DEVELOPMENT SOUTHERN AFRICA
2021, VOL. 38, NO. 1, 87–103
https://doi.org/10.1080/0376835X.2020.1835608

Routledge
Taylor & Francis Group

Integrating social-ecological systems and global production networks: local effects of trophy hunting in Namibian conservancies

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ABSTRACT

In addition to wildlife conservation, Community-Based Natural Resource Management (CBNRM) programmes aim to foster regional development. To achieve this, communal areas couple to tourism Global Production Networks (GPN). In this paper, we conceptualise Namibian communal Conservancies as Social-Ecological Systems (SES) and combine the SES and GPN approaches to benefit from the SESF's explanatory power for ecological and social relationships at a local level as well as from the GPN grasp of global linkages. We analyse the impact of trophy hunting on three communal conservancies in Namibia: King Nehale, Nyae Nyae, and Ehi-Rovipuka. Although wildlife numbers in these conservancies have increased, positive economic impacts are often insufficient, unevenly distributed across regions, and parts of the population are excluded. At the same time, findings indicate that in some areas, where revenues are larger and population is smaller, benefits from hunting can be significant and can contribute to SES sustainability.

KEYWORDS

Conservation; Namibia; conservancies; trophy hunting; global production network; community-based natural resource management; social-ecological system

1. Introduction

Since the 1980s, Community-Based Natural Resource Management (CBNRM) has been implemented across Southern Africa, based on the assumption that both greater power over wildlife and a rising share in conservation-related revenues would increase support for conservation among rural 'communities' . Communities can choose to create an area that prioritises nature conservation over alternative land uses – a conservancy. In return, the national government rewards these communities for implementing conservation measures by transferring rights of use for natural resources (Nuulimba & Taylor 2015). These rights of use include the right to enter into joint-venture agreements with investors to create a lodge and market their territory as a safari tourist destination. Annual quotas are allocated to conservancies for the consumptive use of wildlife, which

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then can be sold to trophy hunting operators. As a result, communal areas become, or are expected to become, integrated into tourism Global Production Networks (GPN, Kalvelage et al. 2020).

Namibia has frequently been lauded for increasing the economic contribution of wildlife while game numbers steadily grow outside of protected areas (Naidoo et al. 2016:14–15). However, by applying a neoliberal conservation model, socio-natural relationships are changed and lead to a cost–benefit logic (Moore 2011). Research has shown that only limited benefits reach local residents, but they bear the costs of human-wildlife conflicts (Schnegg & Kiaka 2018). In specific locations CBNRM can provide significant revenues – especially to small communities with ample wildlife resources and scarce alternative economic opportunities (Lepper & Schroenn Goebel 2010; Rihoy et al. 2010). Newly created conservation institutions can enhance communal control over land access or land uses (Gargallo 2015; Welch 2018). Koot recently emphasised the need to look beyond economic benefits when evaluating CBNRM programmes and to pay greater attention to 'the ground social experiences and perspectives of the local people and other actors', including labour or the relationships between private companies, non-governmental organisations (NGOs) and communities (2019:2–3).

To address this gap, this paper will combine a social-ecological system framework (SESF, Ostrom 2009) with a GPN (Henderson et al. 2002). The SESF holds explanatory power for interdependencies of ecological and social relationships and their effect on natural resources at local level. However, the approach does not grasp global linkages in a satisfactory way. On the other hand, the GPN approach follows the commodity from the production site to the consumer and integrates a variety of actors on different spatial scales into the analysis. GPN has proven useful to grasp the development outcomes of globalised production systems, but does not sufficiently recognise the resource production at a local scale. Therefor we argue that conceptualising communal conservancies as networks of social-ecological relationships which intersect with a network of global production can lead to a refined understanding of first, the effects of global economic linkages on a local resource system, and second, the embeddedness of GPNs into a network of social and ecological interactions. By doing so, we aim to find out how a resource is socially produced and thus how value is created by actors at different spatial scales before integrating a commodity into GPNs; and how the value derived from GPN integration is distributed among actors participating in the production of the resource.

We look at three different conservancies in Namibia – King Nehale, Nyae Nyae, and Ehi-Rovipuka. Following the method section, in a first step these conservancies will be conceptualised as SES. Based on this conceptualisation, the value creation process and the value distribution process will be analysed by exploring interactions between actors of the GPN and the SES: the quota setting process, joint-venture agreements and benefit distribution (i.e. income distribution, employment, and meat distribution). Conclusions will be drawn concerning theoretical implications of integrating the two concepts.

2. Theoretical framework

This contribution aims to to make a first step towards integrating the GPN approach with the SESF. In the following, the two concepts are briefly outlined to make clear why such an integration is useful for the analysis of nature-based industries.

2.1. Value and resource in the global production network approach

As a reaction to the ever more complex organisation of global production, Global Value Chains (GVC) and GPN research have emerged. The aim is to understand 'how places are being transformed by flows of capital, labour, knowledge, power etc. and how, at the same time, places (…) are transforming those flows as they locate in place-specific domains' (Henderson et al. 2002:438). The network approach allows to include not only the participants of a vertical chain, but the whole range of actors that influence production, such as labour organisations, business associations, or public agencies. Initially applied to the manufacturing industry, GPN now serves as an analytical tool to explain development outcomes in a wide range of industries, including tourism (Christian 2016).

