We write 'labor' here in inverted commas to signal that we are ambivalent about extending concepts of work to natures-beyond-the-human, as in references to 'the work that nature does'. As one of us has suggested elsewhere (Sullivan, 2017b), we think that at some level a category error is creeping in here. Or, at least, that a false question is being posed – that is, does nature labor? Natures beyond-the-human are immanently (re)generative, but it seems to us that beyond-human natures labor only to the extent that they are conceptualized, calculated and alienated as such. The work that goes into creating the symbolic layering that abstracts dimensions of nature-beyond-the-human into potentially commodified units of value (such as a 'carbon credit') is all (too) human, as are the buyers and sellers of the valued units that thereby arise.

processes (Speed-Rossiter *et al.*, 2015). On the one hand, actants may engage in arborescent practices that stabilize the assemblage by sharpening its borders or homogenizing its composition. Conversely, an assemblage may become deterritorialized and its internal coherence undermined as multiplicities follow their own 'lines of flight', engaging in rhizomic practices in connection with elements from 'outside' the assemblage (Deleuze & Guattari, 1987; DeLanda, 2006). Rather than reify entities such as society or capitalism, then, 'assemblage-thinking' focusses on spatial and conceptual processes that produce contingent 'things', including 'wild commodities' (Li, 2014; Harman, 2014).

Underpinned by assemblage thinking, the methodology adopted maintains an epistemological commitment to revealing the processual, laborious and contingent relations that constitute socio-natures. Kwandu Conservancy thus serves as a specific case study site in which to 'enter' the assemblage, providing the location for twelve months ethnographic fieldwork by the first author largely spent camped at local community homesteads or at the conservancy office. Permission for the fieldwork was obtained from MEFT and each of Kwandu's six area *indunas* (headmen). The primary method utilized involved physically 'following the thing' (Cook *et al.*, 2004, 2006), in this case the elephant, including tracking its ethologies alongside hunters and game guards, as well as tracing the movement of the animal's constituent parts (e.g. its ivory) post-hunt (Hewitson, 2018). As these pachyderm tracks intertwined with those of humans, interviews were conducted with people that had seen, heard, or experienced these creatures. These activities were combined with perceptual/retrospective following, including tracing human-elephant encounters and stories contained in secondary data, and conducting interviews with farmers identified from Human-Wildlife Conflict (HWC) claim forms at the conservancy office. As sedimentations of social practices secondary data and grey literature fleshed out ethnographic and other primary qualitative data obtained whilst sitting in on NGO meetings or training exercises with conservancies, serving to elucidate the 'active processes of narration' that work to stabilize heterogeneous (non)human assemblages (Lejano, 2017, p.200). Obtained from the Namibian national archives, government and (inter)national NGOs, these secondary data included policy documents, institutional reports and media articles on CBNRM. Using a local translator where necessary, 64 semi-structured interviews were carried out with CBNRM stakeholders in Namibia, including conservancy members and 'key informants' such as MEFT and NGO staff. Altogether, decentering human control and attempting to engage 'across, through, with and as, more-than-humans' (Dowling *et al.*, 2017, p.824), 'following' allowed for an empirical exploration of the elephant's relational interactions with other (non)human entities in the co-production of value.

The present study thus contributes to a nascent body of work interrogating value not as a separate entity or as something that pre-exists measurement or articulation, but as something that is produced and performed through relational practices between more-than-human subjects (Bracking *et al.*, 2019). Building on Marx's understanding of value as a social relation, our approach is nonetheless cognizant of the labor theory of value's constraints, favoring instead an assemblage approach aligned with the performative economics tradition, so as to conceptualize economic value as produced through actions, knowledges, institutions, technologies and structuring discourses that can be studied empirically, as we now elucidate for elephant hunting commodities in Namibia.

3. Producing elephant commodities for 'conservation hunting'

This section analyses the (non)human relations that combine to produce elephant commodities for 'conservation hunting.' It begins with two 'vignettes' derived from following elephants in the field (see above), which provide some background context for the detailed discussion of processes through which elephant commodities are 'made' in Namibia. The second subsection critically analyses these practices through an assemblage framing that emphasizes the co-constitution of the economic and ecological, exploring the relational interactions and (non)human labor that together produce valued 'wild commodities.'