Recent research has analysed the trophy hunting GPN in Namibia (Kalvelage et al. 2020). The network is governed by hunting operators in Central Namibia, who in many cases own a private game farm and additionally acquire concessions to hunt in communal conservancies. Specialised trade fairs in Austria, Germany, and the US are important channels to sell tour packages to trophy hunters. Although there are wholesalers who bundle a range of hunting trips to different destinations, the number of intermediaries is limited: most trips to Namibia are sold directly from the operator to the consumer.

While the GPN approach has been a useful explanatory tool for the consequences of global market integration for regional development (Henderson et al. 2002), there has been increasing concern regarding the concept's ability to grasp undesired outcomes of a region's GPN integration (Phelps et al. 2017). Scholars claim that GPN is not able to explain varying livelihood outcomes in the Global South (Vicol et al. 2018) and do not grasp the 'lived experiences of households and individuals' (Fold 2014:779). In a recent study on the tourism GPN in Zanzibar, Murphy states that focussing on the practices of firms connected to GPNs can yield insights into processes that lead to disarticulations (Murphy 2019). Furthermore, it has been criticised that the understanding of regions where GPNs touch down has been thin. A more place-sensitive approach that considers specific configurations of regions could, therefore, contribute to the understanding of regional development trajectories induced by the global market integration (Kelly 2013).

We argue that these shortcomings of the concept can be worked on when considering the value creation process of a commodity at its production site. Even if, by following the commodity, the material aspect of the economy is considered, GVC/GPN research is 'largely preoccupied with the sphere of circulation' (Baglioni & Campling, 2017:2). This becomes especially apparent in GPNs directly linked to nature, such as the trophy hunting GPN in Namibia. One of the challenges is to frame the value of the environment in the context of GPN studies (Coe & Yeung 2019). Together with 'embeddedness ' and 'power', 'value' is one of the key analytical categories in GPN research (Henderson et al. 2002). By analysing the circumstances in which value is created (value creation), enhanced (value enhancement), and captured (value capture), development outcomes of a production network in different localities are sought to be explained (Henderson et al. 2002). Furthermore, the distribution of value among the actors of the GPN has implications for development effects (Fold 2014).

Value creation and value distribution, however, cannot be regarded separately from the social-ecological production process of the resource. 'Resources are not; they become', as Zimmermann has famously put it (1933). In his view, resources have an inherent duality, and the resource concept is relative and functional: the material composition of the resource is nature, but it becomes a resource only when it is 'brought into relationship with man' (ibid.: 3) and serves the satisfaction of human needs. The SESF puts the focus on human-nature relations and thus provides an adequate analytical concept to understand the social production of a resource by a variety of actors in a communal conservancy. This process of valuation of nature then sets the ground for the GPN to touch down in the SES and connect it to global markets.

2.2. Social Ecological Systems Framework

In an attempt to study human behaviour as an integral part of the biophysical world, natural and social scientists have developed the SESF (e.g. Schoon & Van Der Leeuw 2015). This framework is rooted in Ostrom's response to the 'tragedy of the commons' (Hardin 1968). According to Ostrom, self-organised resource governance systems are capable to hinder the deterioration of a common resource. SESF is a useful tool with which 'competing hypotheses from alternative theoretical perspectives could be evaluated on a common basis' (McGinnis & Ostrom 2014). SESF has been successfully applied to cases of CBNRM (Hoole 2008; Delgado-Serrano et al. 2018). The framework is designed to assess the diverging outcomes caused by interactions between four first-level core subsystems: resource systems, resource units, governance systems, and resource users (Ostrom 2009). These first-level subsystems are further defined by second-tier variables(ibid).

While the framework provides a useful perspective on local nature-human interactions, the global interconnections with other places are reduced to *social, economic, and political settings* (Ostrom 2009), which are not often the subject of in-depth analysis (Partelow 2018:5). Yet, the CBNRM policy builds upon the integration of SESs into global production processes. Therefore, we argue that a perspective is needed that highlights the integration of SESs into global production circuits and an engagement of the framework with the GPN approach can shed light on the intersection of the local with the global. For the purpose of this paper, the resource system will be shortly described along the second-tier variables to provide background, while interactions between the GPN and resource units, governance systems, and resource users are at the centre of the analysis. These interactions are the quota-setting process, the joint-venture agreements between conservancies and private hunting operators, and the benefit distribution (meat distribution, employment and income distribution). Assessing these interactions allows to deepen the understanding of the value creation and value distribution processes in communal conservancies.

3. Methodology

Data for this paper have been collected from bibliographical and documentary sources and from interviews. Secondary literature dealing with conservation and hunting in Namibia and Africa has been consulted, as well as press articles. Government,

international institutions, and NGOs' reports and policy statements have also been analysed. Finally, fieldwork involved visits to three conservancies. On these visits and during stays in Windhoek, the Namibian capital, 43 interviews have been conducted (15 in Windhoek and 28 in the conservancies). Besides ordinary residents in the conservancies, interviews included actors and institutions relevant to the tourism GPN and to community conservation – NGO personnel, professional hunters' associations, conservancy staff, traditional authorities (TAs), and private tourism and hunting companies. A large majority were individual semi-structured interviews, which included more general questions relevant for our research and specific questions dealing with the role of the institution to which the informant belonged. Space was left for the interviewees to introduce additional topics. Five focus-group interviews were also conducted. Two informants responded via e-mail questionnaires. The qualitative approach of this analysis was found to be generally appropriate to unveil the complex interactions between the GPN and the communal conservancies. In future research, however, the design of the interview guideline should be geared more closely to the various variables provided by the SESF. All interviews were subjected to a qualitative content analysis. Results and data have then been analysed using concepts and variables derived from both the SES and GPN frameworks, i.e. the first-level subsystems (governance system, resource system, resource users, and resource units), value creation, and value distribution, (Henderson et al. 2002; Ostrom 2009; McGinnis & Ostrom 2014).

Research sites include conservancies with significant differences in terms of population, wildlife numbers, and income, thereby permitting the analysis of the impact of hunting tourism on different settings and circumstances. As described in more detail in the next section, the research sites are examples of both 'successful' and struggling conservancies. The fieldwork was conducted in July–September 2012, July 2014, and July–August 2016. The situation has not changed substantially in the last two or three years, and where possible, more recent data have been included.

4. Results

4.1. Conservancies as SES

Table 1 shows the three conservancies as SES using four first-level core subsystems (resource systems, resource units, governance systems, and resource users, compare Ostrom 2009). These core subsystems are further specified by second-tier variables which allow to compare the three cases.

To be officially recognised by the MET, conservancies need to have clear boundaries, a constitution and an income-distribution plan. The governance system is based on a locally elected committee that implements the conservancy's management and is expected to collaborate with other relevant actors such as NGOs, TAs, and different ministries.

In our case studies, conservancy management committees vary in size from 6 to 32 members. These are responsible for the implementation of conservation measures, benefit distribution, and coordination of public-private partnerships. Staff employed by the conservancies includes game guards, project managers, field officers and community activators (NACSO website, accessed 18 June 2020).

Table 1. Communal conservancies as social-ecological systems: King Nehale, Nyae Nyae and Ehi-Rovipuka. Sources: NACSO 2017; interviews in the Conservancies, 2012, 2014 and 2016; NACSO 2018; NACSO website, accessed 18 June 2020.

		King Nehale	Nyae Nyae	Ehi-Rovipuka
Resource system	*Sector*	Trophy Hunting	Trophy hunting and photographic tourism	Trophy hunting and photographic tourism
	Size	508 square kms	9000 square kms	1980 square kms
	Ecological setting	• Cuvelai Basin • higher rainfall than Namibian average • relatively poor sandy and saline soils • grassland and woodland	• semi-arid tree and bush savanna • irregular rainfall • low agricultural potential	• diversity of environments: hills, plains, pans, and ephemeral watercourses • low and unpredictable rainfall
Resource units	*Economic value*	Annual income (in Namibian Dollars): 259 000 Annual income/ capita: 12.95	Annual income (in Namibian Dollars): 7 000 000 Annual income/ capita: 3043	Annual income (in Namibian Dollars): 877 000 (budgeted) Annual income/capita: 350
	Number of units	Low availability of high value species for hunting	High availability of high value species for hunting	High availability of high value species for hunting
Governance system	*Nongovernment Organisations*	NACSO Namibia Development Trust (NDT)	NACSO Nyae Nyae Development Foundation of Namibia (NNDFN) World Wildlife Fund (WWF)	NACSO Africat
	Organisational structure	• Management Committee of 32 members (20 women) • Executive Committee of 11 members • Staff: 5	• Conservancy Board of 6 women and 13 men • Management Committee of 6 members • Staff: 23	• Management Committee of 12 men • Executive Committee of 6 members • Staff: 5
Resource users	*Number of users*	20 000 residents	2300 residents	2500 residents
	Socioeconomic attributes	• mixed agriculture in small plots • communal livestock grazing • salaried jobs outside the conservancy • remittances and pensions	• hunting and gathering • agriculture • livestock • work outside the conservancy • reception of food aid	• agriculture • livestock • salaried jobs • pensions and remittances
	History of use	Conservancy established 2005	Conservancy established 1998	Conservancy established 2001

However, these committees are embedded in a broader network of actors influencing the governance of the conservancy. Namibian conservancies usually have agreements with one or more NGOs that provide them with financial or management support, training and that assist them to carry out development projects. Local TAs have powers over communal lands and are therefore often involved either as members of the management

committees and/or in decision-making about natural resources. The combination and coordination of two common property systems – one concerning land for crops and pastures, under TAs, and another concerning wildlife, the conservancies – is not always unproblematic. The MET supervises the conservancies' performance and takes part in the setting of hunting quotas. Other ministries, notably the Ministry of Agriculture and the Ministry of Lands, interact with conservancies (Gargallo 2015). As the conservancies are rooted in the same legal framework, the governance system is similar. However, there are vast differences between the three cases regarding the resource users, the resource system, and the resource units.

King Nehale Conservancy (KNC), registered in 2005, is situated in Oshikoto Region bordering Etosha National Park. The number of resource users is large, as the area is heavily populated with around 20 000 residents. Local peasants practice mixed agriculture, mostly in small plots devoted to crops averaging 3 hectares. Livestock is grazed on communal pastures. Salaried jobs outside the conservancy, remittances, and pensions play a substantial role in household's economy. In terms of resource units, KNC is not particularly rich in game: there are plenty of springboks (Antidorcas marsupialis), some blue wildebeest (Connocaetes taurinus), and a few gemsbok (Oryx gazella) and kudu (Tragelaphus strepsiceros). The Andoni grasslands, which occupy a big share of the KNC, offer grazing to both game and cattle. Calculations indicate that 50%–70% of 'large wildlife' species 'historically occurring' in the area are currently present, but less than 20% have 'healthy population' (Mendelsohn 2006:34–37; NACSO 2012a:5; 2013:29).