Commodifying the elephant in Namibia's CBNRM program

> *Fieldnotes 1*: "When it's hot we have to start early; now we start", said Victor[9], as we left his village and headed east into the bush. It was 7am on a crisp August morning in Kwandu Conservancy, in the middle of the dry season. I (first author) was undertaking the monthly 'fixed-route patrol' in the northern reaches of the conservancy alongside three of its community game guards. In addition to their daily patrols they walk this 10km route every month, each carrying a yellow 'event book' in which they record tracks and sightings of wildlife. Tracing discernible paths through the bush, the men pointed out various plant species - sand-veld acacia, Zambezi teak, wild syringa, sour plum and sickle bush – and recorded the spoor of leopard, hyena, kudu, and bushpig. Yet, it was not until we reached the conservancy's border with the Caprivi State Forest – one hour and a half into the patrol – that we came across evidence of elephant presence. "*Njovu*!" called Victor from up ahead, as we walked north along the 'cut-line' firebreak. "It must be from two days ago", he said, looking down at the pachyderm's footprint. Another pointed to the location of these tracks on his map, clear evidence, the men believed, that elephants were moving between the state forest and conservancy, or even using the cut-line as a path north into Zambia. However, being old tracks, they would not be recorded in the monitoring book on this occasion, as Victor explained: "On a fixed patrol we only record the fresh tracks from last night, this morning, or a sighting." Another two hours elapsed before we came across more elephant spoor, close to some camel-thorn trees a few kilometers further north along the state forest boundary. "These acacia trees are where the elephants are feeding", said Victor. "They were here almost two days ago", his colleague deduced, inspecting the tracks. "But these are the breeding ones – the females and the juveniles", he continued, an air of disappointment in his voice. Tracks from a big bull would have been better news to take to the conservancy's professional hunter. "Now the elephants are just few", Victor told me, "but you will see after September, October, November there will be a lot of elephants because they are just chasing the water."

> *Fieldnotes 2*: One night in mid-April Dorothy lost her entire sorghum crop to elephants. Like many other farmers in Kwandu Conservancy she had fenced her field using local timber, which had acted as a barrier to bush pigs and impalas, but not elephants. "Last year I used chilli bombs and the elephants did not attack the field", she says. "The Conservancy should keep on distributing those chilli bombs to farmers, but this year they were not there." The day after Dorothy's sorghum harvest had been eaten by elephants she reported it to a local game guard, George, who turned up the same day in order to investigate the incident. Accompanying Dorothy to the site, George measures the extent of crop loss as ¼ hectare of the large field. He also identifies large, round footprints at the site, as well as dung and urine, the unmistakable signs of elephants. "I didn't see the elephants, I just saw the footprints", admits Dorothy, before stating that "they were many." George believes the elephants had come from Bwabwata National Park, crossing the Kwando River and entering the conservancy. He has heard reports from other farmers in the area who also had their fields raided that night. Perhaps they were the same elephants; perhaps not. For now, George takes the claim form and writes: 'Nine elephants entered the crop field on 14th April during the night and one quarter hectare of damaged sorghum was observed. The field is subject to be compensated.'

Monitoring processes such as those illustrated in the passages above are central to producing elephants for hunting. Community game guards in Kwandu Conservancy conduct daily patrols as well as annual game counts alongside government and NGO staff. On a monthly basis game guards collate their daily event book data, described by CBNRM practitioners as 'the first step in the conservancy information cycle' (NACSO, 2014,

[9] Victor is not the game guard's real name, and pseudonyms are used for all participants throughout the article.

p.37). With assistance from Namibian Association of CBNRM Support Organisations (NACSO)[10] including WWF-Namibia and IRDNC these sightings are transferred to the conservancy's long-term monitoring event book, presented in bar charts illustrating trends in wildlife abundance. These data are also analysed and presented digitally by NACSO partners, stored within a national monitoring and evaluation database belonging to the government's MEFT and presented in publications such as NACSO's annual *State of Community Conservation* report. As well as being an important management tool for individual conservancies, these records and reports serve to illustrate wildlife recoveries in Kwandu and the Zambezi Region more broadly. Stakeholders agree that annual fluctuations in elephant sightings are caused by environmental factors and transboundary movements from neighboring countries, especially Botswana (KaZa Secretariat, 2014; Chase *et al.*, 2016). Given the methodological difficulties of counting highly mobile animals across extensive ranges, CBNRM partners are also reluctant to estimate elephant numbers at conservancy-level (Fowler & Mikota, 2006; t'Sas-Rolfes *et al.*, 2014). Nevertheless, at a regional scale NACSO is able to produce graphs illustrating a steady increase in elephant numbers over the past decade. Notwithstanding the reservations of those who attribute Zambezi's wildlife recoveries to increased rainfall since the mid-1990s, these knowledge representations strengthen the case for continued sustainable utilization of 'surplus' elephants (although see Drake *et al*. 2021 for a different perspective).

This utilization is subject to conditions imposed under the Convention on International Trade in Endangered Species (CITES). Having demonstrated healthy elephant numbers in 1997, Namibia was able to get its national elephant population transferred from CITES Appendix I[11] to Appendix II.[12] This means the country's elephants are not considered at risk of extinction, and the state is permitted to trade in limited amounts of sustainably harvested ivory and elephant products, including the sale of elephants as trophies to commercial, usually foreign, hunters. Yet this is an ongoing debate at CITES meetings, with countries opposed to hunting arguing for the relisting of African elephants on Appendix I, thus banning all trade in their products. These persistent debates pose a severe threat to Namibia's CBNRM program, evidenced during NACSO meetings where participants warned of the outside forces working against sustainable use and lobbying for hunting bans which, if enacted, would bankrupt many conservancies. MEFT and other CBNRM stakeholders thus point to the localised 'overpopulation' of elephants and importance of 'sustainable offtake' in minimising habitat destruction caused by these ecosystem engineers (Roever *et al.*, 2013).

Before it can begin trading elephant trophies, however, Namibia must first establish annual export quotas for elephant ivory, deemed by CITES to be "important tools […] in regulating and monitoring wildlife trade to ensure that the use of natural resources remains sustainable" (CITES, 2007, p.1). Monitoring data produced through annual game counts and the event book system (as mentioned in the first set of fieldnotes above) is crucial here, with CITES (2016b, p.8) commending Namibia on its in-depth monitoring of all conservancies as part of "the largest road count monitoring system in the world." CBNRM stakeholders also point to Namibia's solid track record in meeting its CITES obligations, employing a "rigorous scientific approach to monitoring stocks as a basis for conservative quota and permit allocations" (MET, 2014, p.36). Namibia's MEFT calculates that 0.5% of an area's total elephant population can be hunted for trophies (usually males over 30 years old) without negatively affecting overall numbers (Selier *et al.*, 2014), and Namibia has set a trophy quota of 180 tusks (90 elephants) each year since 2011. As one NGO employee made clear, this equates to around one trophy bull for every 200 animals in the country, a figure deemed to have little impact

[10] NACSO is an umbrella membership association of organizations supporting the country's CBNRM program. It consists of 8 'full member' NGOs and the University of Namibia, seven 'associate member' organizations, as well as individual members. NACSO members such as WWF-Namibia and IRDNC play a significant role in providing technical support to conservancies in the fields of natural resource management, business and enterprise development, and institutional development.

[11] CITES Appendix I includes "all species threatened with extinction which are or may be affected by trade. Trade in specimens of these species must be subject to particularly strict regulation in order not to endanger further their survival and must only be authorized in exceptional circumstances." (CITES 1973, Art II: 1)

[12] CITES Appendix II includes "all species which although not necessarily now threatened with extinction may become so unless trade in specimens of such species is subject to strict regulation in order to avoid utilization incompatible with their survival." (CITES 1973, Art II: 2)

on overall populations. CITES Secretariat reviews these data alongside information from the IUCN's African Elephant Specialist Group, which estimates a population of 250,000 elephants in southern Africa – around 64% of Africa's total elephant population (CITES, 2016a). In basing these export quotas upon elephant numbers from actual sightings on game counts – considered underestimates – the Namibian government effectively meets CITES' 'non-detriment finding' requirement, paving the way for trade in elephant sport-hunted trophies. Most of Namibia's elephant quota is sold to hunting tourists from the US, a country that considers the African elephant to be 'threatened' yet allows the importation of elephant trophies when the exporting country has set an annual ivory quota (US Fish and Wildlife Service, 2014). This quota setting process is thus crucial for Namibia's trade with US hunters, providing a vital income stream supporting the country's CBNRM program.

Namibia's national quota must then be distributed amongst the country's hunting concessions. This is a process led by MEFT, who undertake annual quota review meetings with conservancies alongside NGOs and local Traditional Authorities that sit on the conservancy's management committee. NGOs identify the need to develop quota setting systems to ensure natural resource utilization is sustainable and maximizes socio-economic returns to communities. For this reason, NACSO partners conduct quota setting training programs aimed at helping conservancy committees understand the factors MEFT consider when negotiating elephant hunting quotas with conservancies, including the prevalence of 'human-elephant conflict' incidents.