Nyae Nyae Conservancy (NNC) is located in Tsumkwe East district, in Otjozondjupa Region. The ecological setting is a 'semi-arid tree and bush savanna', dependent on irregular rainfall and boreholes tapping underground sources. Contrary to KNC, NNC is very rich in game, including the 'Big Five'. Since the beginning of the Conservancy, some 2000 animals have been reintroduced, and in 2008, reintroduction of black rhino began (Mosimane et al. 2007:6; NACSO 2012b:2, 5). NNC and the neighbouring N≠a Jaqna area are the only lands in Namibia officially recognised as belonging to the San, the main resource users. Residents are approximately 2300 (Biesele & Hitchcock 2011:9, 12–17, 48–49). With the assistance of activists and anthropologists, the Ju/'hoan community organised itself into associations and cooperatives that crystalised in the Nyae Nyae Development Foundation of Namibia (NNDFN) in 1991 (Biesele & Hitchcock 2011:68–70, 82–84, 100–107, 153–58). The conservancy was established in 1998. Jo/'hoansi live in approximately 40 settlements scattered across the conservancy (NACSO 2012b:6). They currently practice a mixed economy which includes hunting, gathering, crop growing, livestock, working for neighbouring herders, and the reception of food aid from government and NGOs. Agriculture is hampered by water scarcity and elephant raids (Biesele & Hitchcock 2011:46–47, 217–218).

Ehi-Rovipuka Conservancy (ERC), established in 2001, is situated in the Kunene Region, on the west side of Etosha. Water is obtained via boreholes, which experience constant maintenance problems and are expensive to drill. Resource users are relatively few, with 2500 residents – mostly Otjiherero-speakers – who are principally herders, but they also plant 'large gardens' where maize, watermelons, beans, and vegetables are grown. Some people have permanent jobs, while pensions and remittances from relatives living outside the conservancy are also important (NACSO 2012c:2, 6–7). ERC is home to

'a large variety of trophy species', and reintroduction of several species, including black rhino, took place during the 2000s (NACSO 2012c:2).

Given these variations in regard to the subsystems, the following section will look at the way value is created in the three conservancies through the interaction between actors of the GPN and the SES.

4.2. Value creation through resource production

Figure 1 illustrates interactions between the SES and the GPN that ultimately lead to the creation and distribution of value. In the following, three crucial interactions between actors of the SES and the GPN are looked at: quota setting, joint-venture agreements between with hunting operators, and the benefit distribution practices (highlighted). The quota-setting process turns the direct use value of the animal into an exchange value. Through joint-venture agreements between hunting operators and the conservancy, the material aspect of the resource, wildlife, is combined with hunting tourism knowledge to create a commodity that is marketable to global customers, the hunting tour package (compare Kalvelage et al. 2020). Benefit distribution practices determine the participation of resource users in the GPN. (Figure 2).

4.2.1. The quota-setting process

Quotas are an important element in trophy hunting, as keeping them too low might mean a reduction of the resource users' benefits, while excessive hunts would lead to a depletion of the resource base involving the loss of future revenue for the community.

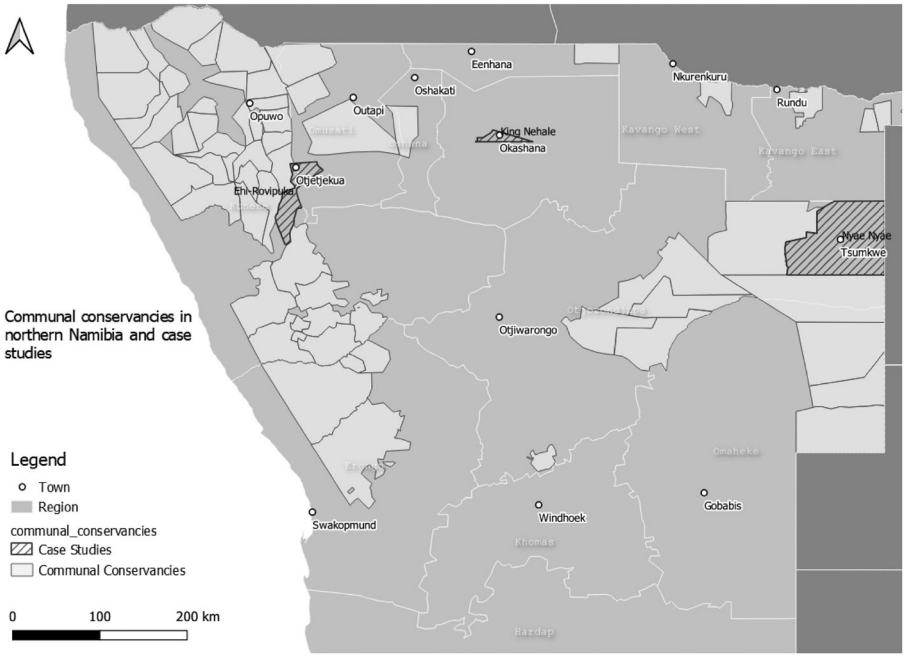

Figure 1. Communal Conservancies in northern Namibia and case studies.