CBNRM stakeholders acknowledge the inevitability of crop-raiding by elephants residing close to agricultural communities and are eager to frame these interactions in particular ways, focusing their efforts on mitigating this 'conflict' either through practical prevention or financial measures. As such, under the government's 'Human-Wildlife Self-Reliance Scheme' (HWSRS), farmers can claim monetary recompense for crops lost to 'uncontrollable' elephants, subject to various rules such as game guards investigating incidents and recording evidence within twenty-four hours (MET, 2009). These claims are then assessed by the HWC Committee, consisting of representatives from MEFT, NGOs, the Traditional Authority and conservancy committee. In Kwandu there are regularly over one hundred human-elephant conflict incidents annually, often the highest figure in the country and justifying the conservancy's label as a human-elephant conflict 'hotspot area' (NACSO, 2018). Despite being difficult to measure, CBNRM practitioners calculate the economic cost of these incidents *vis-à-vis* economic returns from wildlife enterprises, and NACSO reports human-wildlife conflict costs amounting to around US$8,500 in Kwandu in 2017, offset by conservancy income totaling almost US$75,000 the same year (NACSO, 2018). Interestingly, the costs of crop losses in Kwandu are significantly lower than those calculated for Mashi Conservancy in the same year, Drake *et al.* (2021) putting crop depredation losses caused by elephants alone at US$157,000, only 30% of which was offset by trophy hunting revenues. Nevertheless, in Kwandu, institutional reports demonstrate both the financial burden of living alongside elephants, as well as the importance of hunting revenues in paying for these costs.

At an international level these inscriptions help combat resistance from opponents of consumptive use. Yet they are also vital at the local level, "helping communities to convince government that there are some problems", as one NGO employee put it. Human-elephant conflict data thus feeds into the quota-setting process alongside game count estimates and event book data. This point was emphasized at Kwandu's annual feedback meeting with NGOs, during which a WWF-Namibia employee warned "if you are not recording elephants and you want six elephants on your quota from the government, then it will be difficult for them to know what to give you." Information contained in the Conservancy's Wildlife Management and Utilisation Plan is also significant, MEFT's latest 'Standard Operating Procedures' for conservancies stating quotas must form part of, and be compatible with these plans (MET, 2013). Despite the highly mobile nature of elephants and their vast home ranges, Kwandu's wildlife management plan stipulates keeping its 250 'resident' elephants at current levels. These anomalies aside, Kwandu's effective implementation of monitoring systems and participation in quota setting activities are commended by government and CBNRM NGOs, with MEFT having reduced quotas for those conservancies not engaging fully with the process.

As such, in recent years Kwandu has received three 'trophy' and two 'own-use' elephants on its annual offtake quota (NACSO, 2016, 2017, 2018). In order to ensure the optimal value for these 'capital assets' the conservancy puts its quota out to tender, with safari operators submitting proposals to the conservancy from which Kwandu Conservancy's management committee chooses its preferred company. In effect, the

conservancy's elephants go to the highest bidder. Since 2011 Jamy Traut Hunting Safaris (JTHS)[13] has held the rights to hunt in Kwandu's concession, renegotiating its contract every couple of years. JTHS pays Kwandu US$12,376 for each trophy elephant hunted carrying a tusk weight above 40lbs (18.1kg), or US$8,415 for those with tusks weighing less than that. For comparison, neighboring Mashi Conservancy receives a slightly higher fee of US$13,100 from its safari operator for each elephant hunted (Drake *et al.*, 2021). Given the difficulty of finding and killing 'trophy' elephants in Kwandu, JTHS also guarantees payment for two trophy bulls each year, irrespective of whether the animals are actually 'utilized.'

JTHS markets these elephant hunts at industry trade shows and auctions held by organizations such as the Dallas Safari Club.[14] Photos of previous elephant hunts in Kwandu adorn the company's website alongside iconic images of the 'big five', JTHS offering clients an unequalled opportunity to hunt dangerous game in a "wild landscape of mighty rivers and extraordinary herds of big game" (JTHS, 2020). Such an experience does not come cheap. Clients wishing to hunt trophy elephants in Kwandu pay JTHS a US$24,000 trophy fee, as well as a minimum of US$25,900 in daily rates for fourteen days spent on the elephant trail (JTHS, 2020). Altogether, anyone hunting a trophy elephant in Kwandu can expect to pay upwards of US$50,000 to do so. Whereas the daily rates largely cover JTHS's operational costs including accommodation upkeep and staff salaries, the trophy fee is shared with the conservancy. Accordingly, Kwandu receives just over 50% of the trophy fee paid by the client to JTHS, assuming the tusk weight is above 40lbs (18.1kg), supporting observations that conservancies typically receive anywhere from 30-75% of the trophy price (Naidoo *et al.*, 2016).

Co-producing the trophy elephant commodity

The commodified 'trophy' elephant is produced through social practices of counting elephants and codifying knowledge. This human labor is undertaken by diverse (inter)national stakeholders, beginning with the physical work of community game guards who record evidence of the pachyderm's presence in 'event books' and HWSRS claim forms. Such representations homogenize elephants, lacking any distinction between male/female or adult/juvenile and failing to account for individual differences. In that sense, arborescent practices of counting and codifying elephants are part of a 'logistical epistemology' (Cresswell, 2014) seeking to 'make' them present in the conservancy. These material knowledge representations move through institutional networks of NGOs who undertake 'extraordinary feats of assembly work' (Li, 2014, p.593) to produce reports and plans demonstrating 'surplus' and 'problem' elephants. Interestingly, whereas the pricing mechanism often depends on creating the notion of scarcity (Bracking *et al.*, 2019), in this case it is contingent upon demonstrating relative abundance, although high prices are assured by the few elephants that can be identified as trophies overall. In any case, these representations are both an effect of practice and have effects in practice (Weisser, 2014), playing a performative role in the formation of (inter)national policy and action and supporting the 'sustainable consumptive use' of Namibia's elephants through trade quotas.

Crucially, this neoliberal assembling of value operates through a "utilitarian construction of a passive nature" (Büscher *et al.*, 2012, p.24) that *de facto* subdues the elephant's vitality and unruliness. Individual elephant bodies are made measurable and commensurable under capitalist socioecological relations through inscriptions that attempt to substitute for lively materialities. The 'conservationist mode of production' produces surplus elephants that are inserted onto quotas and ascribed economic value on price lists, abstracted for circulation in markets for conservation hunting commodities (Fletcher *et al.*, 2015; Bracking *et al.*, 2019). Fetishized images of elephants and wild, idyllic landscapes are used to sell these commodities, integral to the 'spectacular accumulation' of the elephant's economic value (Igoe, 2013; Barua, 2017) but alienated from the (non)human labor and complex ecologies that produce them. As such, this decontextualization of individual elephants can have problematic socio-ecological effects. Some research suggests that elephant societal cohesion is negatively affected by the hunting of old bulls, leading to increased aggression and human-elephant conflict amongst groups of young male elephants (Selier *et al.*, 2014). At the same time, the connections

[13] See https://jamyhunts.com/

[14] See https://www.biggame.org/.

integral to ecosystem resilience may become increasingly fragmented and estranged as a result of the commodification of their constituent elements.

The calculative technologies - such as quota setting and wildlife monitoring - that work to produce elephant commodities can be understood as practices of power and authority, even as they depoliticize and 'render technical' (Li, 2007) questions of value, foregrounding particular value frames and relationships between people and elephants whilst muting others (Murphy, 2014). Drawing on Foucault, this conceptual territorialization depends on institutional networks of conservation NGOs, agencies and governments working to "fix the conduct of conduct" in a manner conducive to the creation and accumulation of monetary value (Murdoch, 2006). In Namibia, CBNRM stakeholders provide expert assistance in the formulation of "properly crafted rules" (Li, 2007, p.267), delivering technical support and training to conservancies on issues such as human-elephant conflict mitigation, quota setting and use of the event book monitoring system. In each of these aspects conservancies are subject to biannual audits and performance ratings that influence their future chances of benefiting from commodification processes (MET/NACSO, 2020).

Kwandu's rights to hunt elephants are thus not pre-given, but contingent upon government and NGO satisfaction with the conservancy's monitoring performance and institutional governance. Increasingly, these governmentalities are geared toward fostering a business-oriented approach to conservancy management, developing the 'corporate identity' of conservancies and increasing private sector investment in wildlife enterprises (NACSO, 2015; MET/NACSO, 2020). Some Namibian practitioners are concerned that the very identity of Namibia's CBNRM program has changed, having originated as a 'rights-based' approach to wildlife management (*personal communication*). These rights were not contingent upon demonstrably valuable 'natural assets' but were instead part of an effort to counteract racist policies under the apartheid regime (Murphree, 2009; Dressler *et al.*, 2010). With the increasing synergy between capitalism and conservation, rights to elephants are ever more dependent on conditions of use and access defined by external actors (Drake *et al.*, 2021). In tendering its hunting quota and negotiating a contract with JTHS, the conservancy effectively implements decisions that were made by government in the service of green economic growth through conservation. Put simply, Kwandu is the 'middle-man' in a transaction between MEFT and the private hunting operator, its residents becoming increasingly dependent on erratic commodity markets for elephant trophies to meet livelihood needs.