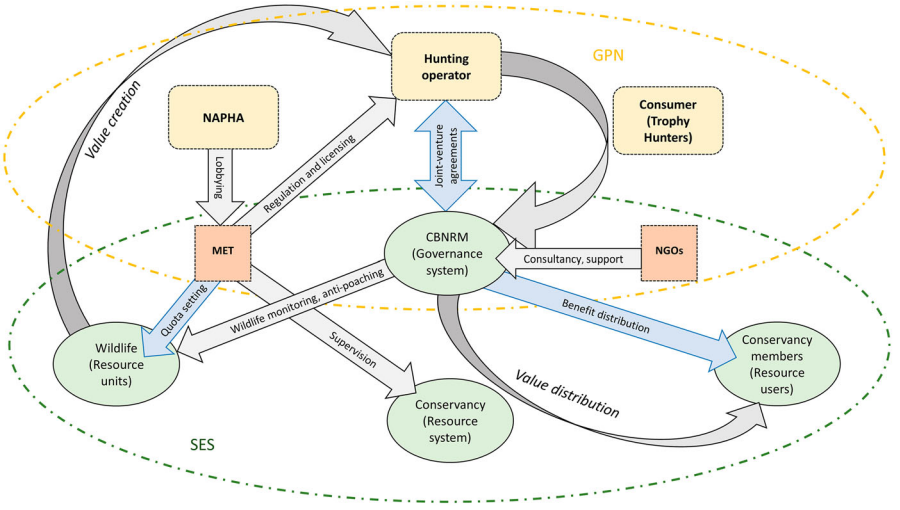

Figure 2. Merging GPN with SESF: Value creation and value distribution in Namibian Communal Conservancies.

Quotas are set every three years. Conservancies make a proposal based on game counts, revision of event books, community opinion, and meetings with TAs, NGOs, and safari and hunting companies. The MET analyses the proposal and either approves or 'amends' it. Annual reviews are conducted in the intervening two years. According to the Namibian Association of Community Based Natural Resource Management Support Organisations (NACSO), trophy hunting utilises a very small percentage of the population and 'it generally has no impact on overall populations' (NACSO 2013:29, 44; 2018:50). Hunting operators find quotas 'mostly correct, some too low, others too high, but for the most part very accurate' (professional hunter, July 2016).

The severe drought experienced in many areas of Namibia in recent years is having a direct impact on the setting of quotas: in 2014 and again in 2016–17, the MET reduced the hunting quota of conservancies as a result of declining wildlife populations (NACSO 2018:12–13). Furthermore, not all quotas are used. In Namibia, in 2004–05, 90 elephants (*Loxodonta africana*) were included in the quota for trophy hunting, of which only 36 were hunted; and out of 250 leopards (*Panthera pardus*) on quota, just 121 were killed (Lindsey et al. 2007: Table 4, 462). While 'status species' such as lion (*Panthera leo*) or elephant are hunted, many other species do not have 'any market at all' (Bollig & Olwage 2016:11–13). This means that the quota allocated for status species defines the number of resource units and the economic potential of conservancies.

As indicated above, KNC does not have significant populations of species attractive to hunters. In 2014, conservancy staff complained that the hunting quota 'is always decreasing' due to the 'many problems affecting our Conservancy': 'some of our springboks and wildlife are dying due to drought or are coming back to Etosha'. The presence of 'many poachers' was also given as a reason for the reduced quotas (Vice-chairman KNC, July 2014). In 2013 and 2014, 'only' 100 springboks were included in the trophy hunting and shoot and sell quotas, together with five blue wildebeest in 2014 (Game Guard, KNC, July 2014).

NNC, with a supply of attractive species, has an 'agreement' with a trophy hunter who pays a set price for each trophy, according to market rates. The fees are paid in three instalments throughout the year, and the conservancy retains 100% of it, 'they don't pay taxes' (NNDFN representative, July 2014). In NNC, the quota-setting is regarded as correct by the conservancy's chairperson, but the 'only problem' is that 'some of the elephants were reduced' and 'some animals were taken out of the quota', such as porcupines. His guess was that 'maybe the Ministry sees that the numbers of these animals are going down', but actually 'there are a lot'. The quota for own use is regarded as 'fine', as currently 'not everyone is hunting' (Chairperson, NNC, July 2014). However, the Ju/'hoansi San, who are the majority of residents in NNC, expressed misgivings about the potential reduction of their own hunting in benefit of community or trophy hunting (Biesele and Hitchcock 2011:208–210). It seems that most of 'own use' animals are also shot by the trophy hunter. Locals are allowed to hunt only with 'bow and arrow' a narrow range of species: kudu, gemsbok, springbok or hartebeest (*Alcelaphus buselaphus*).

ERC is endowed with wildlife sought after by trophy hunters. Opinions of the stakeholders involved on quotas are not unanimous. According to the conservancy chairman, 'our quotas are very good', and include elephant, lion, hyena (*Crocuta crocuta*), cheetah (*Acinonyx jubatus*), and eland (*Taurotragus oryx*). They practice own-use hunting as well, but 'mostly is better to use the P[rofessional]H[unter]' also for this quota (Chairperson, ERC 2016). The TA also indicated that quotas are 'in the middle' (Headman, Muduma TA, July 2016). A hunting guard, however, believed that quotas, 'are too high' as 'we are getting a drought' for the last five years, and 'numbers are going down, down' (Hunting Guard, ERC, July 2016).