However, there is a further important alignment between poor subsistence farmers and elephants that raid their crops. In this valuation assemblage elephants deemed unsuitable as 'trophies' or 'own-use' animals drop out of the reference frame and are excluded from market calculations (Bracking *et al.*, 2019). Yet these 'externalities' – including young male and female elephants – retain their capacity to affect things, often destroying harvests and sometimes killing people. Such interactions clearly impact economic relations, and actors within the CBNRM and conservation hunting assemblage must work to absorb the destabilizing effects of these 'overflows.' In Kwandu this absorption is exemplified in the government's HWSRS which uses hunting revenue to partially offset economic losses caused by elephants. Farmers are paid a fixed rate of US$73 per ha of crop damage, which is significantly less than the estimated US$545 that can be generated from a hectare of maize (Drake *et al.*, 2021). Dorothy and others argued these offset payments are not enough, and many farmers explained having to undertake extra piecework in order to feed their families after losing crops, with one conservancy member describing living alongside elephants as like being "locked in prison." These economic, psychological, and hidden opportunity costs are generally borne by the most vulnerable in society, such as female-headed households, and often cannot be financially compensated for under HWSRS (Khumalo & Yung, 2015; Thomsen *et al.*, 2021). The 'trophy' elephant's commodity value emerges at the same time as other values and lives are abandoned (Ginn, 2014; Gibbs *et al.*, 2015), and households suffering the greatest economic and emotional burden of living alongside elephants are not necessarily those who benefit from CBNRM's economic opportunities. This (re)territorialization is a product of unequal power relations amongst the assemblage's multiple actants, reinforcing social relations in which subsistence farmers must suffer the costs so that (inter)national elites can continue to exploit their unpaid labors and accumulate surplus value from commodified elephants.

Yet elephants and other nonhumans are also agentic in the assembling and (de)stabilization of these conservation spaces. Human practices of technological measurement and inscriptive symbolism are co-

productive of elephant commodities alongside the activities and affective capacities of nonhumans. Lorimer's (2007) notion of 'corporeal charisma' remains relevant and is exercised by elephants that trigger particular emotions in humans. The fetishized images of elephants displayed in professional hunting brochures emphasize the animal's majesty and identity as 'dangerous game', amplifying their charisma and making them desirable for the voyeuristic gaze (Cresswell, 2014; Barua, 2016), a gaze that may also imply the desire to own, have and take that which is gazed upon (Berger, 1972). These romantic 'wilderness' notions are used to sell trophy elephants, appealing to (foreign) hunters seeking encounters with dangerous and challenging animals. This appeal is reflected in prices for trophy animals in communal-area conservancies, which are estimated to be worth four times that of animals hunted on freehold land (Maclaren *et al.*, 2019). As Kwandu's professional hunter stated, "people who have hunted on commercial farms now realize that they've done step 'A'; now step 'B' would be the larger free-roaming game, the tougher hunt, the *old* Africa." The irony here is that it is precisely Namibia's colonial and apartheid history of land appropriation and rationalization that has produced this distinction between (mostly) fenced freehold land and (mostly) unfenced communal land, the latter now fetishized as 'wild, old Africa.' Indeed, the local livelihood struggles of farmers living alongside elephants on marginal land sit uncomfortably alongside the fetishized wilderness values central to 'dangerous game' hunting in Kwandu.

There is also perhaps no animal 'tougher' or representative of 'old Africa' than the elephant (cf. Cloete, 1953; Innes, 1977). Its resilience is embodied in its ethology and ecological capacities, as well as its viability as a hunting commodity. The elephant can survive in remote areas often perceived as peripheral and degraded that lack appeal to tourists in search of wildlife-rich, people-free landscapes for photo safaris, yet remain attractive to elephant hunters. As Kwandu's safari operator made clear, "tourists do not want to go to those areas outside of the Okavango Delta because all you see are elephants and mopane; it is miles and miles of monotony." Yet elephants will frequent these places and trophy hunters will follow, meaning hunting economies can be more reliable than agricultural incomes in these areas. As one farmer in Kwandu put it: "even if there is drought the elephant cannot die due to hunger because the rain has not fallen. But the millet, if there is no rain, we cannot produce. That is how it is."

Alongside spectacular images and human affordances, therefore, the elephant's ethology is crucial for productive economic relations. The largest land mammal on earth, it is unmistakable, having a significant material impact on its environment including uprooting trees, breaking fences and raiding crops. Together these behaviors comprise the elephant's 'ecological charisma' (Lorimer, 2007), signifying an organism's unique combination of properties that allows its ready identification and differentiation from others. These physical properties allow humans to tune into their behavior, lending themselves to calculative technologies of governance. Equally important is the elephant's *umwelt*: those activities it experiences as meaningful or value-forming (Barua, 2016), perhaps none more so than crop raiding. Sexually mature male elephants in particular eat farmers' crops, seeking to benefit from the increased nutritive value of plants such as maize and millet at the end of the rainy season (Selier *et al.*, 2014). Compared to the dry season when they remain largely in adjacent protected areas with more reliable water sources, elephants are generally more visible (and therefore huntable) in the conservancy during the cropping season. Temporal patterns of elephant presence and crop damage are widely recognized in the literature (Roever *et al.*, 2013; Von Gerhardt *et al.*, 2014), with cultivation cycles and rainfall patterns said to define a "window of vulnerability to crop-raiding by elephants" (Graham *et al.*, 2010, p.436). As one farmer put it, "we cultivate our fields, that is why the elephants come."

Despite appearing somewhat chaotic on the surface, then, this is an assemblage composed of elephants and other 'things' encountering each other in more or less organized circulations (Thrift, 2003). Bear (2013, p.36) describes such relations as a "composed chaos, a chaotic variability rendered consistent", exemplified in Kwandu where money derived from trophy elephants is ploughed back into the earth. Farmers use payments received through the government's HWSRS to buy more seeds. Crops grow, attracting elephants into the conservancy which can be counted, commodified, and perhaps killed. The elephant's place in the assemblage is thus contingent upon both the capacity of humans to grow crops and their inability (or perhaps negligence) to protect them due to other factors such as alternative livelihood strategies or "knowing they will get a coin in the end" through HWSRS offset payments, as one NGO employee put it. Although elephants diminish the individual capacities of farmers to produce food, they increase the conservancy's capacity to generate income.

Through this cycle of destruction and benefit elephants and vegetal life contribute to the material constitution of each other (Gibbs *et al.*, 2015). CBNRM practitioners tune into these quotidian rhythms and patterns of repetition, laboring to record tracks, dung and damaged crops. These technocratic practices work to produce discreet, alienable elephants that capital can 'see' (Robertson, 2006), whilst concealing both the human and beyond-human 'labors' involved in their production (Collard & Dempsey, 2017).

'Following' the elephant's lively biogeographies illustrates its role as 'co-producer' in these practices, its dynamic and generative capacities being fundamental to capitalism's valorization processes. This study demonstrates the centrality of these inter-species relations in constructing the elephant's economic value. It is reasonable to assume that practices such as crop raiding and forest degradation are a threat to capital accumulation in conservancies, and Barua (2016) argues that these 'undesirable encounters' constrain capture by market logics. However, in this assemblage pachyderm-plant encounters are not unwelcome to all actors, particularly those in positions of relative power. As one Kwandu employee admitted, "we are not happy if crops are not damaged because it means we have no wild animals here, and that is not good for the conservancy." Such sentiments seem irrational from the perspective of a subsistence farmer, but they speak to the unequal power relations that compose this valuation assemblage. These 'undesirable' encounters are central to producing elephants for consumptive use, allowing stakeholders to construct the elephant's identity as 'destroyer' and legitimize the 'conservation hunting' discourse, essential tasks for those seeking to capitalize on trophy elephant commodities.

Arguably, then, elephants are made to be tools of these neoliberal governmental alliances, laboring to striate space and contributing to the assemblage's robust internal character (Harman, 2014; Cresswell, 2014), thereby stabilizing value relations so as in some sense to become agentic in its own commodity production. At the same time, elephants are also vulnerable to other (non)human agencies such as rainfall, and the presence of trees and nutritious plants grown by subsistence farmers with few other options. In the dry season elephants move through the conservancy to access the Kwandu River and feeding areas in Bwabwata National Park and the State Forest (see Figure1) (Von Gerhardt *et al.*, 2014), but largely undertake these journeys at night, making hunting during the day extremely difficult for Kwandu's Safari Operator. The task is easier during the cropping season when elephants are more visible. Yet poor rainfall levels often cause drought and crop failures in Zambezi, affecting elephant movement patterns and presence in Kwandu (DeMotts & Hoon, 2012). Having received poor rains that year, farmers related that "there are fewer elephants this year because the maize is not ok", and "when there are no crops the elephants cannot be seen." In the past five years game counts in Zambezi indicate a downward trend in elephant sightings, and there have been years when no elephant trophies were killed in Kwandu (NACSO, 2018, 2020). Although the elephant's elusive nature can, in fact, increase its value as 'worthy quarry' in the eyes of trophy hunters, in the absence of tangible animals to hunt JTHS guarantees payment for two trophy elephants, functioning as 'fictitious commodities' (Marx, 1974) that exist only ideally but are produced to stabilize value relations. In combination with other actants, then, elephants may undermine economic production, resisting human practices that seek to capitalize on their megafaunal capacities. Kwandu's professional hunter can compensate for this through 'guaranteed payments' that restore order to value relations. But maintaining this stability is hard work, the conditions for deterritorialization ever present amongst agentic (non)human entities.

What this case research demonstrates is that value relations are produced through encounters between more-than-human entities, these interactions being unique to particular spatial and temporal contexts (Ginn, 2014). In Kwandu, humans, elephants and other beings act alongside and with each other to produce valued commodities, dependent on patterns of repetition and encounters specific to the conservancy's socio-ecological composition. Power is dispersed unequally in these relations, through which space is ordered and value frames are territorialized. Despite often *appearing* hegemonic, as though dictated by some universal code behind practices (Büscher *et al.*, 2012), this study demonstrates the contingent and fractious nature of neoliberal governmentalities on the ground. Recalcitrant elephants and other ecologies unknowingly resist control and disrupt the neoliberal project's dominant value relations. In doing so, they open up spaces in which alternative socio-natures might be formed.