The cases above illustrate that the regional development outcomes of GPN integration largely depend on the regional assets the place is equipped with. In a context of environmental stress and declining wildlife numbers, the reduction of quotas threatens to disappoint local revenue expectations. Thus, value creation through the commodification of wildlife is on the one hand closely bound to the ecological and environmental capacities of the particular conservancy, and on the other hand it is the result of a negotiation process between different actors of the GPN: The conservancy management, the hunting operator, and the MET. For the moment, neither widespread disappointment with the quotas (value creation) among local residents nor systematic overhunting of wildlife (resource units' depletion) are evident.

4.2.2. Joint-venture agreements

Joint-venture agreements between conservancy managements and the hunting operator are an important process in the resource-making and thus, value creation. Hunting operators contribute tourism knowledge and connections to the global market and couple the material aspect of the resource, wildlife produced by the SES, with the immaterial aspect.

Typically, agreements between hunting companies and conservancies include a commitment on the private operator to bring clients and make annual payments based on a fixed rate and/or the number of animals actually hunted. In some cases, infrastructure investments – such as accommodation for the hunters – and a certain amount of jobs for locals are to be provided by the operator. The company is granted an exclusive hunting concession for several years, and the conservancy usually agrees to delimitate

an area for exclusive or priority use by wildlife and hunters. Frequently, the MET and/or NGOs assist the conservancy in the negotiations and the drafting of the agreement.

Most tourism companies in Namibia are in the hands of foreigners or white Namibians. There is no 'bona fide African trophy hunting company'. Maybe 5% of professional hunters are black, but none of them is a company owner (NAPHA representative, July 2014). As the Integrated Rural Development and Nature Foundation (IRDNC) acknowledges, 'tourism and trophy hunting continue to be perceived by most black Namibians, including government staff and leadership, as a "white industry"' (IRDNC 2011:59–60). It must be pointed out, however, that whites in the former Ministry of Wildlife Conservation and Tourism were reluctant to embrace community conservation and its concomitant devolution of power to African communities, and already in 2004 seven of the twelve Namibian NGOs focusing on CBNRM support activities were 'black-led' (Taylor 2007:63–64).

NAPHA would like to see companies managed by people selected by conservancies and conservancy-owned companies (NAPHA representative, July 2014), and they are also expecting conservancies to become members of NAPHA and to 'use their knowledge' when carrying out hunts. NAPHA 'offer courses' to locals to be trained in cooking, housekeeping, tracking, skinning, and 'also in trophy hunting' (NAPHA representative, July 2016). The Namibia Tourism Board adopted a 'Black Economic Empowerment (BEE SME) Policy' in 2009 and has implemented a 'Training and Capacity Building Program' and a 'Marketing Support Program'. Evaluations of these programmes, though, showed that in the 'training preference' of participants, trophy hunting guiding is the least demanded by Africans entering the tourism sector (NTB 2016:27–28, 37). Despite these attempts to increase trophy hunting business ownership by black Namibians, they remain excluded from engaging with the GPN in entrepreneurial ways. On the contrary, black Namibians participate in the GPN as low-wage employees or passive recipients of benefit distributions. The following section will shed light on the value distribution among resource users: there are mainly three ways to benefit from trophy hunting: income distribution, employment, and meat distribution.

4.3. Value distribution among the resource users in three SESs

Trophy hunting plays a significant role within community conservation in Namibia, and it has been calculated as representing 0.27% of the country's GDP (Koot, 2019:1–2). In 2017, community conservation generated a total cash income and in-kind benefits to rural communities of over N$ 132 million (8.64 million €), of which tourism generated N$ 80 117 640 and conservation hunting N$ 32 503 047. Conservancy residents earned a total cash income of N$ 65 828 264 from enterprise wages, of which N$ 42 081 247 was from joint-venture tourism and N$ 18 861 815 from conservancies (NACSO 2018:65). Contrary to most other African countries, in Namibia the full amount of trophy hunting fees is paid to the conservancy (which has to share it with the concessionaire). The government only retains the 'permit' fees paid by the trophy hunter (LAC representative, July 2016).

4.3.1. Income distribution

In 2007, KNC's income was below N$100 000, which only covered 15% of its expenses (MCA 2010:47). Gross Income in 2017 had risen to N$259 000 (NACSO 2017),

almost exclusively derived from hunting activities. The conservancy's finances depend on hunting but, as we have seen, they have few trophy species. KNC has an 'agreement' with a 'professional hunter', and hunting is mostly confined to springbok and blue wildebeest (Game Guard, KNC, July 2012). The hunter pays a 'minimum' 'guaranteed'; if more animals are hunted, they get more money, but this happens rarely, as potential clients look for 'big game' (Vice-chairman KNC, July 2014). The conservancy's meagre revenues, to be shared with a population of around 20 000 residents, have prevented the implementation of significant developmental initiatives. A craft-making project was closed down due to insufficient income and management problems, and new projects, such as a Cultural Centre, have been stalled due to jurisdictional disputes with the Omuthiya Town Council (Management Committee member, KNC, July 2012; Game Guard, KNC, July 2014; Vice-Chairman, KNC, July 2014; Jona Heita, UNAM, personal communication[1]).