4. Conclusions and future research directions

This article sought to provide an in-depth understanding of neoliberal environmental governance and value-making in practice. It showed how economic value is created and extracted from 'wild' natures (Fredrikson *et al.*, 2014; Bracking *et al.*, 2019), through empirical investigation of processes that produce commodified elephants for 'conservation hunting' in Namibian conservancies. Adopting a Marxian and critical political ecology lens, the conceptual approach acknowledges a diverse assemblage of more-than-human actors in the production and circulation of capitalized natures. These valued natures derive not only from human affordances and inscriptive symbolism, but also the varied ethologies of agentic beyond-human entities. In this emphasis on the co-constitution of the economic and ecological, the activities of the elephant are *in a sense* transformed and coopted as 'labor' in the production of fetishized 'trophy' commodities.

The assembled socio-ecological relations that produce nature's value in Kwandu are relational and somewhat circulatory, (non)human things encountering each other in ways that both stabilize and undermine these value relations. Elephants move through the conservancy and work to uproot trees, break fences and raid crop fields. These ecological capacities are exploited by those seeking to produce 'officially valued' elephants amenable to capital accumulation. Humans labor alongside elephants, undertaking technocratic practices attuned to but necessarily pacifying the pachyderm's liveliness, rendering it a discreet unit for exchange in trophy hunting markets. Their labors are concealed in the fetishized commodity form, elephant ethologies being accordant with governance practices and romantic representations of 'old Africa' that territorialize particular neoliberal value frames, such that trophy commodities become entities born out of and reinforcing structural power relations. These relations are contingent and contested, subsistence farmers suffering from elephant encounters that are not undesirable to all actors. (Inter)national elites combine to absorb these destabilizing interactions and elephant absences through partial offset payments to farmers and 'guaranteed' payments from hunting safari operators to the conservancy, mobilizing utilization discourses and reterritorializing value relations so that capital accumulation may continue.

In this respect, the article underlines the contingent and radically open nature of value. Valued entities including trophy elephants do not pre-exist measurement or articulation but are produced through encounters between multiple kinds of beyond-human actants. These relations are unique to particular spatial and temporal assemblages and the socio-ecological rhythms of their components. Valuation assemblages in Kwandu depend upon patterns of repetition between humans, elephants and other lively things that in combination continually *(re)enact value*. Tracking the ongoing composition of assembled value relations, the article demonstrates the fractious nature of neoliberal governmentalities 'on the ground.' Techno-scientific practices creating and governing value tend to shore up structural capital-labor relationships, maintaining and reinforcing dominant neoliberal nature values and their subsequent unequal and detrimental socio-ecological effects (Bracking *et al.*, 2019). Yet recalcitrant elephants and other ecologies unknowingly resist control and may disrupt the neoliberal project's dominant value relations. Attending to the combined agencies of humans and beyond-human components in the production of commodity value brings to the fore subversive rationalities and practices of contestation through which entities such as 'trophy elephants' might also be unmade. These 'possibility spaces' (DeLanda, 2006) are inherent to practices of value production, and tracing their continued assembling is a vital step toward (re)creating novel, and perhaps more equitable socio-natural futures. Rather than attempting to render visible nature's value through the production of abstract commodities, we might reassemble relations in ways attentive to the values embedded in social relations between humans and other living beings, in the process creating more equitable and ecologically vibrant futures for all (Plumwood, 1993; Sullivan, 2010; Büscher & Fletcher, 2019).

This article has drawn attention to the more-than-human encounters that enact value, and future studies could explore how these relational values might fortify social movements challenging capitalist social relations that reproduce societal inequalities. These assembled socio-natures are formed in multiple combinations and spaces - from urban rooftop gardens to the African plains - and political ecologists can fruitfully explore their creative composition and effects. This study illustrated the situated workings and practices of market-based conservation on the ground, and future research would add to political ecology understandings of neoliberal governmentalities by exploring these embedded practices in other places and contexts. In this endeavor - and building upon the more-than-representational approach adopted here - there is scope for further constructive

engagement between critical work on capitalist ecologies and non-representational geographies. Given the propensity for neoliberal conservation approaches to abstract and render different aspects of nature commensurable, there is also a need to broaden understandings of the specific agencies of varied non-human entities. This article has taken steps towards releasing elephants from the black box of 'nature', attending to their individual ecological and affective capacities. Future research could continue along this new track for 'thing following', exploring the role of other life forms - including plants and less charismatic species - in the relational production of valued natures.

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