On the other hand, NNC's income amounts to approximately N$ 7 million (460 000 €) in 2017 (NACSO 2018), about 75% of which by trophy hunting (NACSO, 2018:70). These revenues, coupled with a small resident population of approximately 2300, allow NNC to be one of the few conservancies that make cash payments to individual members every year. Despite these considerable returns, dissatisfaction was expressed by sectors of the community in 2007 (Mosimane et al. 2007:10, 31–37, 40–41), and in 2012 and 2014 a diversity of opinions could be reported. Amid majority satisfaction, there were complaints that 'Conservancy's benefits are not increasing' because 'when income increases, also members increase' (local resident, village 1, August 2012). An elder stated that 'he wonders where is the conservancy' and that 'he does not see the conservancy doing things' (elder, village 1, August 2012).

In ERC, the income budgeted for 2016–2017 was N$ 877 000 (58 000 €) (Administrator ERC, July 2016; Chairperson ERC, July 2016). Trophy hunting brought more than 65% of total income in 2010 (NACSO 2012c:6–7), and more recently it has become the conservancy's only source of income, besides small amounts from a campsite, described as 'not so much'. The trophy hunter is paying around N$ 250 000 yearly as a 'granted quota'. If 'additional animals', such as elephants (N$ 120 000 each), or leopard (N$ 30–35 000) are hunted, ERC can end up receiving 'up to N$ 500 000'. The hunting company is helping in other ways, as 'buying four cars for patrol', and establishing a 'Wildlife Trust' to collect funds for the conservancy (Chairperson, ERC, July 2016). Local residents are relatively few, with 2500 residents, but the contributions made by the hunting business are again accompanied by conservancy members' complaints about insufficient income-generation. ERC is considered to be 'performing well', in spite of 'some lack of job creation through projects'. They 'only realized [later] that only meat benefits are going to the members', and 'there is no money, no job creation, no other projects' (Management Committee member, ERC, July 2016).

4.3.2. Employment

In 2017, the 56 hunting concessions had 152 full time and 167 part time employees, while conservancies themselves employed 831 workers (NACSO 2018:65). Naidoo et al. calculated that tourist lodges created an average of 20–50 jobs for local people in

[1]I would like to thank Jona Heita for sharing his information on KNC with me.

conservancies, while trophy hunting had a much-limited impact, with 8–10 jobs (2016:630). NAPHA emphasised that hunting companies employ local people in the conservancies: 'they are obliged by law'. Most of the workers are 'semi-skilled': trackers, skinners, cooks, or cleaning staff. They calculated an average of around six employees per client or nine in the case of a single-person hunt, including the professional hunter (NAPHA representative, July 2014). A hunting concessionaire working in three conservancies indicated that he is employing 22 permanent local people (two cooks, five trackers, three drivers, four skinners, three cleaners, two general camp staff) and 22 seasonal workers (of which only three are not local) (professional hunter, July 2016).

Hiring of locals was confirmed by Conservancies. In NNC, the hunting contractor employs 'local people' as trackers or skinners and recruits conservancy 'members to be trained'. Villagers, however, indicated that 'young people have been trained as trophy hunting guides', but 'they are not being used'. According to informants, the trophy hunter 'gets his own employees and takes few [local] people' (Chairperson, NNC, July 2014; young man, village 1, August 2012). In addition to the hunting concessionaire's workers, NNC itself has 23 'full-time' employees (NNDFN representative, July 2012).

In ERC, the Conservancy employs 12 people: seven game guards, two handymen, one cleaner, one driver, and one administrator (Administrator ERC, July 2016; Chairperson ERC, July 2016). The contract with a private trophy hunter was terminated in 2014 among complaints and recriminations. The concessionaire 'was not paying', 'he brought South African PHs and treated our people very badly', 'even beatings' of 'hunting staff members' from the conservancy were reported. Allegedly, 'when clients gave tips', the hunter 'took the money and paid them a little'. Local staff were taken 'to hunt in Caprivi', in another concession of the hunter, and workers were not paid extra for that (Chairperson, ERC, July 2016; Hunting Guard, ERC, July 2016; Headman, Muduma TA, July 2016).

Despite these downsides of the employment, in rural areas notorious for its lack of wage-labour opportunities or for cultural groups – such as the San – with additional difficulties to access well-paid jobs, the income and training provided by conservancies and tourism or hunting companies is relevant.

4.3.3. Meat distribution

Trophy hunting plays a significant role in the provision of meat to communities. In 2014, 522 104 kgs of game meat worth N$ 10 510 880 (693 000 €) were distributed to residents (NACSO 2015:55) as an addition to rural people's diet, especially relevant for those households with no opportunity or knowledge to hunt by themselves (Mosimane et al. 2007:18–19). The distribution of meat, however, is not free from difficulties. In KNC, problems have arisen. According to the Namibian Development Trust (NDT), when one elephant is shot it 'is a big fight' as 'once it lies down, they cut it themselves' as fast as possible, and meat cannot be properly distributed (NDT representative, July 2012). Once in the village, distribution is often handled by 'headmen' but some of them keep meat for themselves or their relatives (Game Guard, KNC, July 2014).

NNC villagers confirmed that they get 'meat from the hunters', and 'hunters will bring the meat to the village' (elder, village 3, July 2014). Some criticism was expressed, though, and one elder lamented that his village 'only once' received meat (elder, village 2, August

2012). In another locality, a woman stated that 'this village does not get it [meat]', in spite of the fact that hunted 'game was not far' (female resident, village 1, August 2012).

In ERC, meat was being distributed in 2012 to Conservancy members, the local school and the TA (NACSO 2012c:7). A committee member acknowledged that 'there are people complaining' about the distribution, but asserted: 'where there is a person there is a conflict'. 'They used to put up strategies to solve those problems', but if the professional hunter only hunts a certain number of animals, 'it could not be enough for all members' (Management Committee member, ERC, July 2016). Part of the 'meat quota' is given to the TA (Chairperson, ERC, July 2016), who indicated that they 'are happy' with the committee being in charge of the distribution and with the amount of meat received (Headman, Muduma TA, July 2016).

The distribution of meat is generally well valued by conservancies' residents, although it is not always clear if hunting by individuals would deliver larger quantities at household level. In the case studies, this question was not raised by informants, whose complaints were mostly directed to perceived biases in the distribution of the meat obtained through trophy hunting.

5. Discussion and conclusion

The aim of this article was to shed light on the production of wildlife as a resource and the value distribution that accompanies the GPN integration of communal conservancies as SES. Evidence from the three SESs has shown that value creation in the trophy hunting industry is associated with the quota-setting process. Both ecological stresses and unfulfilled social expectations are present and may end up threatening the SES sustainability if not properly addressed. Furthermore, the dependency of the resource users on the hunting returns varies between the different SES. The three cases studied in the scope of this paper show varying equipment with regional assets which lead to different development outcomes. In less populated territories, with a more arid climate, less fertile soils, and little opportunities for wage labour, but with significant numbers of 'attractive' wildlife, CBNRM contributions have a more positive impact. Even in these cases, however, the over-use of wildlife may result in negative long-term effects which endanger the sustainability of the programme. Therefore, it is crucial to consider the ecological capacity when coupling SES into the tourism GPN.

Joint-venture agreements between the conservancy management and hunting operators also determine the value creation in conservancies. The bargaining position of the conservancy initially depends on the productivity of the resource system – that is, the amount of wildlife potentially attractive to hunters. However, the lack of alternative income opportunities can increase the eagerness of the conservancy to reach an agreement and negatively influence its leverage on the private partner. As already mentioned, it can lead to an overuse of the resource as well. At the same time, even given positive returns in absolute figures, it cannot be taken for granted that these reach out to local residents.

The analysis of the different variables which are part of the value distribution system indicates that the participation of conservancies and communities into the hunting GPN is uneven. It is almost insignificant when it comes to ownership or shareholding of tourism enterprises, while it is limited with regard to cash and meat distribution and employment creation. Significant sectors of the communities, therefore, get small

benefits or perceive them as being insufficient. Both, insufficient value creation and unfair sharing practices, are blamed for these problems. As it is the case with the quotas, unless improvements in the GPN integration through these variables are achieved, communal support and participation in the conservancies programme might dwindle. Again, the SES sustainability would be jeopardised both by pressure to achieve excessive value creation and/or by local withdrawal from CBNRM initiatives.

This paper has done a first step to identify overlaps between the GPN approach and the SES framework. In our view, the strength of combining these two approaches lies in the capacity to capture the production process of a natural resource, a topic widely neglected by GPN scholars. On the other hand, this engagement enriches the local perspective of the SESF with a notion of global interconnectedness. To grasp the complexity of interactions between the actors of the SESF and GPN is beyond the scope of a single research article. Many crucial aspects have been neglected in this paper, inter alia wider ecological implications, activities conducted by conservancy members to ensure the reproduction of wildlife, or the broader institutional setting the networks are embedded in. Therefore, we call for more research addressing these gaps, and we believe that by moving within these frameworks, cases from different sectors and places are comparable.

Localised research and analyses are thus important, as community conservation in Namibia is often failing to live up to its theoretical goal of providing economic benefits to rural households, but, in a diversity of communal areas, the ending of CBNRM programmes would deprive residents of revenues and services which are extremely difficult to obtain through other means. To ensure the sustainability of the programme, current endeavours such as the issuing of tourism concessions in National Parks to conservancies may be an important step to expand the economic base of conservancies. Furthermore, the empowerment of communities to participate in the GPN as entrepreneurial actors would change their role as passive recipients of financial resources to active agents. However, to rely solely on tourism holds the risk that external shocks, e.g. a hunting ban, a change in customer's preference, or a decline in purchasing power in the outbound countries will lead to substantial financial losses. Therefore, the use of conservation-generated income to strengthen additional economic sectors is worth exploring.

Acknowledgements

Research for this paper was possible thanks to a research grant awarded to Eduard Gargallo by the Portuguese Fundaçao para a Ciência e a Tecnologia (SFRH/BPD/68733/2010), and to the financial support of the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG TRR228/1) to Linus Kalvelage. The authors would like to thank all institutions and individuals who acceded to be interviewed for this study. They also gratefully acknowledge Javier Revilla Diez, Sören Scholvin and two anonymous reviewers for their very useful comments on an earlier draft of this paper. Thanks to Susanne Weber and Mascha Aring for proofreading. Open Access funding was generously enabled by the German Research Foundation through the Collaborative Research Centre 228/1 "Future Rural Africa". None of these institutions or individuals is responsible for the opinions expressed in the article.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by Deutsche Forschungsgemeinschaft; Fundação para a Ciência e a Tecnologia [grant number SFRH/BPD/68733/2010].

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